With/In the Stream: Student-Teachers Navigating the Waters of Inquiry

by

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Abstract

In recent years, inquiry has become ubiquitous within educational circles and the research literature. With widespread focus in education, current research and policy documents on inquiry reflected this emphasis. For example, in Alberta, a spotlight on inquiry arose with the inception of the Alberta Initiative for School Improvement (AISI) in 1999. As well, *Focus on Inquiry: A Teacher's Guide to Implementing Inquiry Based Learning* came out in 2004 from Alberta Learning, supporting classroom teachers in embracing inquiry. With the importance placed on inquiry, it seems plausible student-teachers would be well-versed in understanding and enacting inquiry. However, little research focusing on the ways student-teachers might understand, experience, interpret or enact inquiry after a field placement at an inquiry-based school, exists.

The philosophical frame for this study uses the learning theory of Alfred North Whitehead. Specifically, Whitehead's focus on the "stream of life," encompassing each individual's concrete learning experiences (1929a) informs this research inquiry. In contrast to opportunities for students and student-teachers engaging in alive and contextual learning, much of the schooling happening today remains standardized and created for a "one size fits all" model. Whitehead's work offers openings and potentialities for deep and meaningful learning crafted within a living educational ecosystem.

The purpose of this interpretive research lies in understanding the ways five student-teachers, experienced, understood, and enacted inquiry after an eight-week field placement at an inquiry-based middle school. Experience and understanding of inquiry require practice in living with it to become knowledgeable. Journeying, attunement, and wayfinding are critical in student-teachers' understanding and becoming experienced with/in inquiry-based teaching-and-learning. The student-teachers' whose experience with/in inquiry arise during our conversations discuss

the importance of venturing with others—the students they taught, their mentor-teachers, other student-teachers in their cohort, as well as their university supervisor. Each and every facet of the educational ecosystem inheres responsibility for supporting student-teachers throughout their journeying with/in the stream of inquiry-based teaching-and-learning.

Student-teachers, journeying with others, must be courageous and willing to enter the dark, cavernous lair because the scary, challenging, adverse conditions of teaching-and-learning allow one to become experienced with/in inquiry. Several student-teachers describe the difficult and uncomfortable moments requiring discipline as some of the most meaningful in their field placement. However, we should heed Whitehead's (1929a) emphasis that; along with discipline, freedom, and romance—cultivating joy, adventure and teaching-and-learning teeming with life is of import.

Insights emerging from this study reveal that inquiry-based teaching and learning means different things for different student-teachers and a lot remains at play in student-teachers experiencing, understanding, and enacting inquiry. Student-teachers seeing, feeling, experiencing, and enacting inquiry throughout *all* aspects of their program—as an educational ecosystem appears critical.

This study contributes to the growing body of literature on inquiry, while also offering needed research concerning the ways in which student-teachers understand, navigate, and enact inquiry, within an inquiry-based environment. The significance of this study lies in its potential to help inform teacher preparation programs and field placements through student-teachers' understanding of inquiry, as well as aiding practitioners in the field. Theoretical and practical insights gleaned from this study may provide important contributions to future student-teacher field placements at an inquiry-based site.

Preface

This thesis is an original work by Tanya Dawn Stogre. The research project, of which this thesis is a part, received research ethics approval from the University of Alberta Research Ethics Board, Project: With/In the Stream: Student-Teachers Navigating the Waters of Inquiry No. #Pro00037600, April 16, 2013.

Dedication

To the inspiring, creative, supportive, and powerful women in my life:

My wife, Erin Michelle Lesher, whose tireless support, selflessness, love, and care continues to leave me in awe.

My mother, Carolyn Marguerite Stogre, who always keeps me grounded.

My aunt, Dianne Louise Stogre Power, whose joy of life, learning, love, and adventure has been a gift and constant companion.

My grandmother, Dorothy Edith Stogre, whose love of life, music, learning, books, education, and feminist ideals live in and through me.

Hokusai Says

Hokusai says look carefully. He says pay attention, notice.
He says keep looking, stay curious. He says there is no end to seeing.
He says Look Forward to getting old.
He says keep changing.
You just get more who you really are.
He says get stuck, accept it, repeat yourself as long as it is interesting.
He says keep doing what you love.
He says keep praying.
He says every one of us is a child, every one of us is ancient,
every one of us has a body.
He says every one of us is frightened.
He says every one of us has to find a way to live with fear.
He says everything is alive—Shells, buildings, people, fish,
Mountains, trees, wood is alive.
Water is alive.
Everything has its own life.
Everything lives inside us.
He says live with the world inside you.
He says it doesn't matter if you draw, or write books.
It doesn't matter if you saw wood, or catch fish.
It doesn't matter if you sit at home and stare at the ants on your veranda or the shadows of the trees and grasses in your garden.
It matters that you feel.
It matters that you notice.
It matters that life lives through you.
Contentment is life living through you.
Joy is life living through you.
Satisfaction and strength is life living through you.
He says don't be afraid.
Don't be afraid.
Love, feel, let life take you by the hand.
Let life live through you.

Keyes (n.d.)

Acknowledgements

Many times a day I realize how much my own outer and inner life is built
upon the labors [*sic*] of my fellow [wo]men, both living and dead and how earnestly I
must exert myself in order to give in return as much as I have received.

(Einstein, 1931)

There are times when words are not enough . . . this is one of those times and yet I try to

language my immense gratitude for those who journeyed with me.

To the student-teachers—thank you for your insights, and honesty. This work would not

have been possible without you. I am eternally grateful.

To my supervisor, Dr. Alexandra Fidyk—for your willingness to mentor me as your

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To my friend and classmate Mandy—thank you for being by my side (literally and

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To my work-husband, Greg—your support, confidence in me, and friendship has meant

the world.

To my mentor, dear friend, and intuit, Misha—your time, energy, wisdom, and support have helped me in countless ways to learn to trust and have confidence in the work and myself, and to keep going.

To my Mom, Dad, and Deborah—thank you for being there for me and always on my cheer team.

To Erin, my partner—never will I be able to express how profoundly grateful I am to you for all that you have done and given to support my journey and final goal. Your love and friendship carried me through, as did your sage reminder, "If it was easy, everyone would do it."

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Rise up nimbly and go on your strange journey
to the ocean of meanings.
The stream knows it can't stay on the mountain.
Leave and don't look away from the sun as you go,
in whose light you're sometimes crescent, sometimes full.
(Rumi, *Strange Journeys*, n.d.)

Chapter 1

Introduction: At The Shoreline

Rumi's poem, *Strange Journeys* offers a way to illustrate the endless possibilities, potentialities or "oceans of meanings" in life. Like the stream, always setting itself anew within each passing current, I too am in the midst of the current of change. Returning to complete my PhD after being away from it for five years was daunting, exciting, and overwhelming all at once. As Rumi writes, it will be a strange journey and unexpected meaning(s) will rise up to meet me along the way.

What I hoped, through the journey was to begin to understand more of "*Where* am I?" perhaps allowing me to proceed more readily and deeply with the topic: the ways in student-teachers understand inquiry-based teaching-and-learning. Furthermore, until the way back down the mountain had been traced, like the stream in Rumi's poem, I would be unable to wade into "the oceans of meanings" arising from this research.

Acknowledging that in tracing the way, "there is a link between what I remember, how I imagine and remember and know and experience my whereabouts, and who I have become" (Jardine, Friesen, & Clifford, 2008, p. 42). Only "through the dialectic of remembering and forgetting, I become myself and no one else" (Jardine, et al. 2008, p. 42). This "recollection" of memories consists of a "gathering together again" (Recollection, n.d.). When one recollects or gathers memories and thoughts together again, assurance that everything exists chronologically

or entirely historically accurate can never be guaranteed because it always remains partial.

Through the recollections, one must be mindful.

> Whoever uses his [*sic*] memory as a mere faculty—and any "technique" of memory is such a use—does not yet possess it as something that is absolutely [one's] own. Memory must be formed; for memory is not memory of anything and everything. One has a memory for some things, and not for others; one wants to preserve one thing in memory and banish another. "Keeping in mind" is ambiguous. (Gadamer, 2004, p. 14)

Through this ambiguity I searched the memories, tracing the very moments leading me to now—to the questions and concerns of teaching-and-learning in general and inquiry specifically. I have had, and continue to have many broad questions about teacher education, pre-service teachers, education programs, and inquiry. These questions unearth themselves when reflecting on my experiences going through a teacher education program; teaching undergraduate students in a teacher education program; working with student-teachers in schools, as well as working for the past seven years in an inquiry-based school. I want to know in what ways, as teachers and teacher educators we might negotiate and navigate meaningful experiences with student-teachers as they learn to teach. However, I have been learning slowly and grappling with Gadamer's (1986) notion of "how a large amount must be excluded in order to finally arrive at the point where one finds the truly open questions and therefore the possibilities that exist" (p. 59). Specifically, my interest lies in learning the ways student-teachers experience, understand, and live inquiry because of the potential organic nature, openness, and creativity. Thus, my question emerges as: *In what ways might student-teachers understand inquiry after an inquiry-based field placement?*

Clarifying the meanings of the terms "experience" and "understand(ing)," before introducing and discussing the central questions of the research, is important. As Jardine quipped in a university course I was taking, "one does not become experienced simply by breathing"

(2012). In other words, merely existing in this world does not make one experienced. Becoming experienced requires something of oneself—availability to the world. One cannot become experienced if approaching the world thinking one already knows everything concerning a particular concept, such as inquiry. Moving through the world without openness or availability does not allow the life world to address us, limiting our potential to experience or become experienced.

As Gadamer (2004) discusses, "it is necessary to take the concept of experience (*Erfahrung*) more broadly . . . so that the experience of the work of art can be understood as experience" (p. 84). Although Gadamer uses art as an example to illustrate experience, one could use inquiry as a reference. However, the vitality concerning experience, what gives it its life in Gadamer's assertion is that one cultivates experience *about some thing*. In my research, the *some thing* I am inquiring into lies in the way student-teachers experience and understand inquiry-based teaching-and-learning. That experience of something, requires me and the student-teachers to have an availability and openness to the world so that we can be addressed by it. Within post-postmodernity, experience dwells historically and temporally, anchoring it in the life world. In the natural sciences, stripping the experience of its historicity so it can be objectified, repeatable, and generalizable through its methodology and procedures is the aim. Here, I interpret understanding through Gadamer's clarification of experience.

Gadamer (2004) explains: "Our experience . . . is a mode of self-understanding. Self-understanding always occurs through understanding something other than the self . . ." (p. 83). Through my conversations with student-teachers regarding their *experiences* with inquiry-based teaching-and-learning student-teachers' understandings may arise. As such, experience dwells within or includes student-teachers' understandings of inquiry. The question then becomes: how

will I, as the researcher know when a student-teacher understands inquiry, especially when I did not directly observe them teaching during their practicum? I return to Gadamer, discussing understanding in *Truth and Method*.

> A person who "understands" . . . has not only projected himself [*sic*] understandingly toward a meaning—in the effort of understanding—but the accomplished understanding constitutes a state of new intellectual freedom. It implies the general possibility of interpreting, of seeing connections, of drawing conclusions . . . (p. 251)

An important clarifying point regarding Gadamer's notion of "drawing conclusions," emerges here. A sense of finality or nailing down the understanding of inquiry once and for all forsakes the life of it. Understanding, as well as experience, are both situated historically and temporally and so my understanding for example of inquiry, abides in an ongoing and incomplete process. My own history of teaching-and-learning and working in an inquiry-based school, with other teachers and students has shaped my understanding of inquiry in particular ways. As well, my conversations with the student-teachers have also informed these understandings of inquiry. My understanding of inquiry will continue to be shaped because understanding persists as an interminable process. In my conversations with the student-teachers, they made connections and articulated their experiences and understandings of inquiry-based teaching-and-learning. The conversations I had with the student-teachers were framed around particular questions concerning inquiry. However, aware of the trap of "conducting" the conversation I hoped the conversation might organically and authentically emerge (Gadamer, 2004, p. 385).

It took several months of sifting through reworking, rewording, and excluding many research questions to helping navigate my work, as well as the conversations with the student-teachers. It felt as though possibilities existed in three questions. However, these questions were meant to provide openness for student-teachers and myself to explore the potentialities of inquiry after their field placement at an inquiry-based school in Alberta. The questions and insights

arising from these questions are *not* meant to create or provide a recipe of how to teach inquiry or how to create a field placement for student-teachers. Rather, I hope insights and understandings emerging from the research will allow for more meaningful inquiry-based teaching-and-learning opportunities both with/in the school and the university. The central question of the study was: *In what ways do student-teachers understand inquiry-based teaching-and-learning after an inquiry-based field placement?* In addition, the following sub-questions also helped to frame my study: *(1) What are the ways student-teachers enact inquiry-based learning during their field placement at an inquiry-based school? (2) What is at play in inquiry-based teaching-and-learning for student-teachers in an inquiry-based field placement?* Through these questions I hope to understand more deeply inquiry and the experiences of student-teachers.

Autobiographical Origins: Coming to the Water's Edge

Wash the dust from your Soul and Heart with wisdom's water (Rumi, n.d.).

When deciding to go to university to become a teacher, it was with the hope of "making a difference" in the lives of my students and in the teaching profession as a whole. This desire often emerges as the initial inspiration for many teachers-to-be. However, soon after graduating, without a teaching contract in sight, my naivety of making a difference jarred itself against the jagged and sometimes harsh realities of the teaching profession. These included: being called into interviews for teaching positions when the administration already knew who they were going to hire; a lack of funding for supplies, resources, and on-going professional development to support teaching-and-learning; the inability to take students "outside" for outdoor education experiences because of the liabilities to the school board; being placed in a new school for a teacher on stress leave without once having the administration step into the classroom to signal

their support; after having a teaching position, being "bumped" because there was insufficient

funding for the school to keep the teacher; and so on and so forth it went . . . .

Through the work by Jardine and Field (1996), I have come to know that these continued

educational issues and challenges did not and could not undermine my conversations and

"delicate negotiations" in the classroom with my students through greater "diligence or adequate

research funds or more time and energy" (p. 256).

> It is not a problem that could be outrun by more careful preparation, or coursework, or
> innovative practice. Having to face the intractable difficulty . . . will not be remedied if
> we read the right books, believe the right things, or practice the right techniques. Rather,
> this unfinishedness, contingency, and difficulty signify that the living character of
> education is a deeply human enterprise that is not surpassable and encompassable by
> simply having the right theory or framework of method in hand. (p. 256)

Trying to reduce complex educational issues by trivializing them, as a simple funding or

resource issue, as often is the case, would be erroneous (Jardine & Field, 1996). What I

experienced in my induction into teaching was not something new or special. What it was though

was a shock and a disruption of my naïve understandings of teaching, learning, and the ways

education was done in the "real world," outside of the university and academia.

Throughout my 14 years as a teacher, I have loved teaching and I have loathed it.

However, regardless of my "loathing," it remains the only profession I have known. After

working for large school boards on and off for several years, in a variety of teaching positions, I

became interested in moving toward something different. I was weary and wary of "the system"

that was so prevalent in my teaching experiences. For example, the system rewarding the teacher

who has been on the sub-list for the longest time with a position, rather than the teacher most

qualified or passionate or the "best fit" for the school and its students. The system perpetuating

and ensuring teachers are in the classroom simply to "deliver other people's mail." The

powerlessness I felt navigating the bureaucracy that seemingly goes hand-in-hand with large

school boards pushed me to look for work outside of traditional school frameworks and teaching positions. I wanted and needed to be treated as a professional capable of making informed, responsive, and creative decisions concerning the curriculum and the teaching-and-learning the students and I were doing together.

In 2007, a Humanities position at a publicly-funded, self-governed independent school opened up, so I applied and was offered the position. The particular independent school where I was hired operates and bases decisions using their vision, mission, and goals, entwined with inquiry-based teaching-and-learning. I was finally, after years of feeling like I was "under the thumb" of bureaucracy, excited about teaching again. I felt there was the opportunity within the ecology of this independent school to open up potentialities existing in teaching-and-learning. There was a sense of freedom and breathing room for curiosity and exploration—both as a teacher and as a student. An anecdote from one of the board members was often recited early on in my teaching at the school. He expressed to the staff that if we were not making mistakes in our teaching then we were not taking enough risks. An environment and culture supporting teachers to take risks in their teaching was strangely unfamiliar, but one I was eager to embrace.

With renewed energy teaching at Potamoi School,[1] my interest turned to deepening my understanding of inquiry—an important frame of the school. I wanted to delve into what inquiry meant, the way it worked, and what it looked and felt like. More recently, and specifically after working with a student-teacher for three months during her field placement at the school, something "awoke my interest" (Gadamer, 2001, p. 50). The particular student-teacher commented on how different this school and practicum were from others she had experienced— a frequent comment from the hundreds of visitors the school receives each year. She went on to

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[1] Potamoi School is the pseudonym used for the research site.

discuss the way she felt she understood inquiry more fully and that other schools and teachers who said they were "doing inquiry" were not at all. Although I was not necessarily interested in the ways other schools were doing inquiry, I was interested in the ways student-teachers at my school might understand inquiry and the challenges that go with learning to teach through inquiry as a disposition. In other words, what made inquiry at our school, inquiry?

After my student-teacher's practicum was completed, I came across a blog from Edutopia (2008) titled: *Maxine Greene: The Importance of Personal Reflection*, in which I came across her term "wide-awakeness," which she defines as: "Without the ability to think about yourself, to reflect on your life, there's really no awareness, no consciousness. Consciousness doesn't come automatically; it comes through being alive, awake, curious, and often furious" (para. 9). With this, I began to reflect, recollect, and remind myself of my induction into the teaching profession.

During my own four-month field placement as a student-teacher, I felt betrayed and furious of the fact that other than a handful of one-off school visits, this four-month practicum, in the final semester of the five year Bachelor of Education program, was the only field experience I had in which to not only learn how to teach, but get a sense of the dynamics of teaching-and-learning. I saw my four-month field placement as my one and only opportunity to fully prepare to teach. Within this time period, I felt the pressure to figure out what was "right" and what was "wrong" in learning to teach. I now understand the ways this binary thinking, created between right and wrong or "good" and "bad," remains flawed; it does not allow openings, gaps, uncertainties, or ambiguities to exist in-between or with-in the two extremes. Within these openings, gaps, and uncertainties, the "pedagogic lives"—the liminal spaces between the extremes where teachers and students learn and do curricular work (Fidyk, 2010, p. 13).

Also, in the case of education, there are often assumptions from student-teachers, including me at the time, that a recipe or formula exists for teaching and once learned, it would send me well on my way . . . if only someone would give it to me! The idea of a recipe, model, or formula for teaching persists. In my own teaching of student-teachers at the university, there was a feeling from them that I was holding something back, which was "the secret" to teaching. It exists as one of the dangerous myths of learning to teach and one that seemingly universities do little to disrupt.

> So much of the academic work tends to begin with a betrayal of the lived difficulties of the classroom. The academy enters our classrooms and hands back to us pictures and models of classroom life that somehow flatten and trivialize our work and the work of our students, that drain the life out of the lives that we and our children actually live. (Jardine and Field, p. 255)

The honesty of the difficulty, complexity, and messiness of teaching-and-learning often seems removed from university classes, replaced with essays on classroom management or presentations on how to dress appropriately when you are in the schools during your practicum. Ongoing and complicated conversations with student-teachers concerning the difficulty of teaching-and-learning seem to be infrequent and inconsistent and only taken on by a few professors within the halls of academia.

In my own education program, there were plenty of clear and confident frameworks, models, and methods given to us by our professors to safely navigate the teaching waters. We were even given the opportunity to try these out on our classmates before heading into the schools for our sole practicum. However, as my fellow students and I moved through the program, with limited teaching experiences within the schools, we became increasingly disengaged with theories being touted at the university without "practical" contexts or connections. As Fidyk (1997) discusses in her thesis, "Education which fails to encourage and

assist in connecting student's ideas with concrete experience in diverse and various combinations

of thought and action hinders her [the students'] creative potential" (p. 82). It was difficult to see

and understand the ways both theory and practice live, are intertwined, embedded, and necessary

in the classroom because opportunities to discover, acknowledge, and discuss the connection

were often absent. As a student of this particular undergraduate program, I do not recall being

invited into experiences and conversations of teaching-and-learning and the ways they live in the

classroom, often in complicated ways. However, perhaps I was invited into conversations

concerning teaching-and-learning with my professors and classmates, but chose not to engage in

the discussions.

At the completion of my teaching degree there were only two practical frames of

experience from which I understood how to teach; my own K–12 experience as a student (often

referred to as the "apprenticeship of experience") and a four-month teaching practicum. What

was missing within these undergraduate experiences was an opportunity for me to understand

teaching more fully through the spaces and potentialities of reflection, conversation, and

connection. For Gadamer (2004), understanding takes place in every aspect of experiencing.

> The way we experience one another, the way we experience historical traditions, the way
> we experience the natural givenness of our existence and of our world, constitute a truly
> hermeneutic universe, in which we are not imprisoned, as if behind insurmountable
> barriers, but to which we are opened. (p. xxiii)

While an "opening up" of our experiences in a hermeneutic universe creates the potentiality of

understanding, there cannot be assurance of this. What appears needed are conversations with

and between and among self and others to more fully allow understanding to take place.

Currently in teacher education these open conversations in the service of teaching-and-learning

do not appear to be consistently or readily occurring with student-teachers, mentor teachers,

and/or university professors. These conversations foster the opportunity or potentiality for each to understand their own and others experiences in teaching.

Especially now, with recent focus on inquiry both in schools and post-secondary institutions alike, I had thought and blindly hoped that opportunities exploring deep, rich, and meaningful questions and concerns for education were consistently cultivated and nurtured. Unfortunately, in my discussions with several recent education graduates these conversations are intermittent and largely dependent on in which professor's class you are registered. If the possibilities to open up spaces for inquiry at the university are limited, it makes me increasingly perplexed and also curious of the ways in which student-teachers might take up inquiry and the ways their understandings might inform or shape their own teaching-and-learning.

Through these experiences and understandings I re-entered scholarship to ask these questions in the hopes, like Freire (1998), it may reveal something hidden, so that I might add something to the world I did not make. I have been drawn to Freire's work since the moment I was introduced to *Pedagogy of the Oppressed* (1986) in 2000 during my Masters degree. His emphasis on dialogue and working with one another to build community and effect change excited me and allowed me to hope for and work for something different and more meaningful in education. Like Arendt (1969), I hope to "educate in such a way that a setting right remains actually possible, even though it can, of course, never be assured" (pp. 192–193).

Locating the Research Problem

Although there has been and continues to be a call for a transformation in education in light of the need for particular skills, knowledge, and understandings for the 21st century, this call has seemingly gone unheard. As Freisen and Jardine (2009) discuss in their report on 21st century learning and learners, reform rhetoric is nothing new to education. In over 100 years of education

very little has changed except for perhaps along the periphery and at the fringe—hardly considered significant change when it has been called for, for several decades.

Especially now in light of the 21ˢᵗ century learner, we continue to hear the ways education must change to create environments and supports to help students develop their critical thinking, creativity and innovation, digital literacy skills,

Reform (v.) "to convert into another and better form," from *reformer*
and from *reformare* which means "to form again, change, alter," from *re-* "again" (see *re-*) + *formare* "to form," also meaning "to bring (a person) away from an evil course of life" (Reform, n.d.).
Questions arise for me: whose re-form? For whom? Through which processes? It is clear to me that the reason why the reform rhetoric is nothing new to education is because of the absence of deep and open conversation, as well as the lack of vision and re-visioning needed for the process and re-forming to be meaningful. Is the current educational system an "evil course of life"? In some moments, when I hear of student-teachers being yelled at by their mentor teacher for sitting in her chair…I truly feel that perhaps there is "evil" lurking and living in the classrooms and that the monsters are real.

Transformation[2] (n.d.): is a noun of action stemming from *transformare*, meaning to "change the shape or form of," from *trans-* "across" and *formare* "to form (Transformation, n.d.).
To change the shape or form of some "thing" (here it is education) requires a re-visioning, a sense and direction of where to go, how to proceed, and who is coming along, in order to move forward. I also wonder how far 'across' must we reach in order to create meaningful change in education? This re-visioning and the conversations needed for this is what has been and continues to remain absent in the language of transformation.

and an entrepreneurial spirit (see Alberta Education's *Inspiring Education* document). Really, the heralding for something new is quite literally nothing new. Rather the call exists as simply a different one.

In my own practice, it was not until I was hired at Potamoi School that I was able to bear witness to the different ways teaching-and-learning might live. Our school, as Friesen and

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[2] These particular sidebars are intended to provoke and, at times, disrupt the taken-for-granted assumptions and understandings of the all-too-common language of transformation and reform in education today. Additional sidebars further in this chapter will be used as a dialogue between the reader and myself. Greater detail about this strategy will be discussed at the end of this chapter in the Organization of the Study section.

Jardine (2009) would describe, dwells at the periphery, on the fringes of what typically happens in other schools and classrooms in Canada and the United States. At Potamoi there exists a general openness amongst my colleagues and a willingness to dig deeper into our own teaching-and-learning.

For myself, a teacher passionately concerned with the state of education and its current circumstances, I wonder how the leap can be made from intermittent enactment and use of inquiry-based learning as a "method" or recipe for teaching, to inquiry as a disposition or a way of living in the world. What might that look like and might it even be possible? Especially when considering that at a school whose focus lives in inquiry there are still teachers struggling to understand, embrace, and live it. Inquiry at Potamoi has a wide spectrum and I wonder at what point does it or will it cease to be recognized as inquiry?

Specifically, this research inquiry is informed by Alfred North Whitehead's learning theory and its focus on the "stream of life," encompassing each individual's concrete learning experiences (Whitehead, 1929a). In contrast to opportunities for students and student-teachers engaging in learning that remains alive and contextual, much of the schooling happening today tends to be standardized and created for a "one size fits all" model. Whitehead's work offers openings and potentialities for learning that are deep, meaningful, and created within a living educational ecosystem.

As well, Whitehead's learning theory seamlessly connects with Potamoi. As an

> August 30, 2012
>
> As I am writing, I return to the moment I was introduced to him and his ideas by my supervisor, Dr. Fidyk. It was actually our initial meeting and we were discussing some of my writing and ideas around Dewey when she asked if I had heard of Alfred North Whitehead. I hadn't. She went on to explain some of his overarching ideas related to his learning theory—many of which resonated with my current teaching situation and me. However, as soon as she mentioned his metaphor of "the stream of life . . ." I was hooked! I instantly felt as though I had found a kindred spirit within his work that I was connected with and excited about exploring. After our meeting I read more about Whitehead (and continue to do so today). What surprises me and also captures my interest is that although his work was from the early 1900s the ideas continue to be current and relevant today.

independent school, it exists as its own entity and as such, requires a specific vision, mission, and goals. Whitehead (1929a) would have supported this structure of schooling. "When I say that the school is the educational unit, I mean exactly what I say, no larger unit, no smaller unit. Each school must have a claim to be considered in relation to its special circumstances" (p. 14). At Potamoi, the circumstances of learning are framed within inquiry. Within the framework, teachers specialize in teaching Math/Science, Humanities, Fine Arts (music, art or drama) or Physical Education. With this structure there appears to be a strong connection in the way this school lives and Whitehead's call to operate each school individually rather than having monstrous boards of education responsible for hundreds of schools. Individual schools are logistically more able to adapt and adjust their environments and learning structures to nurture and respond to unique circumstances compared to significantly larger boards.

Before further discussing the connections between Whitehead's learning theory and Potamoi, a brief overview of what constitutes Whitehead's (1929a) learning theory is needed. Whitehead argues that the central problem in education exists in keeping knowledge alive and "preventing it from becoming inert" (p. 5). His theory of learning, also referred to as the Rhythm of Education, emerged from the key issue of keeping knowledge alive. The theory comprises three phases: romance, precision, and generalisation. Romance, likened to the "joy of learning . . . must be recognized as the basis of human learning" (Fidyk, 1997, p. 14). Whitehead describes precision as the "exactness of formulation" (p. 18), growing out of romance or the joy of learning. Lastly, generalisation signals the beginning of a new romantic phase, which for Whitehead constitutes synthesis. Synthesis constitutes the active application by the individual, of abstract principles to concrete facts or new situations (Whitehead, 1929a). However, important to note, as Fidyk (1997) does, these phases are more like cycles, occurring and recurring through

"experience, interplay, harmony, overlapping, and flowing" (p. 16) rather than completely separate entities. Whitehead's learning theories offers openings and potentialities for student-teachers to more meaningfully and deeply understand what it means to teach and live well in our world.

Relevance to education. Several educational researchers suggest that pre-service teachers are the necessary agents of change for the transformation of education (Cochran-Smith, 1991; Cochran-Smith & Lytle, 1999; Darling-Hammond, 1994; Kincheloe, 1991, 1993). At the same time, much of the literature in teacher education claims that student-teachers leave their pre-service programs with very much the same notions of teaching-and-learning as those with which they entered (Britzman, 1986; Goodman, 1988; Tabachnick & Zeichner, 1984). When student-teachers leave an education program with the same understandings as when they began, they have learned about teaching-and-learning from their own experiences as a student—an "apprenticeship of experience."

The educational literature (Cochran-Smith, 1991; Cochran-Smith & Lytle, 1999; Darling-Hammond, 1994; Kincheloe, 1991, 1993) holds that teacher educators focusing on supporting pre-service teachers' skills as researchers/inquirers might help them to become active and engaged participants in "their own professional growth, knowledge constructors, and agents of change" (Mule, 2006, p. 205). Bullough, Young, Erickson, Birrell, Clark, and Egan (2002) and Johnstone (1994) purport in Mule (2006) that "the practicum, arguably the most powerful influence in pre-service teacher education, is increasingly being urged to focus on developing in future teachers an inquiry ethic or stance that is consistent with the vision of teachers as inquirers" (p. 205). This quotation remains of import because it calls for a focus on inquiry during student-teacher practicums.

Unfortunately, the struggle alluded to earlier in this paper, highlighted by the Friesen and Jardine (2009) quotation, endures. Schools as sites of educational reform and transformation continue to live on the fringes—living outside of mainstream education. So having entire schools or even classrooms for student-teachers to foster a disposition of inquiry is difficult when such diverse ways of taking up inquiry exist. As well, the concept of student-teachers learning within an inquiry-based culture contrasts the traditional structure and regulation informing new teachers' ways of teaching (Bullough et al., 2002; Britzman, 2003; Guyton & McIntyre, 1990; McIntyre, Byrd, & Foxx, 1996; Mule, 2006). Student-teachers learning within an inquiry-based ecosystem means learning stands rooted in real world problems and arising issues, worked through by way of conversations and collaboration, rather than through a rigid and pre-determined curriculum and set of procedures.

If we are interested in learning more concerning the ways student-teachers understand inquiry after their practicum, additional research is needed. Currently, research focusing on student-teachers and their understandings of inquiry during or after a field placement at an inquiry-based school remains limited. Although research exists investigating pre-service teachers' beliefs of inquiry, little research situated within the context of Canadian inquiry-based schools exists. The dearth of research remains important because within current reform literature, researchers argue for the need to transform the practicum and in doing so suggest inquiry-based programs are necessitated (Cochran-Smith & Lytle, 1999; Darling-Hammond, 1994; McIntyre et al., 1996; Mule, 2006).

Inquiry often engages students because of their connection to real life problems or issues. Issues or problems studied by the students are living and occurring in "real life" rather than in a textbook, often housing dead knowledge. Understanding the ways meaningful inquiry-based

teaching-and-learning experiences might be cultivated for student-teachers abide in my study's call.

However, in education we must first be willing to "own up to the fix we are in" (Caputo, 1987, p. 6) if we are really serious with education and its "transformation." For me, the empty promises and "hollow assurances" (p. 6) of transformation and reform or a final resolution or path for education, are not what I am calling for, but rather the creation of openings for potentialities (Caputo, 1987). I find strange comfort in Caputo because he allows us to not only "own up to the fix we are in," but acknowledge and "restore(s) the difficulty of things" (p. 6). Education, understood as the act of teaching-and-learning, lies in its difficulty, messiness, and complexity. For too long, many in education have wanted it to be made easy. Publishers have and continue to make millions of dollars from books on classroom management and textbooks (dead knowledge) for every curriculum imaginable. Gaps and ruptures and openings must be cultivated and nurtured for teachers and professors to have the conversations with each other and with our student-teachers regarding the messiness and difficulty of teaching-and-learning. Through and within these conversations the potentiality of hope can reside for an education reimagined.

This study has the potential to contribute to the growing body of literature on inquiry, while also offering needed research concerning the ways in which pre-service teachers understand, navigate, and enact inquiry, within an inquiry-based environment. The significance of this study also lies in its potential to help inform teacher preparation programs and field placements through pre-service teachers' understanding of inquiry, as well as aiding practitioners in the field. Theoretical and practical insights gleaned from this study may provide important contributions to future pre-service teachers' field placements at an inquiry-based site. The

purpose of my research lies in *not* ensuring its generalizability because its focus exists solely

with participants in one school and the ways in which they conceptualize inquiry. However,

possible understandings arising from the study may inform similar schools and teacher

preparation programs across Canada, as well as in the United States.

Outlining the Seaways

Throughout the chapters, the reader will be introduced to a variety of organizational and

writing techniques. These changes in the traditional format of the writing are intentional. As

Fidyk (2011) does in her own writing, I too ask that "the reader not only . . . be open to the new

but also to suspend the expectation of a text written in a singular, linear, cumulative fashion with

a definitive conclusion" (pp. 133-134). My intent by introducing the "I" voice in some of the

sidebars or margins lies in pedagogically tracing my understanding as I journey through this

inquiry. Although there are instances throughout the main text where I include the tracings of my

understandings, I often included more vulnerable writings and thinking with/in the margins. I

acknowledge that including this type of writing does not normally reflect an hermeneutic way,

but rather an heuristic approach because it is the process of coming to know through my

discoveries with self.[3] However, the process of self-discovery dwells within the pedagogic and

helps to make transparent the teacher-researcher discoveries. Also, through this process, I am

doing precisely the work I have asked of my student-teachers throughout this research project.

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[3] To clarify, I am not taking up heuristics as a "navel-gazing" process where I objectively reflect on myself —
everything I am doing, thinking, and being, hoping to "discover" something. Rather, my endeavour lies in attending
to my embodied experiences as a researcher over time, allowing my tacit and intuitive understandings to emerge
(Conlan, 1996). As well, I am not outlining, through a predetermined procedure my heuristic journey. Nor am I
traveling alone—I am sojourning with my participants, colleagues, the research literature, and the collective
unconscious.

Communicating through my own writings, I bare the ways in which I am being/becoming transformed through and by this work. Smith (1991) describes the ways transformation might emerge.

> My language contains within it the evidence not just of the openness of my life, but, in a deep and subtle way, its anticipation of being transformed in the face of new lived realities. How I will be transformed depends upon my orientation and attitude toward what comes to meet me as new; whether I simply try to subsume or repress it . . . or whether I engage it creatively in an effort to create a new common, shared reality. (p. 193)

I feel compelled to record this journey, as much as possible, for the reader and myself so we can trace the path together. In addition, non-traditional texts are an opportunity to disrupt my own thinking and that of my reader's and also for me to have and share a different voice. My writings are deliberately placed along the margins because I see myself this way—as someone at/on the fringes and working from within the margins. In addition, the font I have chosen for the writings in the margins arises intentionally. Cambria, a font I often use in my writing has been one I have been drawn to for quite some time. However, after delving deeper into its etymological meaning, perhaps the font chose me. Cambria comes from the original word Cambrian, which was derived from the 1650s and means "from or of Wales or the Welsh" (Cambria, n.d.). This exists as part of who I am and where I am from. My ancestry, through my mother, traces back to Wales. So, as I write in Cambria, in the margins throughout the text, I feel strangely at home.

At times throughout the text, I also include what I refer to as "poetic interludes." These poetic disruptions are used to bring the topic, issue, feeling, interpretation or idea out through a different medium. Another technique occasionally employed in the writing is the use of red font when a term requires unpacking and further explanation. The colour red was chosen because of its inherent meaning "to stop," but also for its perhaps lesser-known meaning as "an act of defiance" (Red, n.d.). While "my" document, the dissertation also exists as a negotiated text and

throughout the writing process there are many rules and regulations one has to follow for it to meet the traditional standards of APA, as well as the university, department, and committee requirements. Partly my intent in using red font serves as a defiant or subversive response to these requirements. My intent also lies in the font acting as a stopping or pausing moment for the reader. Lastly, important to note, that throughout the text pre-service teacher and student-teacher are used interchangeably, reflecting the current research literature in teacher education.

Organization of the Study

Some aspects of this dissertation will not be typical or standard, however, parts of the dissertation are organized and set-up to meet university and departmental requirements. Chapter 1 introduces the study and paths traversed in coming to my research, interest in the topic, and questions I have concerning inquiry and student-teachers. The introductory section discusses the educational trends relating to inquiry and student-teachers. Concerning current trends, section one informs the reader of the importance of understanding student-teachers and inquiry after a field placement at a school with an inquiry-based focus and mandate.

In contextualizing the main research question—*In what ways do student-teachers understand inquiry-based teaching-and-learning after an inquiry-based field placement?*—it is important and necessary to provide and discuss the related literature. However, prior to diving into the research literature, contextualizing the historical present remains important. Chapter 2 discusses the legacy of Taylor's Efficiency Movement, the current implications of globalization, in particular its current effects within education today. Contemporary educational examples are given, illustrating the ways the Efficiency Movement and globalization are living. Also, concepts of epistemology, ontology, and cosmology, as well as the ways they are situated within the traditional, modern, postmodern, and post-postmodern paradigms are discussed.

Chapter 3 explores the literature concerning inquiry, teacher education, and Alfred North Whitehead's learning theory. Whilst inquiry-based information and resources have become increasingly prevalent, much of what has been written often applies to teachers in the fields of science and social studies than other educational disciplines. As well, there limited research exists in speaking to or of student-teachers and inquiry—especially within the context of an inquiry-based field placement. Research by various teacher educators recognizing the importance of student-teachers' understanding and experiences with/in inquiry is reviewed, along with current movements in education relevant to this study. Lastly, I discuss Whitehead's learning theory as the educational framework for this study and its relevance to the student-teacher's "stream, which is their life."

Chapter 4 discusses "a way"—the philosophical basis of the study, as well as, the framework (the processes and techniques of the study). In this study, an interpretive approach explored the ways student-teachers understand inquiry. Specifically, hermeneutics guided this pedagogical study because it allowed the participants and myself to "clarify the conditions in which understanding takes place" (Gadamer, 1989, p. 295). However, in Chapter 4, methodology exists as the "framework" or "way" because hermeneutics does not support the notion of one right or clear way to proceed in a study. Chapter 5, "*Going Down the Rabbit Hole:" Interpretations of Culture and Place Through Texts* provides details concerning the texts collected at both the university and school site, and the interpretation of the texts.

Like water, Chapter 6 cascades from the texts to the place(s) where they are alive. For example, participants are introduced with/in the context of one of their passages, rather than isolating them by introducing them one at a time, in alphabetical order. Through the excerpts from the conversations we shared, the student-teachers emerge—alive and ready to meet the

reader. As well, like a journey, we do not know in advance who we might come upon and where, which speaks to the adventure and mystery of it all.

The undercurrents of inquiry-based teaching-and-learning are revealed and discussed as we wade into Chapter 7's stream, *The Dragon*. I use the metaphor of the dragon and the dragon's lair for the ways in which the student-teachers understand inquiry as "going deeper" and what meets them and the ways they respond to this meeting (kill it, run, befriend it, and so on) when they delve into the depths of the underworld. Chapter 8, *Freedom, Discipline, and Letting Go*, highlights both the openness the student-teachers discussed as important for inquiry, as well as the freedom they felt to take risks in their teaching-and-learning at Potamoi School. Chapter 9, the culminating chapter of the dissertation is titled *Reflections on the Practice: Navigating the Stream of Inquiry*. The chapter discusses insights emerging from the present study and illuminates some of the ways education and teaching-and-learning practices are framed in all levels of education today. Through the insights, I discuss the ways we might re-imagine and re-frame some of the current practices in teaching-and-learning with student-teachers.

> Always be like a water. Float in the times of pain or dance like waves along the wind which touches its surface.
>
> (Kalwar, n.d.)

Chapter 2

The Undercurrents of the Historical Present

Ground Water: The Historical Past

> We are always educating for a world that is or is becoming out of joint, for this is the basic human situation, in which the world is created by mortal hands to serve. To preserve the world against the mortality of its creators and inhabitants it must be constantly set right anew. The problem is simply to educate in such a way that a setting-right remains actually possible, even though it can, of course, never be assured. Our hope always hangs on the new which every generation brings.
>
> (Arendt, 1969, pp. 192–193)

Historically in education, and especially within the past 30 years, there have been consistent and urgent calls for reform, many of which are often cries heard from our American neighbours (Friesen & Jardine, 2009). However, these calls for educational reform have seemingly gone unheard, been taken by today's teachers as simply "the latest bandwagon," (Friesen & Jardine, 2009, p. 6) and/or have "amounted to little more than tinkering around the edges" (Friesen & Jardine, 2009, p. 7). To move forward or to think about the future, one must work backwards, tracing the tributaries and lineages of what has brought us to our current circumstances (Friesen & Jardine, 2009; Smith, 2006c). Specifically, I want to revisit what some may regard as an out-dated understanding of education—Taylor's efficiency movement. However, once one delves into the underpinnings of the efficiency movement, one can see the ways this particular modernist understanding of the world and teaching-and-learning remains entrenched.

The Efficiency Movement. Frederick Winslow Taylor is the historical figure behind the term "the efficiency movement" (Callahan, 1964). Taylor's work in the late 19th century and early 20th century was concerned with helping industries become more efficient through developing time and motion studies (Friesen & Jardine, 2009). Taylor worked to organize,

manage, and sequence each job into an isolated and efficient task. Every specific task was

broken down into each of its parts so that it could be most efficiently restructured and organized.

"This required regimes of standardization, surveillance, sequencing, and many other now-

familiar consequences" (Friesen & Jardine, 2009, p. 9). Taylor's success in industry was

specifically highlighted and illustrated in the introduction of Henry Ford's assembly line.

However, the success and legacy of the efficiency movement was not contained within

industry alone. The movement became the new standard through which businesses, health care,

and education were structured and operated. Within education, it has often been expressed as

"the factory model" of schooling.

> The prospect of a more manageable, efficient organization of schooling became
> irresistible. It should be noted that "as in the U.S. factory model—the curriculum
> conceptualized as a mass production assembly line—was accepted by many" in the early
> 20th century Canadian settings as key to the then—"modern" educational reform. (Pinar,
> 2008, p. 7)

Although the above citation refers to the early 20th century, the main tenets of Taylor's efficiency

model are still very much alive within our society and many of our classrooms today. Ideals such

as standardization, surveillance, management, and sequencing, to name just a few, arise from this

model. As Sawyer (2006) illustrates in the quotation below, there are educational patterns from

Taylor's legacy, which are familiar today. Education focused on "basic facts;" getting through

the curriculum and each and every outcome as efficiently as possible; and standardized tests

reporting on how well the teacher taught the facts and the students learned them, are examples of

the ways Taylor's legacy continues to inform education today.

> Knowledge is a collection of *facts* about the world and the *procedures* for how to
> solve problems . . . the goal of schooling is to get these facts and procedures into the
> student's head . . . teachers know these facts and procedures and their job is to
> transmit them to students . . . simpler facts and procedures should be learned first . . .
> and the way to determine the success of schooling is to test the students to see how
> many facts and procedures they have acquired. (p. 1)

Each of these practices remains readily evident, promoted, and even praised in many schools and educational institutions in Canada today. The legacy of Taylor's Efficiency Movement dwells in much of the language of the most recent reforms, for example "procedures," "tests," and "accountability" to name a few.

As well, part of the purpose purported by Alberta Education for the use of standardized tests exists in the name of accountability—of school boards, schools, teachers, and students. Specifically, Alberta Learning (2004) document *Focus on Inquiry: A Teacher's Guide to Implementing Inquiry-based Learning*, suggests that a plausible reason for using inquiry in the classroom is improving student's standardized test scores. Inquiry used or promoted for improving test scores arises from an agenda concerned with outcomes and products. Educators, whose way of teaching, learning, and becoming arises from a different worldview, may find inquiry solely focusing on performance and outcomes troubling. My understanding of inquiry supports learning as engaging students and allowing for deep and creative exploration, not as part of the accumulation of facts that can be regurgitated on a standardized test.

Several initiatives in recent years have emerged, trying to step away from the legacy of Taylor's Efficiency Movement. For example, new research methodologies such as action-research and interpretive research; a rise in "Indigenous knowledge;" and so on. At the same time, some of these "initiatives" continued to arise from the shadow of Taylor's work, carrying with them similar ideas and images (Friesen & Jardine, 2009). Along with Taylor's Efficiency Movement, the concept of globalization also informs and shapes the historical present.

The Historical Present: Washing the Sand Out of Our Shorts

Globalization

In this chapter and section, my hope moves to help contextualize, through Smith's

(2006c) lens of globalization, the ways it has and continues to inform teaching-and-learning.

"Whether [globalization] is good or bad in some philosophical sense may be beside the point.

The real point is to carefully examine its effects within the life structure of human experience"

(Smith, 2006c, p. 82).

Globalization endures as a term circulating in academic disciplines, as well as "popular

media" for the better part of three decades now (Smith, 2006c). Smith argues "there are three

forms of globalization operating in the world today," which he has named as "Globalization One,

Two, and Three" (p. 81). According to Smith, Globalization One remains the most dominant

form of globalization today. The ways people respond through accommodation or resistance to

Globalization One represents Globalization Two. Globalization Three, speaks to and of the

"global dialogue" concerned with emerging conditions "regarding sustainable human futures" (p.

81).

Globalization One. As the most dominant form of globalization today, according to

Smith, the language and processes of Globalization One began to arise after the Cold War. The

Cold War, with the collapse of its binary logic (for example, "us" and "them") shuffled

globalization and the triumph of Western sensibilities into the spotlight. For some, the ending of

the binary logic opened up the possibilities for a free market within a borderless world.

"Globalization One must be exposed for the way it limits other ways of human

expression and common living; for example, through aesthetics, spirituality, and altruism"

(Smith, 2006c, p. 95). Specifically, discourses "such as the knowledge economy, global

competiveness, accountability and standardization—are important constraints that have shaped

university and programmatic responses to teacher education designs at the provincial level"

(McGregor, Sanford & Hopper, 2010, p. 300).

Smith (2006a) delves further into the specifics of Globalization One and its influence in

today's educational work.

> Vigorous attempts to delegitimize public education through documents such as *A Nation at Risk* and *The Holmes Report*, highlighting the failures of public schools rather than their successes; treating education itself as a business with aggressive attempts to commercialize the school environment as well as make it responsible to outcomes or "product"-based measures; emphasizing performance and achievement indicators as a way of cultivating competitiveness between schools and districts . . . adopting a human capital resource model for curriculum whereby curriculum and instruction work should be directed at producing workers for the new globalizing market system . . . (p. 84)

The long list (which I cut short) might leave one feeling overwhelmed by the sheer magnitude of

the ways Globalization One shapes and informs our day-to-day educational lives. However,

within the midst of the mess of it all, Smith (2006b) suggests hermeneutics as a way of offering

important insights and understandings into how we know, rather than simply taking for granted

the way things are or ought to be. Hermeneutics allows one to keep the world open and "to show

a better, freer, more comprehensive way" (Smith, 2006b, p. 115).

As Towers (2010) reports: "Despite the extensive efforts of preservice [*sic*] teacher

education (Darling-Hammond and Bransford, 2005), technical modes of teaching, which valorize

prediction, measurement and control in the classroom, still dominate K–12 education in North

America" (p. 244). For me, the continued domination of "technical modes of teaching" resonates

with "effective" teacher education programs and again, one can hear the language of the

"efficiency movement" still very much at home in many universities and schools.

Globalization Two. Globalization Two emerges from the ways people respond, through

accommodating or resisting, Globalization One. At issue in Globalization Two remains the

way(s) one responds to the conditions set out by Globalization One. To bring these ideas closer to home and one of the ways Canada has responded to Globalization One, I return to the university. Education continues to suffer from a lack of resources. Financial cutbacks due to cost-cutting government policies continue to shackle potentialities for faculties of education across Canada to cultivate and nurture meaningful programs because they are forced to hire sessional instructors (with low wages), rather than full-time faculty members to "deliver" courses (Volante, 2006). Even with undergraduate education programs set up as "cash cows" and pumping out as many students as possible, it does not meet the financial demand of the program and continues to be underfunded by the government.

Although touted in the research, as well as by faculty and student-teachers as essential to teacher education, the field experience continually remains under-resourced—both monetarily and with people (Wimmer, 2008). Wimmer also notes in his research of undergraduate education programs across Canada that although department administrators and faculty wholeheartedly endorse and value the field experience as an important component of teacher education, their actions and subsequent policies did not appear to match this rhetoric (Gambhir, et al., 2008). Although specific courses or parts of a education program are touted as "essential," because they do not return a profit, in Globalization Two, the continued response rests in increasingly stripping it of its resources. Under Globalization Three, Smith (2006c) offers some ways we might engage the future so we can open ourselves to "deep attunement to the Way of life" and living well (p. 97).

Globalization Three. Globalization Three, speaks to and of the "global dialogue" concerned with emerging conditions regarding how to live well (Smith, 2006c, p. 81). Specifically concerning pedagogy, if one sees globalization as a generational issue (neither just

affecting the young or the old, but both), the potentiality exists in "an inversion of the orthodox

understanding of pedagogy as being of necessity always adult-driven" (p. 93). In other words,

seeing the young as partners and engaging them in conversations concerning life as we navigate

our educational journey together.

However, within the agenda of Globalization One, no interest exists in what children or

youth have to say because "what could they possibly have to say?" The only interest in the

young is the contribution they might make to a shared future (Smith, 2006c). As such, the culture

of commercialisation built itself on distraction and a lack of capacity for sustained attention. In

response, recognizing and seeing schools as gathering places where learning "requires the

nurturing of sustained attention" rather than fleeting from one topic to another, seems important

(p. 97). Schools then, become places where the young and the old converse, collaborate, and

open themselves up to the larger world.

> Privilege must be given to its being a place where people can find themselves through
> their own enquiries and through their relations with one another. Above all, it must be a
> place of care, with its own requirements. There needs to be an adequate material base; the
> size of the group must not be allowed to intrude on the possibility of forming healthy
> relations; the teacher must be possessed of true hermeneutic skill to show the essential
> openness of life and its conversational character; there must be a balance of relations
> between speech and silence; the curriculum must address real human issues and problems
> connected hermeneutically to the lives of the students; and the teleological purpose of
> learning must not be determined in advance of its creative engagement. . . . . Perhaps
> above all, pedagogical living in the classroom . . . operates in the tension between
> completion and incompletion, between knowing and what is yet-to-be-revealed. Such is
> the foundation of hope. (Smith, 2006c, pp. 97–98)

In other words, the work of inquiry-based teaching-and-learning has the potential to offer a

meaningful, rich, and important response to the agenda of Globalization One. However, with the

latest rhetoric of 21st century skills and competencies, in what ways might education programs

respond?

Globalization One, Two, and Three: Deans Speak Out

In a recent online article by the Canadian Education Association, titled *Deans Speak Out*, four Deans of Education from across Canada were asked several questions, such as "What does 21st-century teaching mean to those who prepare young people for teaching careers? How is the profession of teaching changing? What should be the response of faculties of education through their pre-service programs" (Canadian Education Association, 2012)?

As the call for reform of teacher education programs continues to be heralded, in the name of developing 21st century skills, it seems timely for this issue to be addressed by Deans of Education. However, before launching into the discussions of the Deans, the issue of 21st century skills and competencies might be troubled. The notion of identifying and separating individual skills or competencies as objects rather than embodied ways of being tethers itself to the tenets of Globalization One.

The four Deans are Dennis Sumara from the University of Calgary; John R. Wiens from the University of Manitoba; Alice Pitt from York University; and David Dibbon from Memorial University of Newfoundland.[4] Although there were similarities in their responses to the issue of 21st century competencies, many of their responses varied, which does not seem surprising to me given the differing agendas or focus of education programs across the country. I am placing importance on the responses of Deans of Education to the questions asked by the Canadian Education Association because they are framed around my topic of student-teachers. Certainly the Deans' responses reflect the kinds of programs currently in place, introducing and inviting student-teachers to the profession, as well as a vision for these programs in the future. The

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[4] It was not indicated in this particular piece how or why the specific four Deans in the piece were chosen. My initial thought was to have a diverse geographic representation from Canada. However, other than geography, I am unsure the way the Deans were selected.

weight being placed on specific topics and competencies in education programs informs student-teachers about what matters in teaching-and-learning and what they might attend to. With the importance and relevance of the topic to my research, I summarize and comment on the responses from each of the Deans below.

Dean Sumara framed his response in terms of quiz shows "then" and the competencies needed to be successful, compared with performance-based reality TV of today. According to Sumara, the contestant's knowing in the past was reflected in "quick-draw responses to prompts that span the breadth of current knowledge" (Canadian Education Association, 2012). The answers to the questions are always clear and pre-set. The more recent shows today usually require innovation and creativity by performers who are unfamiliar with the material, demonstrating "an extension of expertise from a related domain" (Canadian Education Association, 2012). Dean Sumara goes on to discuss both teaching-and-learning in terms of its need to be challenging. He suggests teacher education might be concerned with challenging knowledge/knowing and challenging learners/learning. He specifies that "it appears to be about setting the sorts of challenges that come from deep familiarities with what it is possible to know and the complex processes involved in coming to know" (Canadian Education Association, 2012).

What Sumara refers to in the above quotation can be considered a question of epistemology—how one comes to know and what can be known. The newly emerging teacher education program, now entering its third year at the University of Calgary, requires a specialization area for both elementary and secondary students. As well, relationships with schools are shaped in terms of creating active research partnerships rather than simply as "host" institutions. Teacher education at the university does not refer to itself as "pre-service

preparation but as initial and ongoing" professional development along a career path focusing on learning. With this focus, students are deemed as *active co-participants* in their education, demanding "expert participation within challenging and collaborative ever-changing worlds of knowing" (Canadian Education Association, 2012).

Smith (2006c), through Globalization Three, offers important insight into the notion of "lifelong learning" and attending to the ever-changing world that Sumara discussed.

> The principle of lifelong learning that undergrids the new economy depends upon keeping people off balance, ready to move at a moment's notice, ready to leave one job to take another, to reskill for this, then that. What is undercut is the capacity for a job to be not just a job, but a life—a place to grow, to develop character, to learn about living, to share relations with others deeply, complexly. (p. 97)

An education program proffering lifelong learning and attending to "ever-changing worlds of knowing," might have student-teachers focusing on learning this and that and that, rather than perhaps having opportunities to while over ideas.

In contrast with Dean Sumara, Dean Wiens' answers to the questions of 21st Century teaching-and-learning emphasises social justice. He traces his ideas back to ancient Greece when the purpose of education was to live well and to live well with others. However, the Dean from the University of Manitoba, along with Dean Sumara both acknowledge that we are living in a more difficult and challenging time, challenging us in learning to live well. There remains an understanding today, by some, of the deep connection that exists within all of humanity. According to Dean Wiens, "the 'teaching trick' is to enlarge our moral imaginations and political wills, and those of our young, to see how we might flourish in such a situation" (Canadian Education Association, 2012). Acknowledging the fragility of our natural world as well as embracing and celebrating diversity are woven into Dean Wiens' understanding of what it means to live well today. Specifically, he relates teacher education to democracy.

Simply put, faculties of education have a civic responsibility to continuously bring large human questions to the fore, and engage in never-ending meaningful, democratic dialogue about the human "good," and in the process not succumbing to 21st-century notions that undermine who we have become and can become as people. (Canadian Education Association, 2012)

Notions such as the enormous monetary disparities among people, the significant cultural and religious differences, as well as the "provocative technological changes" today are some of the examples that Dean Wiens refers to when cautioning us of the potential to be undermined by these issues. While Dean Wiens does not use the term "globalization," the language and examples he offers have arisen from this phenomenon.

York University's Dean Pitt echoes the sentiments of the previous two Deans and the challenging and complex world in which we currently live. She also discusses the dilemma of teacher education programs—its need to have our future teachers prepared for the ways schools and teaching-and-learning exist today and also for the future. Dean Pitt cautions us to be aware of the "attractive assumptions of efficiency, sufficiency, and urgency" because "such lists can too easily swamp the more delicate and difficult work of developing capacious minds and generous hearts" (Canadian Education Association, 2012). The pull that simplicity and immediate success has in teaching remains quite real and one that must be brought up, discussed, and grappled with in light of the complexity of education. Dean Pitt's warnings arise from the language of Globalization One, where efficiency and time are of the utmost importance because they are tied to profit.

Dean Dibbon from Memorial University of Newfoundland discusses the complexity and intensity of the teaching profession in his response to 21st century teaching-and-learning. Dean Dibbon focused more on the current issues for teachers and their work rather than looking to the future needs of the profession. He discussed, in greater detail than the other Deans, research in

the area of teacher education. The research Dibbon discussed supports creating teacher education curriculum focusing "on developmentally appropriate practices, learning theories, language development, social context of education, subject matter expertise and pedagogical content knowledge, student diversity, appropriate assessment practices, and classroom management" (Canadian Education Association, 2012). Also, the Dean discussed reducing the theory-practice gap through the implementation of close supervision with standards of performance that are well defined and weaving coursework into the practicum, allowing better preparation of students to make sense of their practice through the lens of their academic work.

Each of the four Deans provides important insights into the current topography of teacher education. Their varied approaches to teaching-and-learning are not surprising. However, Dean Dibbons examples of classroom management and standards of performance as curricular foci for the teacher education program at Memorial University are linked to outcome or product-based measures. The emphasis on performance indicators inhabits the logic of Globalization One. However, as important as what was said by the Deans, is what was not said. Discussion concerning student-teachers understanding different worldviews, the nature of knowledge, and/or the nature of reality was absent, as was inquiry based teaching-and-learning. In what ways might the emphasises and absences shape student-teachers' understanding of what it means to teach, learn, and live well?

My intent, through the preceding discussion of the historical past and the nature of the historical present, is they will act as a backdrop for the rest of the dissertation. Providing a context through Taylor's Efficiency Movement, Globalization One, Two, and Three, and contemporary examples might allow for the coming issues and discussions to have a richer

context. Furthering to contextualize the work, understanding the nature of our world and the paradigms arising from it remains important.

An Interpretation of the World's Ways and its Waters

To more deeply understand the current conditions in teaching-and-learning, one must consider the nature of our collective cosmos, the nature of reality and our being (ontology) and the ways in which our world can be known, in other words systems or ways of knowing (epistemology)—specifically the ways they live within the paradigms of modernity, postmodernity, and post-postmodernity. Scientific or empiricist ways of knowing the world are at times deeply entrenched within particularities of the modern paradigm. While modern ways of knowing was privileged and valued from the late 1400s onward, it led to the development of tools to extend the human eye, for example the microscope, invented in 1590, advancing observation along with which greater focus and attention was given to rationality. With the privileging of rationality as the key or only mode of knowing, the scientific method became a procedure of immense value. The premise one can objectively know *a priori* results of an experience would be naïve (because it is always unfolding and we are always in the fold (Bohm, 1980)). At the same time, rather than a single scientific conception or method today, multitudes exist. For example, there are the old (Newtonian) and the new, such as Bohm focusing the discipline within quantum mechanics. Bohm's and Newton's scientific conceptions embraced creativity and imagination in differing ways. Complexity theory and chaos theory are also current scientific ways of thinking of the world embracing nonlinearity and the dynamic nature of the universe (Doll, 2012). At the same time, a Newtonian modernist view still exists and informs our world in particular ways today—while these truths (gravity, force, velocity) remain valid, what is called into question is the underlying supposition that all can be objectively known

can no longer be held as accurate. For example, holding that interpretation and thinking are separate—existing in isolation of the other, where the world is simple, ordered (linear), and observable. As Doll further elucidates, reality for the modernist dominated solely by what he or she sees, as an "eye-witness," is one steeped in isolated facts and "data collection" (p. 24), rather than relations.

As Smith (1991) expresses, one cannot be separated from what one believes the way the nature of the world exists or the way one comes to know of the world because it "is always a world I share with others" (p. 192) and the shared world is contingent on the ways I communicate my understanding and descriptions of it with others (Smith, 1991, p. 192). Further, Doll offers that once one moves away from "observation and its data collection" (p. 24) and towards relations, the "aliveness" and interconnectivity of things emerges. The researcher must bare the ontological and epistemological concerns, because her knowledge of the ways the world exists and the ways one comes to understand the world remains inextricably linked to the ways the researcher takes up the research. Ontological concerns addressing the nature of our being and that of our world are intimately connected with the ways we come to know what we know, as well as what is worth knowing, which are epistemological matters (Fidyk, 2013; Wilson, 2008).

Making my orientations explicit holds importance because they inform my worldview, as well as my ways of understanding, asking questions, choosing my data sources, and interpreting texts. The question itself—*In what ways do student-teachers understand inquiry-based teaching-and-learning after an inquiry-based field placement*?—suggests a particular way of proceeding with the study. Part of the process becomes acknowledging the potentialities of this work shaping and shifting my own understanding of the world or conceptions thereof. The means of proceeding lives through the openings, the opportunities and possibilities, allowing for our lives

to be shaped in particular ways (Gadamer, 1986). Smith (1991), expanding on the ways our lives

might be shaped when encountering something new, offers, "My language contains within it the

evidence . . . of the openness of my life . . . toward what comes to meet me as new; [and]

whether I engage it creatively in an effort to create a new common, shared reality" (p. 193). To

more deeply understand the ways I situate myself, and therefore this inquiry, it is of import to

briefly discuss the following terms: traditional, modern, postmodern, and post-postmodern.

Ocean Waves: Traditional, Modern, Postmodern, and Post-postmodern Paradigms

A traditional paradigm or worldview has long been with us—reflective of Indigenous and

Wisdom Traditions and ways of knowing. Wisdom

Traditions come from religious, philosophical, and historical

traditions such as Buddhism, Taoism, Sufism, and so on.

Generally speaking, both Indigenous and Wisdom traditions

see the universe as conscious and interconnected (Marlow &

Bailey, 2006). As well, knowledge exists, not as

individually owned, but as "shared with all creation"

(Wilson, 2008, p. 56). Knowledge and understanding are

One interpretation of the cosmology of the Traditional paradigm exists as a conscious, interconnected, and abundant universe (Marlow & Bailey, 2006). Ontologically, a traditional paradigm embraces reciprocity and a spiritual realm, interconnected with the physical. (Hart, 2010). Epistemologically, knowledge lives holistically, cyclically, fluidly, and dependently upon relationships and connections to living and non-living beings and entities (Hart, 2010). In other words, it lives relationally (Wilson, 2008).

reciprocal and relational because of the relationship between

the collective cosmos and the physical realm and the notion that one remains answerable to all

(i.e. the cosmos, the earth, the plants, and the animals). Knowledge lives organically and

cyclically, existing differently than within the modern paradigm.

Modernity arose in the 1400s. With the rise of the printing press, as well as the microscope, and the telescope, there was a testament to the developing rational mind, continuing as a dominant force into the mid-twentieth century (Childs, 2007). Although Childs suggests by the mid-twentieth century modernity lost its stronghold in our ways of thinking of the world, I disagree. Whilst perhaps its overall domination may have

One version of Modernity's view of cosmology, harkening back to the Enlightenment, is of a universe that exists as a mechanical system completely separate from human beings. Ontologically, modernity holds to the belief of an objective, external reality existing beyond or independent of our knowledge of it. Modernity, epistemologically speaking, subscribes to the accumulation of knowledge, which exists in a disconnected, objective, reproducible and rational way (Wilson, 2008).

subsided, characteristics of modernity are still overwhelmingly present. For example, the prominence of standardized tests measuring both student learning and the effectiveness of teaching, as well as post-secondary institutions solely using a student's GPA score to determine one's admittance into a specific program reflect a modern paradigm. To nurture a deeper understanding of modernity, I briefly discuss several of its tenets. Modernity, informed by the Enlightenment, subscribes to the notion that there are universal truths and a world that can be known (Leicester, 2000). The world exists as a given that can be objectively known and therefore we are separate from our world. Modernity underscored by order and reason, cause and effect, and a set of procedures testing and verifying knowledge embraces the notion that knowledge or information is and can be controlled and predictable so one can progress. In quantitative research, for example, the researcher must not be value-laden, but objective, and unbiased so as not to contaminate study results (Creswell, 2013). As well, for qualitative research in the modern paradigm, the world exists as a given and therefore its "methods" often embrace a reading for themes of what one says. For example, the data analysis software program NVivo QSR allows for and organizes the coding of interview transcripts—revealing the number

of times participants stated a particular word or phrase. Similarly, in quantitative research one

cannot or need not interpret facts or information because they are a given—test results are either

significant or not. With that, studies also aim to be generalizable. Further, "a pre-eminent place

has been accorded to the production of knowledge based on discovering facts and formulating

theory in terms generalisations" (Usher, 1996, p. 14). Another tenet related to objectivity in

modernity dwells in the way one experiences the world and the way it actually exists. In other

words, as Wilson (2008) offers below, dominant paradigms such as modernity believe that

knowledge exists separately from the individual, rather than relational as in post-postmodernity.

> Dominant paradigms build on the fundamental belief that knowledge is an individual
> entity: the researcher is an individual in search of knowledge, knowledge is something
> that is gained, and therefore, knowledge may be owned by an individual. An Indigenous
> [or traditional] paradigm comes from the fundamental belief that knowledge is relational.
> Knowledge is shared with all creation. It is not just interpersonal relationships, or just
> with the research subjects I may be working with, but it is a relationship with all of
> creation. It is with the cosmos; it is with the animals, with the plants, with the earth we
> share this knowledge. (p. 56)

For postmodernists, the world exists in its complexity and can be linguistically created.

Singular meaning in a text or in an experience does not exist, rather postmodernists remain open

to multiple meanings or interpretations. Unlike

modernity, postmodernity abides as anti-foundationalist.

Truth or knowledge is not seen as a "fixed, ahistorical,

Platonic reality" (Leicester, 2000, p. 74), but contextual,

historical, culturally specific, and changing. A

postmodern perspective embracing the primacy of

interpersonal processes suggests that knowledge and

understanding are not seen as individual (Kahn & Lourenço, 1999).

Postmodernity sees the nature of the universe (cosmology) as complex, open and "integrated system where all things in the world—human, natural, and divine—are related in an orderly fashion" (Slattery, 1995, p. 625). Ontologically, the world appears through language, such that what is spoken creates our existing reality. Epistemologically, there are multiple ways of knowing; objective facts do not exist, only interpretations; meanings are not fixed, and reality does not independently or objectively exist (Wilson, 2008).

At the same time, epistemologically, post-modernity's "powerful conceptions" also has its shortcomings (Fidyk, 2013, p. 130). As Fidyk articulates, within postmodernism (. . . the subject is decentred, enmeshed in the "text" of the word, constituted in intersubjectivity, [and] discourse and language). Language holds critical importance in postmodernism and according to Kahn and Lourenço implies "that language does not reflect a preexisting [*sic*] social reality, but constitutes that reality for us" (p. 94). In other words, language speaks us into being. Other shortcomings of post-modernity are that it precludes a creative cosmos that is spirited and ensouled, unlike post-postmodernity.

Post-postmodernity is the paradigm or worldview resonating most with/in me and shapes the way I live in the world and the way I take up this research inquiry. While little has been written about it in research texts, it is also been referred to by other names such as, integral (Gebser, 1984; Wilber, 1982) and animated (Fidyk, 2013), sharing much in common with Indigenous knowledge or paradigm (2008). At the same time, it is difficult for one to stay within post-postmodernity for long unless immersed and living in a community or society embodying its tenets. The worldview of the post-postmodern takes in the history of the previous "traditional, modern, and post-modern," integrating them as an inherent part within its paradigm rather than pushing aside, separating or isolating these worldviews from one another (Fidyk, 2011, p. 24). At the same time, assimilation does not suggest "anything goes" in post-postmodernity—only that specific tributaries from each of the paradigms traverse their way and flow into its ocean. Unlike postmodernity, the universe of a post-postmodern paradigm is alive, creative, organic, and inter-generational. Relations are of the utmost importance because we are informed and constituted by the other—including the universe, plants, and animals, as well as "the unconscious, transpersonal, transgenerational, transspecies, feeling, imaginal, and emergent dimensions"

(Fidyk, 2013, p. 131). Bohm's (1980) work is helpful here. Despite the illusion of the

separateness of things, everything remains inherently connected to everything else. In other

words, the universe, according to Bohm lives as a series of infinite "enfoldings" and

"unfoldings," where enfoldings encompass the "unseen order," while unfoldings refer to the

"seen order" The universe, full of energy, exists as a multidimensional and ultimately

inseparable whole. The possible infinite number of universes "enfolded," overlapped, and

intertwined into each other in what Bohm calls an "implicate order." The "explicate order" also

referred to by Bohm as the "unfoldings" and "seen order" makes up our manifested world and

flows out of the implicate order. Thus, within post-postmodernity, our knowledge and

understandings live and breathe within the collective consciousness—organic and emerging

(Fidyk, 2013; Wilson, 2008).

Post-postmodernity's cosmology sees the nature of the universe as organic, dynamic, inclusive, creative, and alive. Ontologically, post-postmodernity remains critical of thinking things exist in isolation, such as mind-body dualism. Rather, things in the world are organized through the ways they relate to other things and emerge or co-arise as each informs and constitutes the other. As well, the worldview of the post-postmodern takes in the history of the previous traditional, modern, and post-modern periods, which are nested, and respected within it. Epistemologically, knowledge remains unfixed or impermanent—fluid, organic, emerging, and part of one's being (Fidyk, 2013; Leicester, 2000).

The on-going privileging of scientific ways of knowing values a modern paradigm where

knowledge can be accumulated, reproduced, controlled, manipulated, and a commodity to be

traded. Modernity, as a privileged way of being in the world, has at times constrained

possibilities, particularly in pedagogy and curriculum (Fidyk, 2011). A world valuing knowledge

as a commodity does not necessarily allow for openings or the freedom to think and act

otherwise. However, situating oneself, as Fidyk (2011) does, in a post-postmodern worldview,

one remains open to "radically reconsider the ways that we come to know and thereby what we

know" (p. 4). However, to "radically reconsider" the ways one comes to know and understand

education and what we know of education necessitates tracing its roots, which have and continue

to inform the historical present.

Chapter 3

Seafaring Adventures: An Exploration of the Literature

The literature reviewed in this chapter can be likened to navigating the path of a stream. Navigating the literature allows us to move into the stream of the inquiry with a deeper sense of understanding and purpose. The first passageway I will move through will be the literature related to inquiry and inquiry-based learning. The history of inquiry, current trends, interpretations, and discipline-based inquiry are explored.

The second current within the literature exploration will address topics concerning the practicum or field experience as well as the nature of teacher beliefs and challenges with inquiry-based teaching-and-learning.

The final current to be navigated in the literature will be process philosophy. An exploration into what process philosophy entails will be outlined and examined. As well, an introduction to Alfred North Whitehead's learning theory, as it relates to process philosophy, and what it offers this study, as its educational framework will be considered.

However, before we begin our journey into

Monday, October 22, 2012:

I have quite literally spent weeks trying to sort out how to approach this section on the literature. I felt "stuck" because I needed it to be clear and well organized, but when I went to try write down all of the categories and sub-categories, it was a disaster because some of the sub-categories could and should fit in with all of the categories, but if I wrote about it in one section of the literature review then I wouldn't need to write about it in another section.

Why was this so complicated?!?! Simply because it is . . . This news flash came directly from David Jardine (2012) when I spoke to him about my "stuckness." It is all complicated and messy and difficult so write from there. What relief . . .

Breathe . . .

An odd relief to feel considering it acknowledges the messiness and difficulty of things, but relief nonetheless and a way of opening things up for me when I felt trapped and unable to move these ideas forward.

the literature I must first acknowledge and discuss the difficulty and messiness that lies before us. Although this literature review is organized into separate sections of inquiry, teacher education, beliefs, and process philosophy, a danger arises in allowing the reader to believe that

each of these can or should be neatly structured and arranged. The system of education, informed

by globalization in general and neoliberalism specifically, often has a compulsion to keep

schools, teachers, curriculum, and students neatly organized so they can be easily managed.

However, thinking it is possible and wanting to maintain a hyper level of organization and

control, perhaps partly contributed to the current mess of education. At the same time, I attempt

to be clear, to clarify and untangle the tributaries that can be untangled, knowing all the while

that the waters will muddy and the tributaries will tangle, yet again. However, the topics being

addressed in the literature review will not always allow for this and will therefore require some

generosity of the reader as I try to guide us through the interwoven streams of the literature.

Inquiry: An Educational Wetland

This chapter focuses on the literature related to inquiry and inquiry-based learning. The

history of inquiry, current trends, and interpretations in the educational research are explored and

critically examined. However, before diving into the inquiry literature, attending to what it

means to "define" a term (in general) and the importance of doing so shall be discussed. de

Castell, Luke, and Egan (1986) expressed the importance of defining one's terms.

> Any attempt to make the world intelligible begins with some form of definition . . . only
> when habitual forms and unexamined definitions of a problem are made conscious and
> their inadequacies exposed can appropriate responses to the problem be substituted in a
> manner that allows positive change to take place. (p. 3)

Although these authors (cited above) refer to the definition of literacy, one can readily substitute

inquiry, as they go on to write: "Just what is literacy [inquiry]? What are its functions and aims?

Only when we have the requisite theoretical understandings to respond to these questions can we

. . . determine which methods and programs best facilitate literacy [inquiry]" (p. 3). While de

Castell, et al. aim to cultivate a theoretical understanding of terms, my hope dwells in cultivating

a hermeneutic understanding of key concepts. Unlike a theoretical understanding, hermeneutics

remains alive and would never separate ideas from the world in which they exist (Gadamer,

2004). For example, while de Castell et al. require a definition establishing particular programs,

methods, and procedures to promote literacy, I seek an interpretation of inquiry—the ways it

lives in the world—not the creation of a program or method for its dissemination, rather the ways

it connects to and is shaped by our contexts and relationships with it. Moules' (2002)

interpretation of definitions is helpful.

> Definition is the shape that language takes around a word. It is only when we begin to
> believe that definitions are "true" that we betray hermeneutics. Rather, when definitions
> are defined as interpretations, they become hermeneutic . . . . When we take up
> definitions hermeneutically, we venture into the contingent understandings that are
> situated in lives, relationships, contexts, and histories. (p. 2)

For example, within the context of Potamoi School, its mission does not separate inquiry from

what we do as teachers and students, but rather as a disposition—the character, attitude, and way

of approaching teaching and learning. It does *not* exist as a recipe, method, or program

implemented for students to do well on the provincial achievement tests (PAT) or to get the

desired results or to "cover the curriculum" by checking off specific curricular outcomes.

However, the tension still exists each May and June when the PAT exams are rolled out and

again every October when the PAT results arrive at the school. I recall sitting at a staff meeting

surrounded by the other teachers and administration when the "results" of my classes were

projected on the screen and compared (in detail) to other Grade 6 classes and previous results.

Although our school espouses inquiry as a disposition, it also places importance and value on the

PAT results every year. As a teacher, it can be difficult to negotiate and navigate the terrain of

the PAT with a disposition of inquiry arising from a post-postmodern worldview.

As a publicly funded, but independent school, we are mandated by Alberta Education to

teach the provincial programs of study. The difference at our school exists in the ways teachers

and students teach-and-learn the programs of study. At the same time, not every teacher thinks of

or takes up inquiry in the same way even though there are certain frameworks and some common

language used within the school. These frameworks and the language allow flexibility in the

ways inquiry might be thought of, discussed, and enacted. The flexibility in turn also cultivates

openings so one can speak to and of the ways inquiry lives in our individual and collective

practices.

In the first few years of teaching at Potamoi, there was time and attention spent focusing

on and discussing inquiry. As teachers, we would look at the work we were doing with our

students, discuss it with our curriculum teaching partners, and assess it through the Galileo

Educational Network's *Discipline Based Rubric for Inquiry Studies* (see Appendix A). However,

in more recent years, there has been much less discussion concerning inquiry-based teaching-

and-learning (almost none as a collective) compared to my initial years. Understanding the ways

inquiry lives necessitates cultivating a sense of where the concept of inquiry has come from and

what one means when using the term inquiry in this particular research context. In other words,

we must trace the threads back to its roots.

Historical navigations of inquiry. Etymologically, the term *inquiry* (n.d.) can be traced

back to the mid-15th century from the French term *enquire*. However, with the Latin influence in

the mid-16th century, the term was respelled to the common North American spelling today,

inquiry (n.d.). The verb *inquire* (n.d.) dates back to the late 13th century, meaning to "ask, inquire

about" and links to the word *query* (n.d.), meaning "to seek, gain, ask." Each of these iterations

relates to an investigation into something.

Most herald John Dewey as the father of contemporary inquiry through his earliest works

from 1884, laying out his key ideas (Dewey, 1975). Dewey's work is most often associated with

the progressive education movement, arising in the late 19th century and early 20th century, from which many current teachers and researchers attribute the beginnings of inquiry. "Dewey's ideas became known as *social pragmatism*, a term referencing his concern with the mind-body relationship, communication, and the ways students' experiences could be the basis for intelligent problem-solving" (Hill-Jackson & Lewis, 2010, p. 39). For example, the student's mind does not exist as something to be filled with discrete facts by the teacher, without regard to building connections or relationships to real life issues or events. The progressive movement is also where we begin to read and hear of experiential learning, as well as using "real life" situations or issues as learning opportunities. The two main tenets of the progressive movement and progressive education are that it remains child-centred, meaning it takes into consideration the diversity of individual learners and her interests; and "the development of *critical, socially engaged intelligence*," nurturing students' abilities to become thoughtful participants of democracy (*A Brief Overview of Progressive Education*, 2002, para. 1). Through the progressive education movement and its ideas, discussion, and practices, it informed what many refer to today as inquiry.

Although many herald Dewey as the founder of inquiry, one could argue that it was Hegel's ideas of logic from the early 1800s that Dewey drew from which created his theory of inquiry. These key ideas are that the "antidualistic unity of subject and object is the organic unity that coordinates analysis with synthesis" (Garrison, 2006, p. 4). The concept, that one cannot separate subject and object, also informs our understanding that in order to cultivate knowledge, analysis, and synthesis must each inform the other. The idea of building "new understandings, meanings, and knowledge" abides precisely in Dewey's writings of inquiry-based learning, emphasising "making objects of knowledge the constructed products of the process of inquiry"

(Garrison, 2006, p. 11). Here, however, Dewey's emphasis separates the process and the product (knowledge) with the aim of inquiry the creation of a product. I think this can be a slippery slope if the only reason to "do inquiry" is to end up with "objects of knowledge as a product." Further discussion of the ways inquiry might be interpreted and the ways it lives in this particular research context will be discussed later, once we have more fully traced Dewey's understandings of inquiry and its application or the way it has been taken up today across North America.

The definition of inquiry given by Dewey (1938a) lies in "the controlled or directed transformation of an indeterminate situation into one that is so determinate in its constituent distinctions and relations as to convert the elements of the original situation into a unified whole" (p. 108). According to Dewey, the indeterminate situation lives at the core of one wanting to inquire into a particular issue. Also, the nature of the indeterminate situation informs the inquirer as to the way one might proceed (p. 109–111). In other words, transformation emerges from a process where the inquirer takes an unknown situation, issue, or idea and through their investigation of these creates a new understanding of the entire situation, issue, or idea. Here, Dewey emphasises the movement from the universal to the particulars and vice-versa. Dewey postulated that without an understanding of the universal concept, the learner would be unable to "interpret the particulars as something (for example, lines)" (Garrison, 2006, p. 7).

Attending to and troubling some of Dewey's language in his definition of inquiry might be helpful. As I read and re-read the definition, the words "controlled," "directed," and "determinate" seemed to teem with the language of the modernity. Privileging the modern paradigm, at the expense of other ways of knowing, as Dewey has at times done through his choice of language, may have been unintentional. To clarify, there are traces in some of Dewey's

work, ideas, and language moving away from the privileging of the dominant discourse—ideas

such as the "indeterminate situation," and the interconnection of all things.

Below, Dewey (1938a) outlined the parameters

needed for an inquiry to be an inquiry in the "complete

sense."

> [It] has to satisfy certain conditions of formal statement. To engage in inquiry is like entering into a contract. It commits the inquirer to observance of certain conditions. A stipulation is a statement of conditions that are agreed to in the conduct of some affair. The stipulations involved are first implicit in the undertaking of inquiry. As they are formally acknowledged (formulated) they become logical forms of various degrees of generality. They make definite what is involved in a demand . . . . The responsibilities that are assumed are stated in stipulation. They involve readiness to act in certain specified ways. (p. 16)

Monday, July 30, 2013

As I write, re-write, and reflect on what I am trying to convey about Dewey's work and his ideas, I am fully aware of my own languaging of things. The language of modernity and the natural sciences creeps into my writing when I try to explain ideas or concepts clearly and often traps me. I see and feel the difficulty of learning to be more open with my language without, like Dewey, being pulled back under by the riptide of modernity.

Striking for me with this particular quotation from Dewey's (1938a) book, *Logic: Theory of Inquiry*, as well as his other writings, exists the movement from absolute and formulaic language tied to a modern paradigm to language emphasising the interconnectedness of ideas and people. I am mindful and cautious of Dewey's language of prescription and modernity because language can influence the ways we come to know. The deep, rich, organic, Life of inquiry may become insipid with a sole emphasis on objectivity and modernity reigning supreme. The sole focus of an inquiry, arising from a post-postmodern paradigm cannot be reduced to the outcome of a lesson or project. While interconnectedness is embraced by many theories or interpretations of inquiry today, one must delve deeper into Dewey's theory of inquiry, acknowledging its roots and historicity, to examine the interconnections that might exist. The following section discusses and assesses the ways inquiry lives in our schools and classrooms today.

Navigating the "current" trends of inquiry.

> As educators, we all understand how susceptible our profession is to latching on to terms and ideas whose "shelf life" often seems to be inevitably fleeting. The great irony, here, is that the term "inquiry" has been recently proffered in educational theory and practice as a way to name a form of deep, rich, articulate, engaging, rigorous and pleasurable form of classroom work, a type of work that is precisely not fleeting, not "new and improved," not a passing fad or fancy. (Jardine & Seidel, *Course Outline*, 2012)

The introductory quotation refers to inquiry as rich and meaningful teaching-and-learning and the way I have tried to take up inquiry in my own classroom—with varying success. Inquiry in a post-postmodern paradigm does not feel cheap and used as though part of the latest bandwagon rolling into town, but a way to live well and cultivate work with students where interesting conversations concerning the nature of history or math or art take place and curiosity, excitement, and deep thinking are honoured. The work that students are asked to do is important and worth their time exploring. As we investigate or inquire into inquiry-based teaching-and-learning, one must first have a sense of contemporary inquiry. Currently, there are numerous interpretations within education, which when we look behind the veil of their language, does not support the spirit of inquiry in a post-postmodern paradigm. Rather, some of the language and the ideas hailed as inquiry are prescriptive and recipe-like in their descriptions of inquiry and the ways it should be taken up or given out in the classroom. In other words, it frames itself within a modern paradigm. In this section, I critically survey current trends of inquiry and discuss some of the interpretations of inquiry.

The fundamental Hegelian and Deweyian ideas discussed in the preceding section have informed some of the understandings of inquiry-based learning today. However, the notion of inquiry in education remains ubiquitous and with this a variety of interpretations arise in what it means and the ways it might be taken up. As well, inquiry oftentimes exists as a synonym for a

variety of other teaching practices such as "hands-on" learning, problem-based or project-based learning, to name just a few.

The global message endorsing inquiry is ubiquitous (Council of Ministers of Education, Canada 1997; Goodrum, Hackling & Rennie, 2001; National Research Council 1996; Qualifications and Curriculum Authority, England 2000) and yet, many teachers continue to struggle to cultivate or embrace their own and their students' dispositions in inquiry (Chiapetta & Adams, 2000; Crawford, 2000, 2007; Fradd & Lee, 1999; Lederman, 1992; Sharma & Muzaffar, 2012). The difficulty in understanding and enacting inquiry-based teaching-and-learning still exists despite the widespread initiatives and extensive efforts of teacher education programs, (Darling-Hammond & Bransford, 2005).

There are considerable differences and disagreements between and amongst teachers, teacher educators, government officials, policy makers, and administrators with what inquiry-based teaching-and-learning is, ought or might be. With such discrepancy between individuals and groups in education regarding the concept, it appears many prefer to hold tightly to what they know. This rigid and unchallenged understanding has dominated the discourse of teaching-and-learning for decades—that of the technical mode, arising out of modernity.

North American teachers continue to be enamoured by predictable, measureable, controllable, and replicable teaching (Towers, 2010; Wallin, 2008). In other words, as Towers asserts; a "technical mode[s] of teaching still dominates K–12 education in North America" (p. 244). A technical rationalist mode of teaching distils practice into something efficient, simple, and replicable (Dunne, 2005; Towers, 2010; Wallin, 2008).

To paint a picture illustrating the technical or instrumental way of teaching as "all bad" would be unfair. There are a whole host of ways in which a technical mode of action provides

benefits to teachers, such as organizational structures in the classroom, routines, techniques, and

models (Macintyre Latta & Field, 2005). However, the threat comes when instrumentalism exists

as the *only* mode of action in teaching-and-learning because then education becomes concerned

with managing children to neatly and efficiently complete tasks with predetermined objectives

and fixed outcomes that can be checked off of a list ahead of time (Field & Macintyre Latta,

2001).

On the other hand, inquiry-based teaching-and-learning from a post-postmodern

worldview, challenges teachers and teacher educators alike to enact because of its complex,

uncertain, nuanced, and mindfully embodied nature (Field & Macintyre Latta, 2001; Towers,

2010). As well, it demands ongoing, "thoughtful inquiry and discernment" (Phelan, 2005a, p.

340). Discernment, according to Phelan (2005b), "speaks to a teacher's capacity to see the

significance of a situation, to imagine various possibilities for action and to judge ethically how

one ought to act on any given occasion" (p. 62). Discernment grounds itself in Aristotle's

conception of phronesis, wholeheartedly rejecting the technical-rational mode of teaching-and-

learning. Instead, phronesis embraces and promotes ethical judgment in context and concerns

itself with three central questions: "Where are we going? Is this desirable? What should be done

(in other words, what is best to do for these students, in this context, with this subject matter,

etc.)?" (Towers, 2010, p. 245). Practices approaching teaching-and-learning with these questions,

through phronesis and with mindful embodiedness, could be referred to as inquiry-based (Phelan,

2005a; Towers, 2010). However, as illustrated in the following section, and alluded to earlier in

this section, the term "inquiry" has a myriad of definitions and interpretations discussed

throughout the research literature as well as within schools and universities (Aulls & Shore,

2008; Zeichner, 1983).

First, we look at Alberta Learning's definition of inquiry from 2004 as it provides a provincial context for the term.

> A process where students are involved in their learning, formulate questions, investigate widely and then build new understandings, meanings and knowledge. That knowledge is new to the students and may be used to answer a question, to develop a solution or to support a position or point of view. The knowledge is usually presented to others and may result in some sort of action. (p. 1)

The idea of building "new understandings, meanings and knowledge" is precisely what Dewey described in his writings of inquiry-based learning where the emphasis was on "making objects of knowledge the constructed products of the process of inquiry" (Garrison, 2006, p. 11). In other words, through the process of inquiry new understandings or new ways of looking at things emerge and the creation of new knowledge arises. The pursuit of creating new knowledge and understandings, building upon already held beliefs through learning activities are also characterized as inquiry. As well, the teacher's responsibility in the role of facilitator or guide encourages learners to question and challenge his or her own ideas, understandings, and beliefs rather than dispensing information for students to acquire (Abdal-Haqq, 1998). Opportunities for students to engage in meaningful and "real life" issues and ideas persists as the focus, rather than a concern for rote memorization of facts to be regurgitated.

Stephenson's (n.d.) interpretation of inquiry in the online document *Introduction to Inquiry Based Learning*, reflects a post-postmodern worldview.

> It is crucial to recognize that inquiry-based teaching should not be viewed as a technique or instructional practice or method used to teach a subject. Rather, inquiry starts with teachers as engaged learners and researchers with the foundational belief that the topics they teach are rich, living and generous places for wonder and exploration. Inquiry is not merely "having students do projects" but rather strives to nurture deep, discipline-based ways of thinking and doing with students. (para. 4)

For example, when a school or classroom lives inquiry as a disposition, students learn and understand the values, attitudes, and ways of seeing and thinking as an historian, an artist, a

writer, or a chemist. They become familiar with and understand ways of knowing and enacting

as they explore engaging and important questions alive in our world.

The following interpretation of inquiry comes from the Galileo Educational Network

(2013). This particular interpretation of inquiry has been chosen because the Galileo Educational

Network has been instrumental in supporting schools to learn through inquiry, as well as enact it

within their classrooms. They define inquiry as "a dynamic process of being open to wonder and

puzzlement and coming to know and understand the world."

> As such, it is a stance that pervades all aspects of life and is essential to the way in which
> knowledge is created. Inquiry is based on the belief that understanding is constructed in
> the process of people working and conversing together as they pose and solve the
> problems, make discoveries and rigorously testing the discoveries that arise in the course
> of shared activity. (*What is inquiry?*, 2013)

With this particular interpretation of inquiry, one can see its connection to Dewey's ideas where

"understanding is constructed in the process" (i.e. not through the separation of synthesis and

analysis) and "of people working and conversing together as they pose and solve the problems"

(i.e. the inability to separate subject-people, from object-problems). Describing understanding as

constructed implies a way of thinking and being in the world needing unpacking. Constructivism

encourages using one's environment for learners to create meaning through the testing of ideas. I

suggest that although a constructivist way of learning denies and refutes objectivity (in a

particular way), there still exists within constructivism, the idea that knowledge exists separately

from the knower (and her environment) and that it can, and should be objectively evaluated and

accumulated. This language and the assumptions inherent in it reflects a tinge of modernity

where knowledge and the knower can still be managed, controlled, and manipulated.

Given the preceding definitions and interpretations of inquiry, Towers (2010) asserts that

inquiry-oriented teaching "rests upon a particular set of teacher competencies and dispositions"

(p. 246), but that it would be difficult to agree or even discern from the research literature which

are the precise practices and dispositions of inquiry (p. 246). However, Towers (2010) helpfully

lays forth (outlined below) an overview of competencies, dispositions, practices, and knowledge

from the educational research literature that are often recognized in inquiry-oriented teachers.

> A level of comfort with ambiguity and uncertainty (Lampert & Ball 1998; Phelan 2005a,
>
> b); understanding the provisional nature of knowledge (Dunne 1997; Lampert & Ball
>
> 1998; Phelan 2005a) and the complexity of the teaching/learning relationship (Phelan
>
> 2005b); responsiveness to students (Lampert & Ball 1998; Moscovici & Holmlund
>
> Nelson 1998); a commitment to exploring student thinking as well as skill in probing and
>
> making sense of students' ideas (Lampert 2001; Lampert & Ball 1998; NCTM 2000);
>
> knowing how to 'teach for understanding', including fluency in teaching with
>
> manipulatives, guiding small-group work, capitalising on students' multiple solution
>
> strategies, and so on (Lampert & Ball 1998; NCTM 2000); the ability to understand and
>
> draw out the deep structure of the discipline so that learners learn to reason and connect
>
> ideas (Puntambekar, Stylianou, & Glodstein. 2007) and a commitment to building a
>
> community of inquiry in the classroom (Alberta Learning 2004; Phelan 2005a), as well as
>
> a host of social and personal capacities such as care and concern for others. (p. 247)

Although Towers' (2010) research concerns itself with teaching-and-learning in

mathematics, the ways she understands and articulates inquiry remains strikingly different from

the understanding Wilhelm and Walters (2006) offer, embracing a specific model or lockstep

approach to explain the nature of scientific inquiry. Alternatively, Towers focuses the nature of

inquiry with teachers' dispositions, knowledge, and practices. I suggest that at the heart of the

difference exists Wilhelm and Walters' primary focus on method, arising from a modern

paradigm, whereas Towers concern not only exists with the method of inquiry (in what ways is it

done?), but also its ontology (in what ways does inquiry live/exist in the world?) and

epistemology (what makes inquiry, inquiry?)

The Galileo Educational Network also provided descriptions regarding what constitutes

meaningful inquiry.

> Inquiry is a study into a worthy question, issue, problem or idea. It is the authentic, real
> work that that [*sic*] someone in the community might tackle. It is the type of work that
> those working in the disciplines actually undertake to create or build knowledge.
> Therefore, inquiry involves serious engagement and investigation and the active creation
> and testing of new knowledge. (What is inquiry?, 2013)

Rather than phases, checklists, or plans to follow, Galileo has created what they refer to as

"dimensions of inquiry" (What is inquiry?, 2013, para. 4). These have not been generated so one

can create a list to ensure the inquiry has all eight

dimensions checked off for every inquiry unit or project.

These dimensions have been created to enhance one's

understanding of inquiry and what it can and might entail.

Also, bear in mind that not every dimension of inquiry

would or even can be involved in every inquiry. In a deep

and rich inquiry, its nature and the topic informs which

dimension(s) will be most suited and meaningful to take

up and the way one might proceed. For example, not

every inquiry will have access to or the need for digital

technologies.

Although not intending to be prescriptive in

nature, naming the dimensions of inquiry and suggesting

Thursday, January 2, 2013:

Having to critically examine the
dimensions of inquiry by the Galileo
Organization Network (2013), has
me wondering about how meaningful
and authentic it actually is and can be
when it is framed around the
scientific language of "requires,"
"causes," "evidence," etc. Each of
which, I admit, I have never fully
noted or unpacked until now. At the
same time, the phrase of "collective
understanding" or having students
"appreciate" digital technologies,
suggests that perhaps there is a
negotiation or conversation
happening here between the modern
worldview and a traditional one . . .
however, I would suggest there is a
stronger pull by the modern. What I
find most interesting and
disappointing is that it was not until
today, this day, after over six years of
"using" these dimensions that I
realized the nature of its language.
Clearly, it will be important for me, in
my day-to-day life to "make the
familiar strange."

that in inquiry, these are the eight and only eight dimensions possible could be seen as somewhat

regulatory, narrow, and objectifying of the inquiry process. To clarify, objectifying the process

simply means that by naming the eight dimensions of inquiry, there the implication of a priori

exists—that one already knows that within inquiry-based teaching-and-learning, all or some of

these dimensions (and no others) might exist. As well, it has the potential to close down or turn

away from some dimensions and open up or turn toward others. At the same time, the

dimensions do help inform oneself with inquiry.

A brief description of each of the eight dimensions of Galileo Educational Network's

"Rubric for Discipline-Based and Inter-Disciplinary Inquiry Studies" (Galileo, 2014) is

discussed below, as well as the ways it might look as it lives in the classroom. I am placing

attention on these dimensions because Potamoi School has referred to and used this framework

to discuss inquiry-based teaching-and-learning for several years.

The first dimension, authenticity, suggests "the inquiry study originates with an issue,

problem, question, exploration or topic that provides opportunities to create or produce

something that contributes to the world's knowledge" (para. 5). The second dimension, academic

rigour, "encourages students to develop habits of mind that encourage them to ask questions of:

evidence; viewpoint; pattern and connection; supposition; and why it matters" (para. 6). In

inquiry-based teaching-and-learning the dimension of assessment might be considered when it

"provides opportunities for students to reflect on their learning using clear criteria that they

helped to set. The students use these reflections to set learning goals, establish next steps and

develop effective learning strategies" (para. 7).

The Galileo Educational Network (2013) created the inquiry dimension "Beyond the

School," requiring "students to address a semi-structured question, issue or problem, relevant to

curriculum outcomes, but grounded in the life and work beyond the school" (para. 8). Digital

technologies within inquiry are when "used in a purposeful manner that demonstrates an

appreciation of new ways of thinking and doing" and/or "the study makes excellent use of digital

resources" (para. 9). In an inquiry study, active exploration requires "students to spend

significant amounts of time doing field work, design work, labs, interviews, studio work,

construction, etc." (para. 10). Also in an inquiry, when students "observe and interact with adults

with relevant expertise and experience in a variety of situations, they are working in the

"connecting with experts dimension," which also has tasks which "are designed in collaboration

with expertise, either directly or indirectly" (para. 11).

Within elaborated communication, "students have extended opportunities to support,

challenge, and respond to each other's ideas as they negotiate a collective understanding of

relevant concepts . . . as well as "provide opportunities for students to communicate what they

are learning with a variety of audiences" (para. 12). While each dimension offers ways of

understanding inquiry and how it might live in the classroom and evoke the spirit of inquiry, and

not as a checklist, the language in some inquiry dimensions needs to be questioned and troubled.

At the same time, in previous years, these dimensions have helped inform the ways one

cultivates meaningful learning at Potamoi School. In addition to the descriptors outlined above,

the Galileo Educational Network also created an inquiry rubric to assess the various dimensions

used in inquiry (see Appendix A for the Inquiry Rubric).

A way of understanding inquiry-based teaching-and-learning might be through the

dimensions of inquiry, rather than through the individual disciplines. Within their inquiry rubric,

Galileo illustrates inquiry through dimensions and not as each discipline individually—even

though their rubric is titled the *Discipline-Based Inquiry Rubric*. Instead, they categorize their

understanding of inquiry into eight dimensions and organize these dimensions into *beginning,*

developing, and *accomplished*. The inquiry rubric assesses teacher's inquiry work in the

classroom and their understanding of the work. However, to note, although favourable, not all

inquiry work addresses each and every dimension.

Another set of dimensions was crafted to reveal the different teacher-education

conceptualizations of inquiry (Tom, 1985). Tom created the dimensions because he found in his

own survey of the research literature in teacher education and inquiry, a lack of clarity of the

term inquiry. For example, conceptualizations of "habits of inquiry" (Zeichner, 1983, p. 6) range

from teachers as action researchers (Corey, 1953; Shumsky, 1958) to teachers as radical

pedagogues (Giroux, 1983), and to teachers as scholars (Ellner, 1977; Schaefer, 1967; Walton,

1960). With the conclusion that there was not an all-encompassing and precise definition for the

multi-faceted term of inquiry in the teacher education literature, Tom suggested there was a need

for a set of dimensions illustrating and clarifying the range of practices within inquiry-oriented

teacher education.

Tom organized the conceptualization of inquiry into three dimensions "(a) the arena of

the problematic, (b) the model of inquiry by which a particular arena of the problematic is to be

studied, and (c) the ontological status of educational phenomena" (p. 37). The role of the arena

of the problematic exists "to raise doubts about what, under ordinary circumstances, appears to

be effective or wise practices" (p. 37). The difficulty arises, not in suggesting that teaching

situations can be made problematic, but in agreeing upon what aspects might be made

problematic. In the figure below, Tom, using a continuum, illustrates that the small arena of the

problematic focuses on the teaching-learning process while at the opposite end of the spectrum

lies making society the focus of the problematic.

Figure 1
Arenas of the Problematic
(Arranged by degrees of comprehensiveness)

Cruickshank/Applegate	Adler	Kohl	Apple
Corey	Walton	Smyth	Giroux
Hunt		Tom	Willis
Ellner		Zeichner	Berlak/Berlak
Brophy/Evertson			Wood
Freeman			
Teaching-Learning	Subject Matter	Political/Ethical	Society, Including
Process	Knowledge	Principles Underlying	Educational
		Teaching	Institutions

SMALL ARENA OF THE   LARGE ARENA OF THE
     PROBLEMATIC   PROBLEMATIC

(Tom, 1985, p. 37)

The second dimension, the model of inquiry, suggests three ways of teaching using

inquiry in teacher education: action research, the scholar-teacher, and the teacher as critical

inquirer. Although there were several other approaches to teaching inquiry, Tom suggested the

three examples offered the most comprehensive representations of the range of inquiry practices

or approaches. In Figure 2, Tom organizes the continuum using two variables: the scope of the

inquiry (knowledge or knowledge/action) and the rigor of it (commonsense [*sic*] or disciplined

inquiry). The far left of the continuum requires little guidance for the teacher because her

knowledge comes from her commonsense (highly problematic) and the inquiry remains narrow

in scope and considered to have little rigor. In contrast, where most guidance exists, the inquiry

remains highly rigorous with a broad scope because the teacher educator links their knowledge

and action through discipline-based inquiry.

Figure 2
Models of Inquiry
(Arranged by their scope — knowledge or knowledge/action — and by their rigor — commonsense inquiry or disciplined inquiry)

Corey	Schaefer	Smyth	No Examples
Cruickshank/Applegate	Elliott	Zeichner	Identified
Hunt	Brophy/Evertson	Cohn	
Ellner	Freeman	Tom	
Joyce/Harootunian		Kohl	
Knowledge	Knowledge	Linkage of	Linkage of
Achieved Through	Achieved Through	Knowledge and	Knowledge and
Commonsense	Disciplined	Action Through	Action Through
Inquiry	Inquiry	Commonsense	Disciplined
(Low rigor,	(High rigor,	Inquiry	Inquiry
narrow scope)	narrow scope)	(Low rigor,	(High rigor,
		broad scope)	broad scope)

LOW GUIDANCE FOR									HIGH GUIDANCE FOR
TEACHER EDUCATOR									TEACHER EDUCATOR

(Tom, 1985, p. 39)

Lastly, teacher educator beliefs concerning the ontological status of educational phenomena informs both the model of inquiry chosen, as well as what she chooses to focus the arena of the problematic on and to what degree (scope). The ontological status of educational phenomena asks; "how does education as a phenomenon live in the world?" In Figure 3, Tom (1985) illustrates the education phenomenon as natural, meaning that it is stable, unchanging, and easily manipulated or controlled and inquiries in this realm lead to "lawlike" [*sic*] outcomes (p. 41).

I do not think that Tom goes far enough in his ontological consideration of educational phenomenon. My critique offered bases itself on the notion of constructivism, briefly mentioned previously. In its current form, on the far right of Tom's model, it suggests a socially constructed world. Ergo, the work and the meaning we cultivate are in a given world. Within a post-postmodern paradigm, the world is alive, has knowledge, and acts on and with us in creating meaning and understandings—which Tom's model does not consider. As well, the models and dimensions feel constricting and perhaps restricting in nature. While I do think that the dimensions Tom created are helpful in understanding inquiry more broadly, it needs to be pushed further to include the post-postmodern, honouring multiplicity and "a plurality of valid

perspectives," and highlighting and encouraging openness to conceptual change and a shifting of

boundaries (Leicester, 2000, p. 81). At the same time, with changing and shifting, the waters

muddy and a myriad of challenges can arise.

Figure 3
Ontological Status of Educational Phenomena
(Rationales and their related focal points for inquiry)

Brophy/Evertson Freeman	Gage	Corey	Cronbach	Hunt/Schaefer/Wright Cruickshank/Applegate Joyce/Harootunian	Tom Smyth Zeichner	Kohl Giroux
Lawlike Outcomes	Generalizations	Context Sensitive Generalizations	Time and Context Sensitive Generalizations	Ongoing Inquiry into Classroom Events	Political and Ethical Principles of Teaching	A Just Society

EDUCATION PHENOMENA AS NATURAL ⟵————————————————————⟶ EDUCATIONAL PHENOMENA AS SOCIALLY CONSTRUCTED

(Tom, 1985, p. 41)

In the preceding section, several definitions and ways inquiry has and can be taken up

were discussed. To more fully and deeply understand inquiry and the ways I will take up inquiry

in my own research, it is imperative to acknowledge and understand the differing ways it might

be interpreted. In the following section, I delve into some of these interpretations of inquiry and

the ways they are taken up in some schools, classrooms, and research.

Interpretations of inquiry. For one to more deeply understand inquiry, it can be

important to understand the ways inquiry lives and its differing interpretations. In this research,

inquiry lives as an interpretation rather than a definition and something boxed in or fixed and the

various interpretations are negotiated with/in the differing paradigms or worldviews (as

discussed previously). According to Anderson (2002) many teachers, and I would also include

researchers, have differing and wide-ranging understandings, conceptions, and interpretations of

inquiry. These different interpretations may partly stem from not having experienced inquiry

before—either as a learner or teacher or not having one's beliefs of inquiry questioned or

challenged. In Towers' (2010) research, she expressly suggests that talking about and explaining

to learners inquiry does not allow for a meaningful understanding of inquiry. Students (and

teachers alike) must *experience* inquiry. As well, fostering these differing interpretations could

be that researchers, teachers, and teacher educators are not in agreement with what inquiry means

(Crawford, 2007). Tethered to the lack of agreement remains the way "inquiry is often conflated

or used interchangeably with other terms describing similar teaching practices, such as hands-on

learning, generative teaching, and constructivist practice" (Towers, 2010, p. 246). In addition, to

Towers' offering, I would include the terms discovery learning, problem-based learning, and

experiential learning as examples of terms used interchangeably with inquiry.

The Galileo Educational Network (GEN) describes on their website two

"misconceptions" of inquiry. However, rather than misconceptions of the ways inquiry currently

dwells within schools and universities, I offer them here as interpretations.

> Inquiry is not a "method" of doing science, history, or any other subject, in which the
> obligatory first stage in a fixed, linear sequence is that of students each formulating
> questions to investigate. Rather, it is an approach to the chosen themes and topics in
> which the posing of real questions is positively encouraged, whenever they occur and by
> whoever they are asked. Equally important as the hallmark of an inquiry approach is that
> all tentative answers are taken seriously and are investigated as rigorously as the
> circumstances permit. (What is inquiry?, 2013)

While GEN suggests the above example does not meet its understanding of inquiry, I suggest

that it is indeed inquiry. However, it exists as inquiry taken up in a particular way— through a

modern paradigm valuing methods, prediction, and control.

Oftentimes, when discussing inquiry-based teaching-and-learning with teachers, they

may feel anxious or overwhelmed opening up topics to students posing questions because they

might not know what students will ask. Teachers have long been taught to "manage" the

classroom and the students, so moving towards a learning environment where students have

some ownership of the questions, ideas, and their learning, for some, remains an uneasy way of

seeing and living teaching-and-learning.

GEN offers another "misconception" of inquiry in the following quotation. "Inquiry is not to be thought of in terms of isolated projects, undertaken occasionally on an individual basis as part of a traditional transmissionary pedagogy. Nor is it a method to be implemented according to a preformulated script" (What is inquiry?, 2013). The interpretation presented here by the GEN speaks to inquiry as synonymous with "projects." Some teachers, when discussing inquiry, provide anecdotes of inquiry in their classrooms where they have given students a choice of what their project topic can be, the student then independently researches and presents their assignment to the class. Using projects as examples of inquiry comes out of the modern paradigm whereas inquiry as a disposition or way of being emerges from a post-postmodern paradigm.

Thursday, October 25, 2012:

I have recently been sitting in on a course with Dr. David Jardine and Dr. Jackie Seidel about inquiry and of course, hermeneutics. I regularly think about inquiry because of where I teach and now I often also think about hermeneutics. The question that is consistently part of my internal dialogue is "why is inquiry not simply called hermeneutics?" Is this not what we are doing—talking about and being open to deep learning through authentic learning experiences? Obviously it is more than this, but I am quizzical about the fact that hermeneutics has existed for centuries and yet in education colleagues look at me as if I have two heads when I mention the term. When, quite literally . . . hermeneutics is life.

Thinking of inquiry through the modern paradigm emerges in several ways in the Alberta Learning (2004) document *Focus on Inquiry: A Teacher's Guide to Implementing Inquiry-based Learning*, with a clear model illustrating how to do inquiry (i.e. "implement"), rather than as a disposition. The *Focus on Inquiry* (2004) publication indicates inquiry "can be used in a variety of ways" (Alberta Learning, 2004, p. 7); however, teachers can also take up the guide in a prescriptive or methodic way, as illustrated in the preceding interpretations outlined by GEN. This form of inquiry or understanding of inquiry tends to be thin and lifeless. Some of the questions the authors of the guide encourage teachers and administrators to ask are; "Will inquiry-based learning help me meet curriculum standards?"

and "Will inquiry-based learning improve my students' test scores?" (Alberta Learning, 2004, p. x).

As well, in the section of the guide related to the ways one can use the document, it reads "Inquiry-based learning is not an 'add-on,' but rather a way to achieve the goals of the Alberta programs of study, since inquiry-based learning is a component of all Alberta curricula" (p. ix). It also goes on to suggest that the guide "provides an instructional *model* [emphasis added] that can be used by all teachers, Kindergarten to Grade 12, in guiding inquiry with students" (p. ix). In addition, inquiry-based learning in this particular document communicates it more as an instructional method to be parcelled out in chunks of time (Drayton & Falk, 2001). In the quotations above from Alberta Learning, one can see and hear the modern agenda emphasising management, control, and prediction. Unlike a post-postmodern worldview, which dwells within the rich, deep, alive, emerging, and creative, inquiry stuck within modernity can be thin and loses its life.

"I became a teacher so that I could help kids pass the standardized tests," said no teacher ever.

someecards
user card

September 13, 2012:

The notion of using inquiry to improve test scores and meet curriculum standards is at odds with a post-postmodern inquiry, where students are curious and engaged with the problems, ideas, and issues we face together in this world. The language of improving test scores and meeting standards is the language of industrialization and the legacy of Frederick Winslow Taylor's "efficiency movement" (Callahan, 1964).

Discipline-specific inquiry. To more fully understand inquiry, it can be helpful to look at different disciplines separately. I have added this section analysing and discussing the ways specific disciplines or subjects define, interpret or use inquiry because as the Donovan and Bransford (Eds.) state in the National Research Council (2000), "different disciplines are organized differently and have different approaches to inquiry" (p. 155). Mintrop (2004)

illustrates this point by suggesting that science teachers, if they needed to, have the option of unifying inquiry using the scientific method. Social science teachers on the other hand do not have this luxury because their inquiry approaches range from "hermeneutic interpretation to methods of empirical research" (p. 143).

The following sub-sections are organized by the disciplines taught in Alberta schools today and include: science, mathematics, social studies, English/language arts, physical education, music, and art. In each of the sub-sections I will discuss and assess the ways each discipline enacts, defines, and/or interprets inquiry-based teaching-and-learning and the implications for student-teachers. However, in separating the disciplines, I am not suggesting or advocating for their separation within schools. Rather, I am clarifying (if only for a moment) the current circumstances of inquiry within each discipline.

science. Not surprisingly, the majority of the research literature on inquiry frames itself within or having to do with the discipline of science because it associated itself with inquiry in the reform movements from the 1960s through to today (Aulls & Shore, 2008). The reform documents in the United States (National Science Education Standards (NSES)) illustrate the teaching of science as or through inquiry. Within the documents a variety of instructional approaches are promoted. The approaches range from teacher-directed practices with the teacher providing students with specific questions and procedures to investigate a problem, to open inquiry. In an open inquiry, students investigate real life problems, come up with the questions, create specific techniques to gather data through observation, interpret the data, explain the results, and then communicate their understandings and explanations by creating models and/or arguments to support the results (Crawford, 2007; National Research Council (NRC), 1996, 2000; Wilhelm & Walters, 2006).

The National Research Council (NRC) defines

scientific inquiry in two parts. The first part

communicates, "the diverse ways in which scientists

study the natural world and propose explanations

based on the evidence derived from their work" (1996,

p. 23). The second part defines scientific inquiry as

"the activities of students in which they develop

knowledge and understanding of scientific ideas, as

well as an understanding of how scientists study the

natural world" (1996, p. 23). The first sentence of the

Saturday, August 10, 2013:

I'm having difficulty reconciling the language I am using to speak to and about inquiry. On the one hand, I need to explain and assess the current research literature, however the difficult lies in that I am using the researchers' language to describe and assess the version of inquiry they "use." Whereas I refute "using" inquiry as a method or procedure. I support and understand inquiry as a disposition and a way of being in the world. Trying to use the language of other researchers without falling into their language of inquiry from a modern paradigm is challenging.

definition refers to the ways scientists inquire and the second sentence describes the way inquiry

in science looks in the classroom. The definition of scientific inquiry remains widely used in the

research literature. However, there are countless other definitions and interpretations used as

well, adding to the complexity of teaching through inquiry. Some definitions represent inquiry

through modernity, tending to be prescriptive and taken up as a model, rather than as a way of

being in the world, reflecting a post-postmodern worldview.

For example, in Wilhelm and Walters' (2006) research consisted of 100 pre-service

middle and secondary mathematics and science teachers, engaging in creating and teaching

laboratory activities using a constructivist inquiry model. The inquiry model Wilhelm and

Walters used for their study with the pre-service teachers was drawn from the work of Llewelyn

(2002). Llewelyn's model has 12 steps from introducing the topic through to stating a new

question to investigate, with other steps including providing exploration, and carrying out a plan.

I have two issues arise for me with Wilhelm and Walters' approach. The first issue is Wilhelm and Walters' assertion that Llewelyn's model "is not unique to only science, but is applicable to all disciplines" (p. 795). With a prescriptive and procedural (a 12-step plan) inquiry model such as Llewelyn's, it does not necessarily allow openings for other disciplines, such as music to access it. In a post-postmodern paradigm, inquiry, as well as hermeneutics suggest, "the way is in the thing." Meaning that while one might have ideas and assumptions concerning ways of approaching something, one cannot fully know in advance or a priori the way one will address it until we know what "it" is. For example, approaching embouchure in music (the way one uses their facial muscles to shape their lips to the mouthpiece of a woodwind or brass instrument) through inquiry will likely be different than a science experiment investigating the nature of composting for gardening. Having a rigid model or procedure to follow does not enliven the spirit of inquiry nested within a modern paradigm.

The second issue with Wilhelm and Walters' use of Llewelyn's constructivist inquiry model exists in its understanding of inquiry. Constructivism asserts that in creating meaning in the world, the world is given whereas Whitehead (1929a) emphasises, as do I, that the world is alive, has knowledge, and creates meaning *with* us—predominantly unconsciously.

Crawford (2000; 2007) suggests that teaching science using inquiry or through an inquiry disposition necessitates a willingness and ability to take on multiple roles simultaneously, which may contribute to the rarity of the enactment of inquiry-based teaching. Luft's (2001) research may be helpful in supporting teachers enactment of inquiry in the classroom. Her research focused on the influence an inquiry-based professional development program had on the inquiry practices and beliefs of beginning and experienced secondary science teachers. Luft argues that because of the complexity of learning about and enacting inquiry practices, professional

development programs are critical in addressing science teachers' practices and beliefs. Luft also asserts that consistency in the representation of inquiry remains tantamount to the success of the professional development programs. In addition, an important program component exists in providing time and space for "purposeful conversations specifically attending to the development of teachers' beliefs and practices" (Luft, 2001, p. 521).

Luft's (2001) research findings had mixed results in terms of influencing 14 secondary science teacher's inquiry beliefs and practices. Beginning teachers' beliefs were changed more than their practices whereas the opposite was the case for the more experienced teachers. Luft suggests that beginning teachers may have changed their beliefs because they had limited experience with student-centered practices. I wonder, though, might it also have to do with the less rigid and more tentative or flexible nature of beginning teacher's beliefs? Luft also proposed that the experienced teachers' belief systems did not change because they may have already been aligned with practices that were student-centred. If teacher practices are student-centred, does this automatically make them inquiry-based?

Towers' (2013) research discussing the experiences of beginning teachers during their first seven years is helpful in elucidating some of Luft's (2001) research findings. For example, Luft discussed that beginning teachers' beliefs changed more than their practices. Research into beginning teachers' experiences suggests that many tend to abandon the research-based practices they learned of in their teacher education programs and instead favoured the more traditional teaching practices they saw in the schools (Allen, 2009; Towers, 2013).

Another research project investigated the influence of professional development on the strategies teachers created, adapting science inquiry lessons while simultaneously enhancing their students' skills in language arts (Shymansky, Wang, Annetta, Yore & Everett, 2012). The

strategies teachers learned and discussed allowed opportunities for them to connect science

inquiry in a cross-curricular fashion—"to use the inquiry to get students to think, read, write,

discuss, and apply the science ideas before, during, and after the inquiry" (Shymansky, et al.,

2012, p. 5). My position remains that Shymansky, et al. use inquiry in their research as a method

and not a disposition, communicated in their use of "*the* inquiry" (emphasis added). At the same

time, integrating curriculum holds merit if students want to learn the skills and understandings to

do the work of a scientist. As such, they need to think, read, discuss, and communicate clearly.

Oftentimes, according to Luera and Otto (2005) and Wyckoff (2001), many beginning

teachers embrace the traditional teaching methods of their colleagues because of the discomfort,

as well as the isolation one may face teaching through inquiry. Other reasons could include, the

challenges of assessment, the pressure of teaching in a particular way, as well as a lack of

support from colleagues and administrators. Also, teaching methods informed by a modern

paradigm are most often the practices modelled in science classes by discipline-based faculty.

Compounded by their post-secondary experiences, teachers most often teach the way they were

taught in their K–12 classrooms (Borko & Putnam, 1996; Bryan & Abell, 1999; Lortie, 1975;

Loucks-Horsley, Hewson, Love, & Stiles, 1998; Zeichner & Tabachnick, 1981). Fortunately,

some teacher educators and researchers such as Luera and Otto (2005) are facilitating change in

science education through program reform. Recognizing that if student-teachers graduate from

their education program with an ability to understand and enact inquiry-based pedagogy Luera

and Otto knew they needed to "walk the walk" by infusing inquiry through the teacher education

science curriculum. The research suggested that inquiry-based learning gave student-teachers a

greater understanding of science content knowledge. While student-teachers may have an

understanding of their science content knowledge through inquiry-based learning, are they able to enact inquiry teaching-and-learning in their own classrooms during their field placements?

Crawford's (2007) research did not necessarily take into consideration prior learning through inquiry during student-teachers course work, but did investigate "five prospective teachers' developing knowledge, beliefs and practice related to teaching science as inquiry" during their field placement in a newly created Science Professional Development School (SPDS) (p. 616). A SPDS is a university/college-school partnership cultivated in hopes that the practical knowledge of mentor teachers at the school and the more theoretically grounded nature of the college will facilitate student-teachers' integration of theory and practice. By integrating theory and practice more readily, student-teachers may be more willing and able to enact rich inquiry-based teaching-and-learning in the classroom. A key aspect of the partnership Crawford discusses holds that some of the mentor teachers at the SPDS began investigating and reflecting on their own teaching practice. This change stemmed from collaboratively working with student-teachers on action research projects. As Crawford attests, creating a school-university partnership helped support prospective teachers "in trying out reformed-based, innovative approaches—the kind of support and opportunity that may be absent in traditional student teaching situations" (p. 615).

The National Science Education Standards (NSES), as part of the National Research Council's (1996) vision ensures all K–12 science students have teachers using inquiry approaches. Facilitating the nurturing skills and understandings to do scientific inquiry, where scientific concepts are deeply understood by students remains the task of science teachers. Therefore, Crawford's (2007) study amalgamates all three of the preceding inquiry features "(to do, about, and through) into a view of teaching science as inquiry" (p. 614).

Crawford's (2007) case study explored, in the specific context of the SPDS, the growth of five secondary science student-teachers' views of teaching science through inquiry, and their understandings of scientific inquiry (p. 620). Although Crawford's research focused specifically on prospective science teachers in secondary school, it shares similarities with this study. Such as, five participating student-teachers belonging to a cohort, from five different disciplines, and at an inquiry-based school. As well, at Potamoi School a strong emphasis on collaboration exists. Crawford's study offers meaningful insights into this research study and subsequently my interpretation of the conversations and texts from the participating student-teachers.

Crawford's research claimed student-teachers' practices represented a spectrum, which spanned from very traditional (lecture, stand-and-deliver style) to innovative and reform-based inquiry projects. In other words, despite placing all five prospective teachers in a similar setting to one another, with a cohort focused on teaching-and learning about science as inquiry, and having well-informed mentor teachers, their practices could not have been wider-ranging (Crawford, 2007). However, despite the similarities among student-teachers, their experiences (with student roles and abilities, their mentor teacher's approach, and so on) varied. Experiencing these differences seemed to contribute to some prospective teacher's scepticism or reluctance in teaching science through an inquiry-based approach (Crawford, 2007).

An important finding Crawford noted in her research was each participating student-teacher held a different view concerning inquiry, as well as a "varying level of understanding of what it means to teach science as inquiry" (Crawford, 2007, p. 623). Holding varying views of inquiry and the teaching of inquiry in science are interesting because of their enrolment in the same inquiry-based educational program. There are several researchers (McGinnis, Parker, & Graeber, 2004; Melville, Fazio, Bartley & Jones, 2008; Newman, Abell, Hubbard, McDonald,

Otaala, & Martini, 2004) who question whether or not prospective or beginning teachers have the ability or understanding to navigate the demands and the complexity of inquiry-based teaching. While some researchers question the feasibility, there are those who have proven it is not only appropriate for student-teachers to enact inquiry-based teaching-and learning in science, but possible (Crawford, 1999; Melville, et al., 2008; Towers, 2010).

mathematics. As discussed in the preceding sections, inquiry-based teaching-and-learning with its multitude of definitions and various forms emerges as an approach gaining popularity in a variety of realms, most specifically education (Crawford, 2007; Phelan, 2005a; Towers, 2010). According to Towers (2010), inquiry can be traced back to constructivism.

> Many of the practices now clustered within the term inquiry-based have a basis in Dewey's philosophy of learning, and, in the field of mathematics education, can be traced through the constructivist movement and are reflected in the 'reform' movement spearheaded in North America by the US-based National Council of Teachers of Mathematics (NCTM, 2000). (p. 244)

Similar to science education, much of the reform movement in mathematics has been organized within the American National Councils of each discipline. However, Richards (1991) contends a paucity of literature in mathematics exists, potentially supporting mathematics teachers to enact inquiry-based teaching-and-learning in their practices. Compounding the scarcity of literature in mathematics education, much of the research literature available is communicated in general terms and lacks detail (Wilhelm & Walters, 2006).

The dearth of meaningful and accessible mathematics education literature informing teaching approaches today may be perpetuating teaching from a modern paradigm (Cuban, 1993; Hiebert & Stigler 2000; Jacobs, Hiebert, Givvin, Hollingsworth, Garnier, & Wearne, 2006). However, Towers' (2010) research showed promise of an inquiry-based undergraduate education program at the University of Calgary influencing student-teachers' understandings and practices

of inquiry-based mathematics in their classrooms. Student-teachers' positive relationships with

mathematics in general and mathematics teaching specifically at the University of Calgary was

counter to the limited influence of traditional teacher education practices (Ball 1990; Bennett and

Jacobs 1998; Ensor 2001).

Towers' (2010) research argues that the nature of the particular inquiry-based teacher

education program might have teachers who are not able to clearly articulate their understanding

of inquiry-based teaching-and-learning in their practice, but could enact it. In other words,

Towers writes that "beginning teachers can 'walk the walk' before they can 'talk the talk'" (p.

243). The insight Towers' work offers might be noteworthy in light of my own research with

student-teachers.

social studies and history.

> The literature is full of a myriad of complaints that echo mine about the traditionally poor
> pedagogy of secondary school history teachers (Warren, 2007, p. 249).

In reviewing the social studies and history educational research literature, there was an

echoing of Warren's (2007) sentiments. As Manfra (2009) suggests, "there seems to be little

interest in exploring the outcomes of teacher research for practicing teachers or preservice [*sic*]

teachers in the field of social studies" (p. 157), perhaps feeding and exacerbating weak teaching

practices in history and social studies. Warren, in his research article *Closing the Distance*

between Authentic History Pedagogy and Everyday Classroom Practice, suggests, as do several

other researchers (den Heyer & Abbott, 2011; Monte-Sano, 2011; Seixas, 1993; Wineburg,

2001) that a lack of historical thinking remains problematic when it comes to teaching historical

inquiry.

Seeing the past as a single, fixed story, full of predetermined facts defines or shapes the

way many view history (Seixas, 1993). As well, the single story prevails, filled with what den

Heyer and Abbott (2011) term "binary antagonisms of we/they or us/them" (p. 632). Teaching practices of history and social studies tends to perpetuate these "binary antagonisms" because they often embrace the common conception of the past as a single story. Some assessment practices further support history as independent facts to be memorized, recalled, and regurgitated on multiple-choice tests, through presentations or essays focusing on composition skills, rather than treated as a living discipline requiring investigation and interpretation (Monte-Sano, 2011; Page, 1991; Peck & Seixas, 2008; Ravitch & Finn, 1987). Alongside Peck and Seixas (2008), I also do not refute the need for students to have factual knowledge of history or attending to presentation and composition skills. However, the issue arises when content knowledge and presentations become the sole representation of one's understanding of the discipline of history.

Unfortunately, the value of teaching historical inquiry to K–12 students has been debated amongst academics whose central foci are on history and social studies education (Warren, 2007). Remarkably, even though in recent years there has been growing research concerning student thinking and history or social studies, these studies are far outnumbered by the research that has been done in either science or mathematics. This discrepancy highlights the attention and resources readily allocated to the natural sciences (i.e. STEM) compared with the humanities.

Within the last decade, though, greater discipline-focused research on the teaching-and-learning of history has emerged (Bain, 2000; Monte-Sano, 2011; Peck & Seixas, 2008; van Hover & Yeager, 2004). Unfortunately, as with other disciplines pushing for large-scale change, the results have been less than positive. The difference between other disciplines mounting a charge for change, such as science and mathematics is the full-scale support in doing so (Monte-

Sano, 2011). Individual teachers and teacher educators embracing historical thinking have been

rare and stand out as something to aspire to, rather than the norm (Monte-Sano, 2011).

However, Seward, Brown, Sears, and Windsor (2013) are more optimistic in their take on

the reform movement in history because "contemporary initiatives to transform history teaching

differ from those of the past in that they are undergirded by key aspects of the necessary

capacity" (p. 71). In other words, the foundation for change in the teaching-and-learning of

history has been set. While I am somewhat sceptical of the revolutionary change in history

education, Seward, et al. purport shifts in thinking in recent research in Canada and around the

world. For example, Osborne's (2004, 2006) work changing the focus on the single story of

history has been insightful. In addition, Osborne's (2004, 2006) research of the nature of

teaching-and-learning history has identified three concepts or ways in which history is taught and

learned. The third conception appears most relevant here because it sees history education "as

the process by which students come to understand history as a form of disciplined inquiry and

thereby learn to think historically" (Osborne, 2006, p. 107).

As well, since the inception of social studies in 1947 in New Zealand, the discipline has

been fostered to cultivate the four "traditions" of: "citizenship transmission; social science;

reflective inquiry; and personal, social and ethical empowerment" (Hawe, et al., 2010, p. 289).

The agreement between and amongst experienced teachers and the student-teachers were

attributed by Hawe, et al. to four factors. These four factors comprised: (1) "apprenticeship of

experience" (Lortie, 1975), as well as the beliefs fostered concerning school culture and their

experiences with other teachers and students—both as a student, as well as teachers in

elementary classrooms (Curtner-Smith, Hastie and Kinchin, 2008); (2) "the socio-historical

context" (Hawe, et al., 2010, p. 300) where student-teachers and experienced teachers' beliefs

were developed and/or shaped (Poulson & Avarmidis, 2004); (3) the influence of the widespread educational discourse in New Zealand's elementary schools in relation to inquiry learning and pedagogy (Fullan & Hargreaves, 1994); and (4) the absence, for both groups of teachers, in experiencing "formal knowledge associated with specific disciplines (Richardson, 2003)" (Hawe, et al., 2010, p. 300). Hawe, et al. describe "formal knowledge" as neither the student-teachers or experienced teachers holding a degree in or having formal training in a specific subject-area, such as a degree in history.

A current project in Canada, *Benchmarks of Historical Thinking* goes further than previous researchers, identifying six critical conceptions in understanding history as a living discipline. The six concepts identified are: establishing historical significance, understanding the moral dimensions of history, identifying continuity and change, using primary document evidence, analyzing cause and consequence, and taking on historical perspectives (Seixas, 2006). The next step stands that student-teachers, practicing teachers, and teacher educators embrace the preceding conceptions and cultivate a deep understanding of what it means to teach-and-learn through historical inquiry (Seward, et al., 2013; van Hover & Yeager, 2004). Swan and Hicks (2007) raise concerns in their research of technology supporting historical inquiry and whether or not embracing the processes of historical inquiry in their practices holds feasibility for teachers.

Using inquiry to emphasize and create historical understanding through the use of primary sources requires a pedagogical shift in what it means to teach-and-learn history. Unfortunately, without a dramatic shift in the ways one teaches-and-learns history, there is little hope students will have opportunities to deeply understand and enact historical inquiry. den Heyer and Abbott (2011) offer a unique perspective and approach to teacher education in general and social studies in particular. They posit that questions asked in teacher education

"'How do we teach (other) people to teach?' (Britzman, Dippo, Searle, & Pitt, 1997, p. 15) or 'How might we best convey a disciplinary mind-set through best practices?'" (p. 611) have not been particularly helpful in changing the "business as usual" approach in teaching-and-learning history.

Instead, den Heyer and Abbott suggest a more important and meaningful question for teacher education might be "What can we learn about teaching from re-reading in a 'writerly' manner what and how we have been taught?" (p. 611). den Heyer and Abbott go on to explain that in a "readerly" approach, there exists an assumption by the reader that the meaning already resides within the text and the work of the reader simply resides in extracting the particular meaning. In contrast to a "writerly" approach, requiring something of the reader—to refer to and use "the context of their lives" in conjunction with the text to create meaning (p. 611). As Sumara and Luce-Kapler (1993) explain, "In this sense, the writerly text asks that the reader 'write' while reading" (p. 390). den Heyer and Abbott's (2011) work in a social studies methods course troubles the taken-for-granted stances of student-teachers so they more willingly embrace the challenge of teaching-and-learning through historical inquiry. Unfortunately, the findings from their work suggest that regardless of the powerful nature of particular assignments in the history methods courses, student-teachers suggest it remains unlikely they will take up this approach in their own classrooms (den Heyer and Abbott, 2011).

den Heyer and Abbot's findings are not surprising considering Towers' (2013) research with beginning teachers. Towers research suggests that without a core philosophical grounding through and across one's teacher education program, it remains unlikely the research-based practices will transfer to the classroom.

> Tinkering with individual courses with an overarching program framework that does not have a clearly articulated philosophy and whose structures do not match the ideas being

promulgated by the instructors teaching within it may be insufficient to enable new teachers to sustain innovative practices when they face opposition to those practices in the schools. (p. 122)

In other words, a core structure integrating theory and practice allowing student-teachers "to theorize and make sense of his or her field experiences" in an ongoing and deep way is key if education programs are interested in changing educational practices (p. 121).

Alternatively, Warren (2007) has met with greater openness and willingness of younger teachers embracing teaching-and-learning history as a discipline-based approach. Comparatively, greater resistance came from the willingness of older colleagues to teach-and-learn history through approaches more readily reflecting those of a historian (Warren, 2007). Warren's findings are in-line with Pajares' (1992) research on teacher beliefs, suggesting younger teachers' beliefs are generally less rigid than more experienced teachers. Although there are mixed findings in the research concerning the most meaningful ways of approaching teaching-and-learning history as a discipline, conversations and investigations seem to be happening. However, conversations are not enough—one must experience and enact teaching-and-learning in creative, organic, and meaningful ways. In the disciplines of English language arts, music, and art little research and discussion in the literature on inquiry-based teaching-and learning exists.

music. Education research in the discipline of music and inquiry remains scarce. I found this out quickly, after telling one of the student-teachers in the study that I would look into the literature on teaching-and-learning music through inquiry. After numerous word searches in a variety of databases, I found two relevant articles. Two. I wonder, does the performative nature of the discipline influenced this? At the same time, one could argue that physical education acts as a performance discipline, yet there exists a greater research base for it than music.

Barrett's (2005) research article focused on reconceptualising music curriculum, while Scott's (2007) research article engages the notion of the multiple perspectives of inquiry-based music education. Although Scott discusses multiple perspectives in music, she uses the term in relation to a community of learners, rather than the myriad of views in inquiry-based teaching and-learning. The form of inquiry offered in Scott's article arises from constructivist principles. Constructivism in education subscribes to numerous principles.

> Knowledge and beliefs are formed within the learner; learners personally imbue experiences with meaning; learning activities should cause learners to gain access to their experiences, knowledge, and beliefs; learning is a social activity that is enhanced by shared inquiry; reflection and metacognition are essential aspects of constructing knowledge and meaning; learners play an essential role in assessing their own learning; and the outcomes of the learning process are varied and often unpredictable. (Walker & Lambert, 1995, pp. 17–19)

I have strong reservations promoting constructivism in education because, as it suggests "knowledge and beliefs are formed within the learner." Taking up teaching-and-learning through constructivism does not necessarily nurture openness to knowledge and beliefs as living in the world and acting upon us, as a post-postmodern paradigm does. It deadens the living process of teaching-and-learning to something that one does *to* the world with all of our knowing housed within us.

However, Scott's (2007) article offers music teachers opportunities to think differently. Rather than the outcome (performance) reigning supreme, engaging students through teaching-and-learning remains the focus. With an inquiry-based approach to teaching-and-learning in music, students' musicianship and musical understanding is nurtured. Opportunities are cultivated for connections with music, as well as learning to do and learning in the service of music.

Barrett's (2005) research article focusing on reconceptualising music curriculum, ties well with Scott's ideas of teaching-and-learning music through inquiry because if one takes up inquiry, one needs to consider the programs of study. Considering and engaging with music programs of study in new ways appears imperative, especially since the most prevalent view exists through a modern paradigm. Music teaching-and-learning in a modern paradigm focuses on teacher decisions made in the planning phase prior to students engaging with music skills and activities. The program of study is inert or dead, rather than alive. Therefore, planning endures as a rational, orderly, and sequential event with the outcome or final product being student learning (Barrett, 2005, p. 22).

A reconceptualised program of study for the teaching-and-learning of music has students' musical understanding at the centre of the approach, rather than as the final outcome. Musical understanding, according to Barrett (2005) is "the various ways that students organize knowledge in order to solve musical problems, create new musical ideas, or derive meaning from music" (p. 23). A curriculum promoting musical understanding uses instructional strategies embracing inquiry. Although there are anecdotal examples in both the Barrett and the Scott articles of music teachers embracing inquiry-based teaching-and-learning, little other research supporting or enacting such approaches currently exists.

physical education. Surprisingly, compared to other disciplines the orthodoxy has placed on or near the fringes of educational importance (the fine arts, such as music and art), although limited, there were a few publications concerning physical education and inquiry. Research discussing inquiry-based teaching-and-learning was predominately from New Zealand. Perhaps one of the contributing factors rests in the vision of the New Zealand Curriculum (NZC) valuing

innovative teachers, willing and able to teach through inquiry (Bowes & Bruce, 2010; Levy & Murmant, 2004).

Although a general focus in the NZC has been on inquiry, a strong neoliberal agenda still exists, privileging mind/body dualism, measurement and performance, as well as the importance of fitness testing in physical education (Culpan & Bruce, 2007; Thorburn, 2007). Singleton (2007) agrees with the preceding researchers; suggesting physical educators have largely failed to engage in practices informed by inquiry-based teaching-and-learning. Specifically, Singleton argues that communities of inquiry are flourishing in academic physical education, but school physical education and physical educators are miles away from similar communities of practice. Rather, physical education teachers continue perpetuating and privileging performance-based approaches where activities are teacher-directed, focused on game-specific skills, mastered through tactical drills and for the sole purpose of competitively playing the game (Singleton, 2007).

As discussed in the preceding sections of the chapter, student-teachers and teachers tend to teach in the same style they were taught. Might the experiences of physical education teachers in their K–12 schooling have trumped inquiry-based teaching-and-learning offered in their undergraduate education program? In her research, Singleton has unearthed a challenging issue for both teacher educators and physical educators.

Inquiry and field experiences. For many student-teachers, teachers, and researchers, the field experience remains *the* most important and significant part of one's educational program in learning to teach. If inquiry is crucial for student-teachers learning to teach, as touted in policy and research, one might suggest it might also be a vital part of the field experience. Towers (2010) implicates herself, as a teacher educator, in her study exploring the experiences of the

ways student-teachers understand and enact mathematics in an inquiry-based teacher education program, when she writes that "as teacher educators, . . . we cannot hope to simply tell learners what inquiry is, . . . they need to *experience* inquiry" (p. 259). Field (2008) describes the importance of inquiry in the context of the field experience because it introduces student-teachers to the "perplexity and mystery" (p. 80) of classroom teaching. It may also open up "richer, more diverse opportunities for learning" (McGregor et al., 2010, p. 302).

The research indicates (Cochran-Smith, 1991; Cochran-Smith & Lytle, 1999; Darling-Hammond, 1994; Kincheloe, 1991, 1993) that nurturing pre-service teachers as researchers/inquirers fosters activity and engagement in "their own professional growth, [as] knowledge constructors, and agents of change" (Mule, 2006, p. 205). Bullough et al. (2002) and Johnstone (1994) purport that "the practicum, arguably the most powerful influence in pre-service teacher education, is increasingly being urged to focus on developing in future teachers an inquiry ethic or stance that is consistent with the vision of teachers as inquirers" (as cited in Mule, 2006, p. 205). Arendt's (1969) caution holds importance here.

> Our hope always hangs on the new which every generation brings; but precisely because we can base our hope only on this, we destroy everything if we so try to control the new that we, the old, can dictate how it will look. (pp. 192–193)

Generation after generation, there are echoes of the old talking of the ways youth will do things better than the present generation did. Unfortunately, many are always left waiting and placing hope and responsibility on future generations rather than that of *this* moment and the ways each of us remains implicated in it.

Damm(n)ing the waters of inquiry: Challenges in inquiry as a disposition. Inquiry-based teaching-and-learning is complex, messy, and often tacitly held. Given its complexity, one might imagine the far-reaching challenges for teachers, teacher educators, and student-teachers

not only in understanding inquiry, but embodying it. van Hover and Yeager's (2004) research

article exploring challenges beginning history teachers face discusses important issues. Through

their investigation, van Hover and Yeager unearthed several challenges for three beginning

teachers. Time constraints in the Advanced Placement class, short class periods, student

immaturity, student struggles with critical thinking and an uncertainty of student's abilities, were

some of the challenges discussed. Also, the teachers felt that they had little to no support from

their colleagues or administration in their first year of teaching (van Hover & Yeager, 2004).

McGinnis, et al.'s (2004) study also emphasized a lack of support for the five novice science and

mathematics teachers researched. The beginning social studies teachers also highlighted

disconnect between the theory learned in their methods course at the university and the practical

issues in their own history classrooms (van Hover & Yeager, 2004).

Several challenges in the research literature were discussed in relation to student-

teachers' mentors or cooperating teachers during their field placement. For example, Mintrop

(2004) suggests that the student-teachers in his study willingly followed the lead of their mentor

teacher, "often unconsciously" (p. 152). The student-teachers also forewent their own beliefs or

philosophies, formed or reinforced by the constructivist education program. Instead, they

defaulted to their mentor teachers' practices who they deemed as experts or master teachers

(Mintrop, 2004). I suggest that the beliefs the student-teachers had were tacitly held and not ones

with strong convictions because of the seemingly ease and swiftness with which they changed.

Similarly, Crawford's (2007) research findings with high school science student-teachers

indicated that the mentor teachers influenced the practices of student-teachers. The role of a

mentor teacher exists to guide, support, facilitate, and work with the student-teacher. What is

hoped is the mentor teacher influence supports deep, rich, and creative inquiry-based teaching-

and-learning. Unfortunately, oftentimes, as highlighted in Crawford's study, the degree of openness of the mentor teacher influences their willingness to support student-teachers enacting different or emerging practices. For example, Crawford noted, "the mentor teachers' beliefs and preferred pedagogical approaches appeared to deter at least some of the prospective teachers" from diverging from the already well-established classroom culture and practices (p. 623).

In conjunction with some student-teachers not wanting "to step on any toes" when it came to trying different practices than their mentor teachers, there was also a level of fear (Crawford, 2007, p. 623). In creating and enacting inquiry-based science lessons, the student-teachers were taking risks. Unsure of the ways an inquiry lessons might unfold, the student-teachers became fearful and rather than attempting the lesson, defaulted to the practices of their mentor teacher (Crawford, 2007). In what ways might the fears of the student-teachers be mitigated or at the very least supported so they are willing to take risks in teaching-and-learning? It remains an important question teacher educators, as well as university supervisors, and mentor teachers need to ask. At the same time, if student-teachers do not have opportunities to see and experience inquiry-based teaching-and-learning at the university, might it be possible for them to willingly embrace and enact it during their field placement?

Melville, et al. (2008) do not think so. They indicate, "at the undergraduate level, the current teaching of science would seem to discourage a positive disposition toward inquiry" (p. 479). It is unlikely student-teachers whose initial undergraduate science degree will have experienced inquiry-based teaching-and-learning because it was not enacted in their science program. Windschitl (2002) asserts, to assume individual teachers "will spontaneously embrace the idea of using open inquiry with their own students or feel capable of managing such complex instruction" is unreasonable (p. 113). I concur with van Hover and Yeager (2004) when they

suggest beginning history teachers require support such as long-term and ongoing mentoring when encouraging historical inquiry teaching-and-learning.

Although many challenges exist enacting inquiry, a collaborative spirit with inquiry exists between students, teachers, and the object of inquiry, as well as the environment. Recently, I have been struggling with the way to position my understandings of the nature of inquiry (traced in the text on the left). My initial interpretation was as authentic inquiry, allowing students opportunities to explore issues and ideas living in our world rather than dead knowledge from the dusty pages of textbooks. "Inquiry, then, is potentially transformational, an endowment of meaning with significance rather than a manipulation of predetermined meaning" (Phelan, 2005a, p. 13).

Tuesday, January 22, 2013:

Authentic inquiry. Why not just "inquiry?" I suppose, for me, it is trying to distinguish or set apart what it is I feel "real" inquiry is compared to the many versions being tossed around in educational settings. Giving students ten project ideas and letting them choose their topic and sending them on their way to research it and present their findings is *not* an example I would consider "authentic." At the same time, I would be willing to consider it simply inquiry if one is referring to rich, thoughtful, deep, real-life investigations requiring a variety of skills without necessarily ending up with one "right" answer. Unfortunately, this is not always the case and so I am reluctant to shed the term authentic. However, I must also acknowledge and own my indoctrination of the term authentic from the school where I work and the Galileo Organizational Network because it is ubiquitous. Perhaps it might just be okay to use the sole term of inquiry and allow the work one does to illustrate the nature of inquiry.

More recently my interpretation of inquiry continues to be informed by the wide-ranging and deep reading of the inquiry research literature. In addition to the research literature, I have also examined government publications on inquiry such as Alberta Learning (2004) as well the inquiry rubric from the Galileo Educational Network. I also draw on my seven years of teaching-and-learning experiences at Potamoi School. Through these resources, experiences, and understandings I currently interpret inquiry through a post-

postmodern worldview as, an embodied way of being where the world remains alive, dynamic, and a creative and "generous place for wonder and exploration" (Stephenson, n.d.). Teachers and

learners collaboratively engage in meaningful work worthy of their time, energy, and attention. The work is cultivated through a discipline-oriented approach (i.e. as a historian, writer, physicist or artist would). The interpretation of inquiry articulated informs my research and hermeneutic interpretations and at the same time, it is tacitly held and open for revision. With this frame and reference, we can see the potentiality inquiry might offer teacher education in supporting the learning and understanding of student-teachers navigating their way into teaching.

Education's Past and Present: Tracing the Tributaries

Interpreting teacher education. In the opening quotation, Phelan (2011) offers insight into the term "teacher education."

> As an organisational term, teacher education is a relatively restrictive concept referring specifically to the programmatic preparation of teachers—initial preparation and professional development—prior to and while in-service. As a concept designating a scholarly field of inquiry with a specific history and related professional identity, teacher education is more expansive. (pp. 207–208)

Thinking from and within a modern paradigm, positing what an effective teacher is and does at the expense of other ways of coming to know, simplifies the complexity, difficulty, and messiness of teaching to one that remains easy, straightforward, and mechanistic.

According to Goodnough (2011), as "a result of political, economic, and social influences," with an emerging body of research evidence there have been consistent calls for reform in teacher education and currently "many universities are undergoing program reform and renewal" in Canada (p. 109). Darling-Hammond and Bransford (2005), in their study on teacher education programs argue for "a new kind of preparation—one that enables them [teachers] to go beyond "covering the curriculum" to actually enable learning for students who learn in very different ways" (p. 2).

Darling-Hammond (2006a; 2006b) in research of effective teacher education programs in the United States has suggested there are three main areas related to effective education programs: coherence and integration; extensive, well-supervised clinical experiences using course pedagogies that link theory and practice; and strong, new relationships with schools. When reading and discussing some of Darling-Hammond's (2006a; 2006b) work, one comes up against the language of modernity.

I want to turn to the stream of Darling-Hammond's research of effective teacher education programs in the United States because of its pervasiveness and popularity. If this work on teacher education has the power to reform, then it remains of import to present it in the navigation of the research. In this particular work, Darling-Hammond (2006b) suggested three main areas are related to effective education programs. Each, in turn, will be discussed, after which I will comment and critique the three as a whole. Darling-Hammond indicates that coherence and integration are created through a strong vision that has a clear connection between and amongst courses, as well as practicum experiences. This connection emerges through the collaborative planning among faculty and takes into account the work of schools and classrooms.

Extensive, well-supervised field experiences, such as the Professional Development School (PDS) discussed by Mule (2006), using course pedagogies linking theory and practice requires, according to Darling-Hammond (2006b), a minimum of one academic year of field experience with opportunities to work with one or more teachers who are able to model expert teaching. As well, student-teachers would have the opportunity to understand more fully emerging practices in the profession, such as action research, which may allow students to reflect and theorize using their experiences and issues. The final suggestion by Darling-Hammond (2006b) in cultivating effective education programs exists in creating strong relationships with

schools. Connecting and collaborating amongst university faculty, teachers, and student-teachers

allows for more powerful learning by informing one another's practice.

Although Darling-Hammond has a strong research presence in teacher education one

must also be willing to trouble some of the generalities put forth in constituting a powerful

teacher education program (2006b). Falkenberg and Smits (2011) take up the cause of disrupting

Darling-Hammond's work in the introductory chapter of their book project; *The Question of*

Evidence in Research in Teacher Education in the Context of Teacher Education Program

Review in Canada. The first issue Falkenberg and Smits (2011) discuss regarding "powerful

teacher education programs" is the generalities are "full of value judgments" (p. 6). The second

issue brought forth concerning Darling-Hammond's research exists in the generalities of it.

While a list exists of the generalities of what makes a powerful program, these generalities are

not necessarily transferrable or "translatable" into any teacher education context as if they were

truly generalizable (p. 7). The third and final issue illustrated concerns the "value-saturation of

teacher education," alluding to the context within which every teacher education program

situates itself and lives. Becoming more sensitive to the issues within one's own teacher

education program will allow researchers to respond "*more intelligently* to the challenges we

face in our own efforts to improve our programs *within the specific contexts they are embedded*

in" (Falkenberg & Smits, 2011, p. 7). Zeichner's (2005) earlier work echoes the insights of

Falkenberg and Smits (2011).

> Research can help us think about teacher education in more useful ways and can offer
> guidance as to practices effective in accomplishing particular goals, but it cannot tell us
> everything to do in teacher education programs or in the policy arena. (p. 739)

The inability of research in teacher education to tell us exactly what we need to do, how and

when, and the lack of generalizability of this, is perhaps where the notion of "practical wisdom"

arises and can offer us some insight. Scholars such as Dunne (1997), Falkenberg and Smits (2011), Phelan (2005a; 2005b), and Towers, (2010; 2013) use this term in their research to summarize the Aristotelian term "phronesis." Flyvbjerg (2001) defines Aristotle's term as "that intellectual activity that focuses on what is variable, on that which cannot be encapsulated by universal rules, on specific cases . . . it requires consideration, judgment and choice" (p. 57).

In part because our society's obsession with establishing "universal rules," structures, and trying to reduce the difficulty and complexity of education into simplicity and ease that many issues in education are chronic. Also, the obsession education has with making teaching-and-learning easier, containing it, and privileging the "one" person or the "one way," at times, makes it challenging to live otherwise. In other words, *the* rules emerge from a neoliberalist agenda, ac/counting solely for The Market in determining what counts, how it counts, and who counts (Smith, 2006c).

The flood plains: Student-teachers and beliefs. Even with millions of dollars spent in Alberta on people and resources helping foster change through inquiry in education (i.e. Alberta Initiative for School Improvement), meaningful changes in the teaching-and-learning practices of Albertan teachers have yet to take hold. The status quo for education seems to be stubbornly in place—inquiry-based teaching-and-learning as a disposition, embodying a post-postmodern worldview is enacted occasionally and only by a few teachers (Beairsto, 2011). Whilst studies related to inquiry and inquiry-based teaching-and-learning exist, the vast majority focus specifically in the discipline of science education (Crawford, 1999; Fazio, Melville & Bartley, 2010; Hayes, 2002; Kim & Tan, 2011; Meagher, Ozgun-Koca & Edwards, 2011).

However, even within subject-based inquiry research, a call by researchers endures for further studies investigating the understanding of the epistemological assumptions and beliefs

teachers have of inquiry (Kim & Tan, 2011; Keys & Bryan, 2001; Crawford, 1999; Fazio,

Melville & Bartley, 2010). Kim and Tan (2011), as well as Tobin and McRobbie (1997) and

Waters-Adams (2006) "suggest, in order to illuminate the intricacies of teachers' decisions and

actions, we must investigate the complexity of their beliefs and perceived challenges or

restraints" (p. 467). Borko and Putnam (1996) write; "research on learning to teach shows that

teachers' existing knowledge and beliefs are critical in shaping what and how they learn from

teacher education experiences . . ." (pp. 674–675). As well, "research on teachers' learning

suggests that for knowledge to be useful for teaching, it must be integrally linked to, or situated

in, the contexts in which it is to be used" (pp. 674–675). Borko and Putnam connect with the

current study concerning the importance of contexts. At the same time, I suggest embodied

knowledge and understandings might more readily support inquiry within a post-postmodern

worldview.

Beliefs, specifically beliefs held by teachers or student-teachers, have become an area of

focused interest in teacher education research (Crawford, 2007; Hawe, Brown, Siteine, and Tuck,

2010; Klein, 2010; Levine, 2010; Pill, 2007; Sawyer and Laguardia, 2010; Tsangaridou, 2008).

However, as Pajares (1992) notes, one of the challenges in researching teachers' beliefs remains

that the concept is so slippery—"defining beliefs is at best a game of player's choice" (p. 309).

Pajares (1992) writes that beliefs have been used as synonyms or aliases to such terms as

perspectives; values; attitudes; dispositions; perceptions; conceptions and judgments, to name a

select few. Pajares (1992) also suggests that confusion lies in trying to distinguish between

beliefs and knowledge—where one begins and the other ends. Clandinin and Connelly's (1987)

research tried distinguishing between knowledge and beliefs through the use of the concept

personal knowledge constructs. Instead, they came across terminology in the research literature

already alluding to the same idea, such as perspectives; beliefs; principles of practice; teachers'

conceptions; personal knowledge. They defined their term *personal practical knowledge* as

"knowledge which is experiential, embodied, and reconstructed out of the narratives of a

teacher's life" (Clandinin and Connelly, 1987, p. 490). It seems to me that Clandinin and

Connelly (1987), as well as Pajares (1992) astutely surmise that many of the concepts and terms

seem to mean the same thing, but simply use different terminology.

However, the central question put forth by Pajares (1992) asks, what constitutes the

difference between beliefs and knowledge? Nespor (1987) and Crawford (2007) acknowledge

the vulnerability of one's beliefs because the nature of teaching and the work that teachers do is

not well defined. If one tries to nail down and strictly define the nature of teaching and the work

we do, we run the risk of continuing to support the notion of "teacher as technician," arising

from the principles of modernity. It reduces the complexity and the messiness of our work to that

of tasks and activities, evoking an assembly line image and factory model of schooling that so

many of us in teaching and teacher education have been trying to challenge.

Understanding beliefs, then, as Pajares (1992) asserts, is messy because they "cannot be

directly observed or measured but must be inferred from what people say, intend, and do . . ." (p.

314). Although there are numerous definitions of beliefs in the research literature they become

more similar to interpretations than a rigid explanation of the term because, as mentioned earlier

in the text, they are entangled with many other constructs. I am most drawn to Clark and

Peterson's (1986) interpretation of *teacher perspectives* (as it relates to beliefs), offering it as "a

reflective, socially defined[5] interpretation of experience that serves for the basis of subsequent

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[5] I recognize in the phrase "socially defined," hints of constructivism. Although I do appreciate the other insights
Clark and Peterson's (1986) interpretation has, it is also important to address the issue that constructivism brings to

action . . . a combination of beliefs, intentions, and behavior [*sic*] that interact continually" (p. 287). Clark and Peterson's interpretations speak to the tethering of beliefs, intentions, and behaviour. I would also insert to the mix, knowledge, as they are inherently difficult to separate. As well, the understanding that one can separate knowledge from beliefs arises from a modern paradigm, trying to parcel out individual constructs rather than co-mingling and each informing the other.

The notion that teacher perspectives (and ergo beliefs) are socially defined is, also for me, an important consideration because beliefs of the world and our work within the world cannot be separated—each informs the other. At the same time, if one lives on the margins or exists as a deeply critical thinker, one might evade the socially defined nature of particular inherited beliefs. Clark and Peterson (1986) are careful to articulate the ongoing and interactive nature of teacher perspectives, rather than as a solidified construct resistant to change. Wertsch (2000) echoes the preceding sentiment asserting that one might "approach belief systems as dynamic and contextually specific rather than as static attributes of individuals" (pp. 40, 45). In the next section, I critically address some of the research literature consulting Wertsch's, as well as Clark and Peterson's insights. Tentatively understanding or interpreting beliefs as nested within teacher perspectives, I turn to the research literature to further open up the conversation regarding the ways teachers and specifically student-teachers' beliefs inform their understanding of their work and the implications of this for my study.

> According to Pajares (1992), educational beliefs of student-teachers is of importance. Educational beliefs of preservice [*sic*] teachers play a pivotal role in their acquisition and interpretation of knowledge and subsequent teaching behavior [*sic*] and . . . unexplored entering beliefs may be responsible for the perpetuation of antiquated and ineffectual teaching practices. (p. 328)

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it – that the reflection is within the individual and not part of the world or universe and also that the world and the universe are not acting on her.

Pajares' assertion above provides one reason research and a deeper understanding of student-teachers' education beliefs remains of import. Crawford's (2007) research investigated five prospective teachers in a high school context during a one-year practicum and their knowledge and beliefs of teaching science as inquiry. Throughout the field experience, in support of a collaborative environment, student-teachers with their cohort attended weekly seminars. Anderson (2002) reports in their research on inquiry and science, that collaboration can be "a powerful stimulus . . . which is fundamental to changing beliefs, values, and understandings'' (p. 9). However, in Crawford's research findings she did not suggest or attribute any changes in the student-teachers' beliefs to collaboration, only that it can be seen as a critical motivator in changing beliefs.

Crawford discussed that the beliefs student-teachers fostered concerning students and their opportunity to practice teaching during their field placement, "likely constrained these prospective teachers' intentions to teach science as inquiry" (p. 635). As well, the notion of the changeability of student-teacher beliefs in teaching science as an inquiry emerged from the research, aligning with Luft, Roehrig, and Patterson's (2003) research. Crawford's research, reminds us of the messiness of research exploring the beliefs and knowledge of student-teachers in the context of their field placement. Crawford submits the impossibility for one to know each and every situation, variable, and circumstance contributing to teacher decisions concerning activities or curriculum. Crawford's assertion is not misguided. The complexity of the classroom cannot be overstated.

An additional complexity in the classroom experience was studied by Hawe, et al. (2010) in their research of the "contested nature of social studies" between student-teachers and experienced teachers in New Zealand elementary schools (p. 289). Surprisingly, though,

compared with studies accounting uncomfortable and tense encounters between experienced and prospective teachers (Davies, 1997; Johnson & Kardos, 2005; Smith, 2007), Hawe, et al. relayed few differences between them regarding beliefs of the nature of social studies.

As a whole, Hawe et al's study bring forth for me the emergence and nurturing of a particular culture. A culture where a group of people (experienced teachers and student-teachers) grew up as students in particular school settings privileging the discourse of inquiry and pedagogy and where, as adults, they did not receive any "formal knowledge" as part of their post-secondary education. Perhaps sharing a common culture or having a similar enculturation is why tense or uncomfortable encounters concerning the nature of social studies with one another did not emerge compared with other studies previously mentioned.

A general survey of teacher belief research indicates that the beliefs student-teachers or practicing teachers hold influences their curricular decisions, practices, and views of their particular discipline. The knowledge and beliefs of teachers are critical in cultivating classrooms where students engage in discipline-specific opportunities to develop deep, rich, and creative understandings (Pomeroy, 1993; Roth, McGinn, & Bowen, 1998). For example, if teachers believe students learning the skills and in-depth understandings of the life work of a historian is important to more meaningfully engage with the past, they will help to foster these teaching-and-learning opportunities. Beliefs and knowledge of teaching-and-learning are entangled. The belief one has regarding teaching remains largely informed by the knowledge one has with the discipline (math, history, physical education, and so on), and their beliefs concerning the way students learn. Thus, the beliefs student-teachers or practicing teachers hold influences their curricular decisions, practices, and views of teaching-and-learning (van Hover and Yeager, 2004).

Beliefs can be subjective and emotionally-charged. They include the attitudes derived

from significant experiences (Crawford, 2007; Gess-Newsome, 1999; Pomeroy, 1993;

Richardson, 1996; Tobin, Tippins, & Gallard, 1994). Although there are individual beliefs, these

beliefs are nested within a more complex belief system. Bryan (2003) and Nespor (1987) suggest

one's complex belief system may trump one's knowledge when it comes to the power it holds in

shaping and informing teacher decisions. Bryan and Nespor go on to discuss that these belief

systems may be difficult to change and therefore remain static. Pajares (1992) clarifies the nature

of beliefs, suggesting that the more central a belief dwells in a person (i.e. the more connected or

in communication a belief might be with other beliefs), the more resistant the belief to change

(Rokeach, 1968). On the other hand, beliefs more recently embraced are the most susceptible to

change. Another important characteristic of beliefs holds that change in beliefs tends to follow

changes in one's behaviour, rather than preceding it (Guskey, 1986).

Teacher beliefs develop from a multitude of collective and cultural experiences, including

episodes in and out of classrooms (Nespor, 1987). The research indicates that decisions teachers

make are influenced by their beliefs (Pajares, 1992). Less research exists however, in the ways

these beliefs influence a teachers' practice (Calderhead, 1996; Kagan, 1992; Luft, 2001;

Richardson, 1996; Siedentop & Tannehill, 2000). Specifically, Bryan's (2003) research, focused

on one elementary teacher suggested beliefs may have limited or constrained their ability to

enact inquiry-based teaching. Klein (2010), in agreement, writes; "teachers' espoused beliefs

often contradict their pedagogical strategies when in action" (p. 617). There are a myriad of

potential mediating factors influencing a teacher's ability or willingness to enact her beliefs in

(or out of) the classroom, pointing to why some researchers hold the importance of

understanding the beliefs teachers have, as well as the ways these beliefs might be played out in one's teaching practices (Bryan, 2003; Crawford, 2007; Luft, 1999).

The preceding studies, however contrast a recent study completed by Towers (2010) focused on one elementary teacher teaching mathematics through inquiry. Towers' findings illustrated a beginning teacher enacting inquiry in his classroom, but who had difficulty articulating his inquiry practice. In other words, as Towers puts it, the teacher was able to "walk the walk" before he was able to "talk the talk" (p. 244). Towers suggested the beginning teachers' education program strongly influenced his enactment of inquiry. The Bachelor of Education two-year after-degree at the University of Calgary was philosophically founded on inquiry-based principles and practices for teaching-and-learning. It was also learner-focused and field-oriented in nature. Well documented educational research exists that prospective student-teachers come into teacher education programs with deep-rooted beliefs concerning what it means to teach-and-learn, from their years spent as students in classrooms (Britzman, 1993; Buchmann, 1987; Crawford, 2007; Florio-Ruane & Lensmire, 1990; Kagan, 1992; Lortie, 1975; Nespor, 1987, Pajares, 1992; Richardson, 1996; Wilson, 1990). As such, Towers' (2010, 2013) research reporting long-term changes in student-teachers' beliefs concerning inquiry-based teaching-and-learning are exciting.

As well, beliefs concerning the ways students learn, greatly informed and affected a teacher's instructional design and its enactment (Crawford, 2007, p. 617). van Hover and Yeager's (2004) research also offers something concerning the beliefs of beginning teachers. The beliefs regarding the purpose and nature of history, as well as the abilities of their students informed the instructional decisions of the three beginning history teachers (p. 11). While the

research remains quite clear that the beliefs a teacher holds informs his or her practices, I think

Pajares (1992) goes too far in his assertion of the power and influence of these beliefs.

> When they are clearly conceptualized, when their key assumptions are examined, when precise meanings are consistently understood and adhered to, and when specific belief constructs are properly assessed and investigated, beliefs can be, as Fenstermacher (1979) predicted, the single most important construct in educational research. (p. 329)

Much of the research literature discussed in this section openly considers the complexity,

messiness, and slippery nature of beliefs. In the last paragraph of his research article, *Teachers'*

Beliefs and Educational Research: Cleaning Up a Messy Construct, Pajares privileges a

technical view of beliefs, where effectively assessing one's beliefs and competencies as a teacher

remains possible using standardised testing instruments. He tries to "clean things up" to neatly

present the construct of beliefs. While some welcome the clarification Pajares offers, it may give

the false hope that understanding and measuring teacher beliefs holds the "silver bullet" in

repairing, reforming, and transforming education. Thinking of teaching-and-learning in a

technical-rational way is easier not only to measure, but also control. Dunne (2005) boils the

technical-rational down to being "defined in terms of optimal effectiveness in achieving ends,

and optimal efficiency in realising most benefit with least cost" (p. 374). Pajares' overstates the

claim of the dominance and influence of beliefs. Suggesting beliefs can be isolated and their

precise meanings fully examined and assessed does not account for beliefs as living, organic, and

fluid. It also does not honour the collective and creative nature of our world, but sees beliefs as

objects to be manipulated. Alternatively, when valuing teaching-and-learning as alive, creative,

and rigorous, standardized measures become less helpful.

Certainly merit exists in understanding the construct of beliefs, specifically in terms of

teaching-and-learning. I wonder though, if perhaps it might be too limiting of focus when trying

to deeply and fully understand "how teachers might actually recognize, develop, and sustain

teaching/learning experiences" where one remains "open to experience, to be 'radically

undogmatic' (Gadamer, 2004, p. 350) so that being mindfully in touch with self, others and

concrete particulars—the subjects that matter in our lives—becomes a real possibility" (Field and

Macintyre Latta, 2001, p. 894). Field and Macintyre Latta's research in *What constitutes*

becoming experienced in teaching and learning? continues to be helpful here as I wade through

the complexity of the ways student-teachers understand inquiry-based teaching-and-learning.

They point out that oftentimes one's "teaching and learning experiences" are either neglected

entirely or are simply reduced to a belief or description of what one knows (p. 894). I fear that

focusing my lens too narrowly on student-teachers and their beliefs, I will not be attentive

enough to the ways their understanding of inquiry-based teaching-and-learning emerges through

their experiences at an inquiry-based school.

Inquiry and teacher education. In this section research regarding current trends in

inquiry-based teaching-and-learning, specifically in teacher education programs is discussed.

According to Gambhir et al. (2008) in their paper on *Characterizing Initial Teacher Education in*

Canada: Themes and Issues, teacher education pedagogy exists as one of the reoccurring themes

of today.

> There has been a shift by several institutions to collaborative, case-study, inquiry-based
> programs that engage in reflective praxis, however the discussions have just begun in
> terms of identifying effective teacher education pedagogy in a more systematic way.
> Networks between innovative, experimental, and traditional programs need to be
> established as well as professional development opportunities for educators to rethink and
> revision new practices in their ITE classrooms. (p. 22)

I appreciate the thoughts Gambhir et al. (2008) offer in the preceding quotation and agree teacher

education pedagogy has endured as a consistent topic of discussion in the research. Gambhir et

al. suggest a shift has occurred in some teacher education programs in the ways they "do"

education, related to seeing teaching-and-learning as dynamic and alive. However, the language

Gambhir et al. use in discussing this change slips back into the ways teacher education has been done for decades—through systematic and "effective" (e.g. Darling-Hammond) education programs where "one size fits all."

With the pervasive rhetoric of reform and the transformation of education, the concept of inquiry, has become ubiquitous (Council of Ministers of Education, Canada [CMEC] 1997; National Research Council [NRC] 1996, 2000; Cochran-Smith & Lytle, 1999; Darling-Hammond, 1994; McIntyre et al., 1996; Mule, 2006; Fazio, et al., 2010). With this widespread focus in education, current research and policy documents on inquiry reflect this emphasis. For example, in Alberta, there has been a spotlight on inquiry since the inception of the Alberta Initiative for School Improvement (AISI) in 1999. In addition, *Focus on Inquiry: A Teacher's Guide to Implementing Inquiry Based Learning* was published in 2004 from Alberta Education in order to support teachers in embracing inquiry in their classrooms (Alberta Education, 2004).

According to scholar Phelan (2005a), "Inquiry-based teacher education promotes an exploration of concrete particulars as the route to wise practice" (p. 339). As well, Phelan sees teaching-and-learning as difficult, complex, and messy. Illustrating her understanding of teaching-and-learning, she discusses that the intent of teacher-education with an inquiry focus "is to make learning to teach, and teaching itself, a complex and uncertain enterprise that demands ongoing, thoughtful inquiry and discernment" (p. 340). Understanding teacher education in this way, by framing it in inquiry may open up potentialities for deeper understanding if student-teachers are able to discern between "what counts as useful knowledge and concomitantly what counts as teaching (Gitline, Barlow, Burbank, Kauchak, & Stevens, 1999; Sutton, Cafarelli, Lund, Schurdell, & Bichsel, 1996; Tillema, 2000)" (Phelan, 2005a, p. 341). Most beautiful in inquiry-based teaching-and-learning is its deep connection to hermeneutic practice through its

interpretive nature of experience (Phelan, 2005b).

Understanding that nothing can ever be assured and also that everywhere everything in our world always changes lends itself to an inquiry disposition, through a post-postmodern paradigm. Greene (1986) also supports inquiry, arguing that "connectedness is required, an overcoming of passivity, a capacity to notice what lies around us, and a commitment to the constitution of what might be called a common world" (p. 74). Here, Greene supports inquiry not solely as educational, but as a way to live in the world in an engaged, conversational, and mindful way. However, more often than not in educational research, inquiry lends itself as a method and not as a process, disposition or way in and of itself, but rather utilized as a means to an end—the thing is the way.

Towers (2010, p. 246) and other researchers suggest inquiry is "emerging as a popular approach to teaching-and-learning in many fields, particularly those in the professional domains (see e.g. Hayes, 2002; Phelan, 2005a; 2005b; Plowright and Watkins, 2004; Shore et al., 2008)." Inquiry-based practices, as discussed earlier in this chapter, can be traced back to Dewey and according to Towers, are part of the current reform movement in North America. Specifically in the discipline of mathematics, Towers asserts that teacher education programs would do well to encourage inquiry-based teaching-and-learning practices "because inquiry-based materials and classroom practices have been shown to enhance student achievement and/or mathematical understanding as well as attitudes and motivation (see e.g. Boaler, 1998; Hickey, Moore & Pellegrino, 2001)" (p. 260).

While a tendency exists in educational literature to trace inquiry back to Dewey, in my reading, the tributary leads more accurately and fruitfully back to Alfred North Whitehead. Dewey and Whitehead, both contemporary scholars, are similar in their approaches to experience

and learning as a process from which emerging abstract ideas contribute to the overall growth of

the student. However, while Whitehead maintains experience (as in life), is organic, fluid, and

inclusive, Dewey at times reflects a more mechanistic view of experience. Experience, for

Dewey supports the ability to manipulate one's learning environment to get the desired outcome

(Fidyk, 1997). Deep, rich, and meaningful inquiry lives organically, emergent, and tethered to

Whitehead's educational theory and a post-postmodern worldview. Alfred North Whitehead's

learning theory arising from process philosophy offer openings in this difficult time in education.

The opportunity to see each moment as an occasion of experience feels more like an opening up

of potentialities in teacher education and inquiry. Now, more than ever, a re-visioning of

education, proposing a different worldview appears critical. Process philosophy offers

potentialities in embracing education and the world differently. In the following section, the

main tenets of process philosophy are outlined and the implications for education discussed.

Process Philosophy: The Bridge

Together, we are all crossing
from Asia, Africa, from New Worlds and Old,
new strangers on one bridge (One Planet)
in hard rain and cold.

But bridges have a way of being built
exactly when needed,
taking all
where none could go before.
(Bryan, *In Praise of Bridges*, n.d.)

Process philosophy is enormous in scope, addressing principles steeped in science,

religion, physics, mathematics, space, and education to name just a few. However, the aim of the

initial address of relevant literature exists not to discuss and think of each of the categories

separately, but offer the reader an overview of the main principles of process philosophy. The

principles are outlined in order to weave them together later in the section, with Alfred North

Whitehead's learning theory. Through the exploration of process philosophy and Whitehead's

learning theory, I will discuss the significance his theory has on the ontological positioning of

inquiry-based learning.

As Brumbaugh (1989) purports, to consider Whitehead's education philosophy in

isolation would be a mistake.

> In simple terms, the process of education is related to the process of becoming in the
> universe at large. To consider it otherwise is to rob education of its ontological context
> and construct an abstract account of learning that severs our connection with reality. (pp.
> 387–389)

In other words, although the main focus of this section discusses educational philosophy, one

must understand the ways this philosophy ontologically situates itself, as well as its cosmological

underpinnings. Yet, rarely within an educational context are epistemology, ontology or

cosmology discussed. Rather, they are considered givens—that the epistemology or ways of

knowing are nested within modernity, privileging prediction, objectivity, causality, measurement, control, and standardization (Forester, 2003). However, one must recognize all ways of knowing are value-laden, but recognizing and understanding the paradigm or worldview of that particular knowledge is imperative. Situating education within the broader context of the universe remains vital if educators are interested in deeply understanding the ways one learns and its connection with nature (Forester, 2003; Woodhouse, 1995).

Tracing the ancestral paths of process philosophy will be helpful in seeing the ways process philosophy lives in the world today. Seibt (2012) traces the roots of process philosophy, in the Western world, back to Heraclitus of Ephesus, born in 560 B.C.E., while Eastern traditions traced back to Buddhism or Taoism. However, one must be wary of the dichotomy presented here between Western and Eastern because the heart of process philosophy dwells in the service of the interconnectedness of our world, rather than splitting them, as modernity does. Here, the dichotomy does not arise because *only* an Eastern and a Western way do not exist. Process philosophy, in addition to Western ways, also has a kinship with First Nations worldviews and Wisdom Traditions, such as Buddhist and Taoist philosophy (Fidyk, 2011; Regnier, 1995; Sarkar, 1991). As I begin the historical navigation of process philosophy and trace it through Heraclitus, my intention does not exist in privileging one history over another. I am simply seeking for a moment, to untangle the tributaries of process philosophy to clarify its ancestry and the ways it currently lives. I also hope, through the bridge of process philosophy, to invite educators to deeply understand teaching-and-learning as interconnected, creative, alive, and organic.

Heraclitus is considered an early contributor to process thought. According to Seibt (2012): "Heraclitus articulated three fundamental insights that became seminal in the history of

Western process philosophy" (p. 4). The three central concepts of process are that it is dynamic;

it follows laws of nature, and it has an ability, although fleeting, to create balance. Heraclitus

explained the dynamic nature of process, not simply stating that it occurs. Using natural

examples of fire and water, Heraclitus illustrates *both* the dynamic *and* stable characteristics of

the world. On the one hand, fire and water are changeable, for example in their strength and

force. On the other hand, they both follow the laws of nature, such as high and low tides in the

ocean waters, regulated by the moon's phases. Heraclitus' third timeless contribution to process

philosophy is the unity of opposing forces, resulting in balance within the dynamicity. Using the

water example again—the waters flow together; depart; come back together; and then disperse

(Seibt, 2012). The preceding examples are important because Heraclitus articulated the

phenomena of process philosophy to a Western audience—even though First Nations and

Wisdom traditions were already intimately aware of and lived the principles of process

philosophy.

　　　Since Heraclitus, philosophers, such as Hegel, William James, and Dewey, have

contributed to process philosophy. Dewey's work, although rarely acknowledged, was greatly

influenced by philosopher Alfred North Whitehead. Although both Dewey and Whitehead held

similar beliefs concerning learning[6] and experience,[7] Dewey's work did not move through the

modern paradigm, remaining rooted in behaviourism. Behaviourism embraces the dualities of

ends and means, cause and effect, mind and the body or the person and her environment, whilst

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[6] Learning, for Whitehead (1929a) must invite and allow emotions, such as joy, to be central to its process. Only
when the learner is emotionally connected and expressing themselves fully, will she be able to connect abstract ideas
with concrete experiences (Fidyk, 1997). Concrete experiences are grounded in the senses of touching, hearing,
seeing, tasting, and smelling and allow the learner to connect more deeply with her world through these rich
experiences (Fidyk, 1997, p. 13). Concrete experiences are comprised of our everyday world.
[7] Whitehead's (1929a, 1978) concept of experience emerges from one's bodily feelings connecting the learner to her
environment or reality (Fidyk, 1997, p. 9).

process philosophy denies the absurdity of this way of thinking and being in the world. The significant differences between the two philosophers, however, did not begin and end in behaviourism. Dewey's beliefs and his approach were less organic than Whitehead's. Dewey believed the learning environment could be manipulated and controlled solely by the teacher. Also, the teacher, according to Dewey was responsible for providing the learning tasks, or stimuli, to the students in order for them to produce particular responses. Alternatively, for Whitehead, experience and learning are unfolding, organic, fluid, and are "felt and appreciated through the body of the learner" (Fidyk, 1997, p. 30). Whereas for Dewey, experience and learning are to be observed, managed, analysed, and evaluated (Fidyk, 1997). To quote Dewey (2008): "In general, practical inquiry begins with an end to be accomplished and then searches for the means by which it may be achieved" (p. 455). Process philosophy argues that nothing exists separately from the other—everything in the universe is interconnected.

Understanding everything in the universe is connected harkens back to Hegel's notion of synthesis, which Whitehead (1929a) describes when he writes, "the final stage of generalisation is Hegel's synthesis . . ." (p. 19). However, to clarify Whitehead simply uses Hegel's synthesis as an analogy for his own account of the cycle of generalisation.[8] Hegel's thesis, antithesis, and synthesis are static processes compared with generalisation (Fidyk, 1997). Whitehead does not see generalisation or any other process as subsumed by the previous cycle or phase because it flows, like a stream, and remains connected, related to, and informed by both abstract principles and concrete experiences (Fidyk, 1997).

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[8] Whitehead's cycle of generalisation will be discussed in greater detail in the section titled *The rhythm of the educational stream*.

The stream-like nature of process philosophy refutes the privileging of modernity, emphasising linearity and causality. While process philosophy does not deny causality exists, it does not support a world or paradigm *solely* believing in linearity, causality and privileging these processes over all others. For example, modernity suggests that the teacher's job exists to fill the student's minds with knowledge. Modernity supports the stand-and-deliver or lecturing style of teaching where the teacher imparts parcels of facts and information to the student, the student memorizes the facts, and later regurgitates them on a test. At the same time, I am not suggesting that teachers, who have an inquiry disposition or view the world as alive, interconnected, organic, etc., would never give a lecture to her class. Instead, I suggest information or knowledge exists as something alive and shared rather than something the teacher dispenses to the students.

Similarly, another point of contention between the modern paradigm and process philosophy exists with the notion of accumulation. Within the modern paradigm, the accumulation of knowledge and specific facts exists as something to support and celebrate. Especially in learning—more is better (not more connected or complex, but more quantified or more in numbers). Partly contributing to the "more is better" phenomenon in much of North America remains the reverence given to standardized tests and their results. Many schools and districts in the United States, have their funding tied to the success or failure on these standardized tests. Raptis (2012) writes, "ranking and publishing school performance have become commonplace in recent years as western nations have witnessed growing public concern for accountability" (p. 188), and "testing has served as the 'vehicle of choice' for promoting accountability" (Earl & Torrance, 2000, p. 114; Nichols, Glass, & Berliner, 2006; Volante, 2004).

In Canada, the Fraser Institute ranks schools based on student results from standardized tests. Its vision abides "to measure, study, and communicate the impact of competitive markets and government interventions on the welfare of individuals" (Fraser Institute, 2010). Results of the standardized tests make up the school rankings and are published yearly online and in local newspapers across Canada. Low-ranking schools have, at times, been negatively affected because parents who are concerned about their child's achievement will move them to a school that has demonstrated higher achievement test scores (Raptis, 2012).

Whitehead (1929a) suggests, "a common external examination is fatal to education" (p. 9). Celebrating and promoting inert knowledge does not mesh with the principles of process philosophy. In fact, Whitehead had such wholehearted disdain for inert knowledge that in the preface of his collection of essays in *The Aims of Education*, he writes, "the whole book is a protest against dead knowledge, that is to say, against inert ideas" (1929a, p. v).

Process philosophy also does not support mind-body dualism, also referred to as the mind-body problem. Mind-body dualism, or problem, suggests (in simple terms) that the mind and the body are made up of different substances and therefore act independently of the other. Thinking about the mind and the body as a dichotomy, suggests the body does not feel, think or process thoughts or feelings. In contrast, process philosophers believe nothing exists separately—whether it is the mind from the body or the subject from the object. Process philosophy, suggests that *both* the mind *and* the body (and the larger mind and body of the cosmos) informs the other through thoughts and feelings. Here, for Whitehead, feelings refer to bodily feelings rather than an emotion, such as joy. We become connected to the rest of the universe through our bodily feelings. Also, Whitehead (1929b) suggests one can consciously feel and experience one's emotions, intellectual activity, and hopes because of the unconscious

energy flow linking us to the universe and the universe to us. A necessary harmony exists within

and between the mind and the body, at the micro and macro levels, that cannot be separated.

Whitehead (1953) argues against the bifurcation of nature (including the mind and the body) in

the following passage.

> [A] way of phrasing this theory which I am arguing against is to bifurcate nature into two divisions, namely into the nature apprehended in awareness and the nature which is the cause of awareness. The nature which is the [*sic*] fact apprehended in awareness holds within it the greenness of the trees, the song of the birds, the warmth of the sun, the hardness of the chairs, and the feel of the velvet. The nature which is the cause of awareness is the conjectured system of molecules and electrons which so affects the mind as to produce the awareness of apparent nature. (p. 219)

As Whitehead illustrated in the above quotation, the interconnectedness of mind and body, for

process philosophers also extends to one's environment and everything in it (i.e. birds, trees,

mountains, etc.).

Rather than separation and dichotomy, denoting a modern worldview, process philosophy

embraces the individual as billions of occasions and events occurring cooperatively and

simultaneously. In a similar vain for process philosophers, God (or the Divine or Creator) lives

as part of the universe not above us and not a separate entity beyond human beings. In, Sheela

Pawar's (2012) synopsis of process philosophy, outlined on the Centre for Process Studies'

website, she eloquently and succinctly outlines the way the principle of the universe and the

cosmos is guided: "As the human mind is something more than the human body, the Divine is

not simply equal to the sum of the ingredients of the universe" (para. 3). The Divine (or Creator

or God) provides each entity with a glimpse of the vision of perfection for "a better future" and

at the same time, all entities have the freedom to disregard and move away from that vision

(para. 3).

Similarly, Bohm (1980) speaks to Einstein's theory of relativity and the ways time and space exist on a continuum and cannot be separated. Bohm however, adds that everything remains inherently connected to everything else, despite the illusion of the separateness of things. In other words, the universe, according to Bohm lives as a series of infinite "enfoldings" and "unfoldings," where enfoldings encompass the "unseen order," while unfoldings refer to the "seen order" The universe, full of energy, exists as a multidimensional and ultimately inseparable whole. The possible infinite number of universes "enfolded," overlapped, and intertwined into each other in what Bohm calls an "implicate order." The "explicate order" also referred to by Bohm as the "unfoldings" and "seen order" makes up our manifested world and flows out of the implicate order. A more poetic version discussing the nature of the universe is written by House (1993).

> The essence of a successful safari—original meaning, 'a day's journey'—is a sensitive response to one fundamental principle: the interdependence of every part of the whole, beautiful, pulsing world through which we travel . . . physics, biology, and the activities of the mind, imagination and spirit belong to a single continuum (as cited in Thompson, p. 226)

Process philosophy views the world not only as interdependent, but also as alive, dynamic, organic, and fundamentally unpredictable. Such thinking, views the universe in a post-post modern (Fidyk, 2013; Shaker & Heilman, 2008; Shaker, forthcoming) or integral (Wilber, 1982) way, sharing similar roots with First Nations and Wisdom Traditions. Understanding and thinking the world akin to Wisdom Traditions and First Nations Peoples informs my research in a particular manner and abides in a radically different way of conceiving the world generally and education specifically. As such, the ways process philosophy informs my commitment to the nature of the world (ontology), as well as the ways I know the world are important topics to discuss (Fidyk, 2013).

The eternal vision of hope and process philosophy's ability to bridge numerous topics

such as religion and science partially informs why I was drawn to this particular philosophy.

Process philosophy critiques the privileging of modern science, opening the conversations up in

education, rather than shutting them down because one already knows what the discussion will

entail, the way it will unfold and/or what the end result will be. Rather, process philosophy

invites the particularities of the life of learning. Ways of approaching education through process

philosophy in general and Whitehead's educational philosophy specifically, are encountered in

the following section.

Alfred North Whitehead's educational theory: The stream that is life.

> By utilising an idea . . . relating it to that stream, compounded of sense perceptions,
> feelings, hopes, desires, and of mental activities adjusting thought to thought, which
> forms our life. That stream of events, which pours through [her] life, which is [her] life.
> (Whitehead, 1929a, pp. 2–3)

Whitehead endures as the preeminent scholar of process philosophy. The vastness of his

theory of process philosophy addresses topics ranging from physics, logic, mathematics, the

philosophy of science, and education (Carolan, 2008). His educational or learning theory nests

itself within and informed by the main characteristics of process philosophy, as previously

outlined. Allan (2008), in an introduction to a 12-paper anthology succinctly describes and

summarizes Whitehead's process philosophy.

> The world is a dynamic place in which new facts and novel ideas are constantly
> emerging, familiar perspectives transformed, imaginative insights and disturbing
> emotions bubble up, rethinkings and refeelings occur, truths clash and become uncouth,
> dangerous ideals gain headway, reconciliations and revampings take place, contrasts and
> syntheses are achieved. As Whitehead puts it, reality is all about prehensions,
> concrescences, and satisfactions[9]—an endless stream of beginnings, transitions, and
> conclusions. (p. 3)

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[9] Prehension, concrescence, satisfaction, as well as actual entities are significant terms that will be taken up in
greater depth in the future. For now, I have provided the reader with a cursory overview of the terms in relation to
Whitehead's educational theory.

The endless stream of prehensions, concrescences, and satisfactions can be likened to

Whitehead's rhythm of education, which unfolds later in this section. Many of Whitehead's ideas

illustrate the cyclical, organic, and interconnected nature of the universe, as seen in the phases of

prehension, concrescence, and satisfaction. Although described here as phases or cycles, the

phases or cycles are not static and do not occur in isolation, but in rhythmic interplay with one

another. To more fully understand Whitehead's concepts, the three phases of prehension,

concrescence, and satisfaction will be explained, and the ways they might inform teaching-and-

learning today will be discussed.

Whitehead (1978), in *Process and Reality: An Essay in Cosmology,*[10] refers to

"prehending" of one's environment "for the foundation of its own existence" (p. 219) and feels

"the various elements of the universe out of which it arises. Each process of appropriation of a

particular element is termed a prehension" (p. 219). In other words, prehension, the ways one's

bodily feelings connect with one's understandings of the world, alludes to process philosophy's

tenet that one exists in connection with and informs the universe and vice-versa.

Concrescence, insightfully described by Scarfe (2003), acts as the process of the

"growing together of actual entities" and "depicts how an actual entity/occasion becomes fully

integrated into the internal constitution of a prehending subject" (p. 15). Concrescence, for

example, lives when students are writing and illustrating a children's book about trees. The

students know precisely what to write because they have spent days over the course of the year

sitting with their tree—observing it, measuring it, touching it, and drawing it in its natural

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[10] Whitehead (1978), in *Process and Reality: An Essay in Cosmology* is based on a series of lectures he gave at the
University of Edinburgh between 1927–1928. The lectures are divided into five parts: Part I: The Speculative
Scheme; Part II: Discussions and Applications; Part III: The Theory of Prehensions; Part IV: The Theory of
Extension; and Part V: Final Interpretation. In simplistic terms, the nature of these lectures is focused on how our
everyday, concrete experiences can provide us with a way to understand our reality and how we exist in the world.

environment. With the information and knowledge students collected during their time with their tree, such as its environment, potential diseases, the animals that visit it, students are able to accurately write through their deep understanding. Actual entities or occasions, for Whitehead (1978) are "the final real things of which the world is made up" (p. 18). The universe comprises actual entities, which are dynamic, alive, and constantly changing, and embody everything from a single-celled amoeba to the highest level or state of consciousness of an individual or group or collective. The dynamic nature of life for Whitehead, lives "in a process of concrescence, [where] there is a succession of phases in which new prehensions arise by integration of prehensions in antecedent phases" (p. xxvii). For example, through concrescence, students could take their understandings of a bio diverse natural area and the workings of the three levels of government to create a private member's bill petitioning the government, potentially halting construction of a road through the area. The organic nature of the universe and knowledge stands reflected in concrescence, such that an integration of what the learner has learned, as well as what might be learned unfolds (Scarfe, 2003).

Satisfaction, also referred to as "aim," grows out of the integration of previous elements into a "coherent whole" (Woodhouse, 1995, p. 350). The individual in the phase of satisfaction achieves a unity of purpose and bodily feelings not realised or experienced before. The nature of the activity or task unites one's bodily feelings, allowing the individual to negotiate the experience in both creative and concrete ways (Whitehead, 1978; Woodhouse, 1995). Thus, through the "unifying experience" (p. 351) of the task at hand, the individual becomes linked or connected to the universe as a whole and the universe to the individual (Woodhouse, 1995). The concept of satisfaction reminds me of winter camp and cross-country skiing with some of my students who had never skied before. Throughout the afternoon, there was a connection between

the snow, our skis, the mountains, the trees, the birds, and the meandering stream beside us.

There was a connection with each and all of the elements of the universe and us. Unification of

experience arises during the phase of satisfaction, although considering it as finality does not

reflect its living characteristics. One constantly changes and lives in the process of self-

creation—a reflection and mirroring of the universe's nature (Woodhouse, 1995).

       The phases of prehension, concrescence, and satisfaction offer something in terms of

more fully understanding teaching-and-learning as organic. For example, when a learner fully

and deeply understands a particular concept or subject one could say concrescence lives or a

growing together between the student and the object of learning exists (Scarfe, 2003).

The organic and continuous growth happening to both teacher and student in the classroom

readily supports the nature of the cycles or phases of prehension, concrescence, and satisfaction.

Thinking and feeling the world, as a continuous and endless emergence of "beginnings,

transitions, and conclusions" has implications for the ways education lives (Allan, 2008, p. 3). In

the following section the main tributaries of Whitehead's philosophy of learning are outlined and

then a discussion of the opportunities it offers education in general and teachers specifically will

ensue.

       Ironically, Alfred North Whitehead never wrote a specific philosophy of education per se,

but rather wrote of education, teaching-and-learning within the context of process philosophy.

Whitehead's educational philosophy, as researchers and scholars have come to claim it, remains

most often reflected in the terms of the philosophy of the organism or the philosophy of growth.

Growth in terms of Whitehead and process philosophy does not act in terms of the modern sense

of accumulation. Rather, it acts similarly to the growth of a tree—from a seed, to an aging

sapling, reaching maturity, eventually dying and decaying, and then allowing for rebirth of itself

through its own seeds or the birth of new trees or vegetation from the nutrients it gave during its

decomposition.

A philosophy that remains alive, dynamic, and full of potentialities may bring forth

substantial scepticism from those in or associated

with education (such as politicians, and policy-

makers) regarding its relevance and helpfulness of a

philosophy that does not situate itself within the

discipline of education. I suggest education

desperately needs to turn toward a philosophy

outside of itself. Trying to reform and transform the

system using the same language, principles and

methods, has created and perpetuated current issues

within the education system.

Cracks in the ice: Whitehead's critique of

traditional education and learning. Although

Whitehead did not write a book solely outlining his

Tuesday, December 11, 2012

Early on in my process to return to my PhD, I had a phone conversation with Dr. Kent den Heyer. We were discussing my topic of inquiry-based teaching-and-learning and student-teachers. Dr. den Heyer interjected that I needed to find a different way or different language to take up this topic. In frustration, I said, "this is the only language I have." Patiently, Dr. den Heyer suggested an author or two for me to read and we ended the conversation. I continued to contemplate what he had said, but eventually it slipped into the recesses of my being while I worked through other ideas. That is, until today when I was struck by exactly what he was trying to communicate . . . when I actually "got it."

Whitehead . . . and his process philosophy allows us to take up these issues in education with lens' that haven't been fogged up with the privileging of modernity and the spewing of educational jargon. There is an "opening up" a "rebirth" of potentialities, rather than continuing along the same path and trying and solve problems and issues in the same, tired, old ways with worn-out language.

theory of education, a collection of his lectures bound into the book *Aims of Education*, could be

conceived of as framing a theory. In the book, Whitehead offers several criticisms of traditional

learning and education, which Riffert (2005) outlines in the introductory chapter from his edited

book, *Alfred North Whitehead on Learning and Education: Theory and Application*. I offer these

critiques here, in my own way and in relation to the context of my own experiences and research

study because they help clarify some of the inherent issues in education today. Whitehead

(1929a) addressed these issues in novel and inspiring ways through process philosophy in *Aims of Education*—ways relevant and insightful for education today.

"It is not true that the easier subjects should precede the harder . . . some of the hardest must come first because nature so dictates, and because they are essential to life" (Whitehead, 1929a, p. 16). Whitehead uses speaking and written language to illustrate his point—how utterly difficult and complex for one to learn how to speak and to write! At the same time, Whitehead cautions that uncritically applying this principle would be a grave mistake because having *everything* difficult precede something simpler may not be helpful. For example, learning how to dive into the deep end of a swimming pool might be best after mastering some swimming skills.

"You must be free to think rightly and wrongly" (Whitehead, 1929a, p. 93). Learning remains a *process* and throughout the lifelong process, one will make mistakes. Admitting the mistakes and seeing them as learning opportunities rather than something to be hidden or embarrassed of oftentimes exists as the most challenging aspect of making a mistake. Certainly, early on in my own teaching experience I would rarely admit I was wrong or had made a mistake because I felt it was my job to know the answers to everything students asked and also know the way to complete any and all tasks correctly. However, in the last few years I have become increasingly comfortable, not only making mistakes, but admitting them. I value the opportunity to take risks in my own teaching-and-learning, as well as discussing my mistakes with students and colleagues. Whitehead's (1929a) quotation concerns itself with making mistakes, as well as having the freedom to think differently than others. Preserving and ensuring everyone thinks the same way would require a disciplined regime and likely a hostile one as we have witnessed in, for example, Afghanistan with their treatment of women by men and some other women as well.

"The pupil's progress is often conceived as a uniform steady advance undifferentiated by change of type or alteration in pace" (Whitehead, 1929a, p. 17). This quotation reflects Piaget's stages of intellectual or mental development promotes. Piaget clearly articulated that each and every child would move through the stages sequentially. The first stage, sensorimotor, was from birth to 18–24 months; preoperational was the second stage and lasted from toddlerhood (18–24 months) through early childhood (age 7); the third stage was concrete operational lasting from ages 7 to 12 and the final stage, which lasted from adolescence through adulthood was the formal operational stage. Whitehead wholeheartedly disagrees with understanding student learning and progress in such a lock-step approach, rather his learning theory bases itself on the principle of the *rhythm* of learning. A rhythm of learning also denounces organizing schools and classrooms with grades by ages. He further suggests that the main reason for the futility of education exists due to education and teacher's lack of attention to the rhythms in the classroom. Rhythms such as the pace of the lesson, each of the learners in the classroom, the rhythm of student growth, the teacher's own rhythm with teaching a concept, etc. Within each classroom, at any given moment, there are a multitude of layers of rhythms, which demand attentiveness and honouring.

"Eradicate the fatal disconnection of subjects which kills the vitality of our modern curriculum. There is only one subject-matter for education, and that is Life in all its manifestations" (Whitehead, 1929a, pp. 6–7). Schools consistently compartmentalise subjects into, for example, math, science, social studies, language arts, etc. Specifically, at Potamoi School, it structures learning in a similar fashion. Although one teacher teaches math *and* science, while another specialises in social studies *and* language arts, the students are taught other subjects such as art, music, drama and physical education from other teachers. The school commits the travesty of splitting the Arts and Humanities from the Sciences.

Compartmentalising or bifurcating the disciplines only perpetuates the divisiveness between each culture of learning (Riffert, 2005). As well, knowledge, learning, and understanding, according to process philosophy and Whitehead, do not exist in the world in a bi or trifurcated way. Learning systems are alive, interconnected, and informed by one another, as well as by the universe and vice versa. To think otherwise and to organize schools otherwise continues to subscribe to the principles of modernity.

"Do not teach too many subjects . . . teaching small parts of a large number of subjects is the passive reception of disconnected ideas, not illuminated with any spark of vitality" (Whitehead, 1929a, p. 2). I often hear teachers and student-teachers alike lamenting on how much of the provincially mandated curriculum they need to "cover" and how little time they have to do so. In part, Whitehead suggests in his quotation that a cursory covering of multiple subjects requiring the student to passively take in discrete and disconnected pieces of information such as dates and names in history will surely dull the senses of the learner. Ideas, concepts, information, and knowledge must be relevant and connected with real life. Understanding the curricular theme of forces and structures might be most relevant if one focuses on bridges after the devastation of a 100-year flood in a student's city. Not only does the topic reflect a real issue or problem, it also requires students to deeply understand structures and forces in a connected and engaging way.

"It must never be forgotten that education is not a process of packing articles in a trunk" (Whitehead, 1929a, p. 33). Similar to the preceding quotation by Whitehead, this quotation suggests that by "filling" the student with bits of information and facts (perhaps by teaching too many subjects or small parts of a subject) is not the aim of learning and education. Striving to

teach where learning connects to life and remains alive and organic, not disassociated bytes to be memorized and regurgitated, seems worthwhile.

"We should banish the idea of a mythical, far-off end of education. The pupils must be continually enjoying some fruition and starting afresh" (Whitehead, 1929a, p. 19). Here, Whitehead (1929a) again proffers that education and teachers need to attend to the rhythm of the learning and students.[11] Offering students far-reaching aims such as the completion of a grade or high school or university will merely lead to frustration, disengagement, and demotivation (Riffert, 2005). On the other hand, continually having students move through beginnings and endings of continuous cycles engages and motivates students. For example, if students are learning about trees and forests, take them to a forest or nearby natural space to experience and come up with their own ideas, questions, and wonderings. "Real life" experiences can ignite their interest and curiosity. The curiosity may sustain through a cycle of precision where they learn about different types of trees, their habitat, leaves, etc. The final cycle flows into students taking their newfound experiences, skills, and interests back into nature where they might sketch, write a poem or story of their favourite tree.

Whitehead (1929a) had many criticisms of traditional education, all of which I suggest are still relevant today. For example, standardized testing at Grades 3, 6, and 9 and large school boards where the school does not exist as its own entity, making it challenging to be as responsive to student, parent and teacher needs. However, Whitehead recognizing that a specific method or formula is unable to address all educational issues writes, "I merely utter the warning that education is a difficult problem to be solved by no one simple formula" (p. 36). In current educational practices, Whitehead's assertion of education's difficulty exists in opposition to

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[11] Greater detail about what constitutes Whitehead's (1929a) rhythm of education is outlined in the following pages.

some current assessment practices, espousing to communicate to students the answers they had

"right" or "wrong." Assessment also provides students and parents; numbers (percentages or a

scale, i.e. between 1–4) or letters (A, B, C, D, or F) on the report card, indicating how well the

student does in selected classes. In many schools, report card comments provided by teachers are

pre-entered into a "comment bank," with teachers simply typing in numbers corresponding with

the comment and "voila" the selected comment appears on the student's report card. When a

single number can quantify an entire year's work with a student, it cannot reflect the complexity,

messiness, and difficulty of education. As well, the quality and depth of understanding a student

over a term, a semester or year surely cannot be communicated effectively in a single number.

Teaching-and-learning *are* difficult, and as researchers, teachers, students, parents, and

administrators, we need to embrace this realization. Only once we embrace the difficulty and as

Caputo (1987) writes, "own up to the fix we are in" (p. 6) might we be able to open up spaces

addressing the issues in more creative, innovative, and meaningful ways, rather than simply

placing another layer of band-aids over the puss-filled wound.

     The rhythm of the educational stream. Whitehead's educational theory seamlessly

connects with the school where the research took place. Independent schools in Alberta require

approval from the provincial government of its vision, mission, and goals. Whitehead (1929a)

would have praised the current structure of Potamoi School, writing: "When I say that the school

is the educational unit, I mean exactly what I say, no larger unit, no smaller unit. Each school

must have claim to be considered in relation to its special circumstances" (p. 14). At Potamoi

School, the circumstances of learning connect to its goals, one of which is: inquiry-based

teaching-and-learning. Within the framework of the goals, teachers specialize in teaching

Math/Science, Humanities, Fine Arts or Physical Education. As Whitehead suggests, individual

schools are logistically more able to adapt and adjust their environments and learning structures

to nurture their special circumstances compared with significantly larger boards, some

responsible for more than 200 schools.

Before further discussion of the connections between Whitehead's learning theory and

Potamoi School, a deeper understanding of Whitehead's (1929a) overarching theory of education

remains, with greater specificity of its composition following. Whitehead succinctly outlined the

main premise of his collection of lectures in *Aims of Education*, as well as the purpose of

education.

> It can be stated briefly thus: The students are alive, and the purpose of education is to
> stimulate and guide their self-development. It follows as a corollary from this premiss
> [*sic*], that the teachers also should be alive with living thoughts. The whole book is a
> protest against dead knowledge, that is to say, against inert ideas. (p. v)

Throughout much of Whitehead's writing and lectures, he brings up the main tenet of process

philosophy, as well as educational theory—that everything, everywhere remains alive.

Whitehead's cosmos exists as organic, alive, and fluid. Therefore, as a natural extension of

learning, as part of Life, it must also be alive. Specifically, he insists only one curriculum or

subject for education exists, "Life in all its manifestations" (1929a, p. 7), implying that students

do not benefit from being given problems, void of meaning or relevance to their life. Rather,

problems and issues already existing in their own lives are authentic, meaningful, and ripe for

inquiry. Engaging in learning through existing meaningful issues or problems nurtures a

student's "joy of discovery" (Whitehead, 1929, p. 2). It positions students, their interests, and

values, at the center of their action, where the "right" answer cannot be found at the back of the

textbook.

The "joy" Whitehead speaks of acts as the main focus of the stage of romance in his

rhythm of education. Whitehead's education theory or rhythm of education comprises three

stages: romance, precision, and generalisation. While we will take each one up separately, it remains critical to note as Fidyk (1997) does, that these stages are more like cycles, occurring and recurring through "experience, interplay, harmony, overlapping, and flowing" (p. 16) rather than as separate entities. Flynn (2000) further clarifies, "These cycles are not separated from one another, they are aspects of an experience in which bodily feelings, emotions, and consciousness are unified" (p. 247). Whitehead (1929b) referred to the unification of an experience as "actual occasions." Throughout these occasions of learning, "some cycles are subordinated while others come to the fore" (Whitehead, 1929b,). The term "subordinated" Whitehead uses characterizing the cycles acts as a misnomer because it implies a ranking order of the cycles with some cycles inferior to others. Ranking and ordering connects more with the language of natural sciences, rather than process philosophy. In light of this, I suggest the use of foregrounding and backgrounding because the language offers the sense that the cycle or phase remains present, alive, aware, and involved. For example, a student working on a digital portfolio might focus intensely on learning the technical aspects of the program where the cycle of precision lives in the foreground and romance in the background. The characteristics of foregrounding and backgrounding during learning and growth are further discussed as the three cycles of romance, precision, and generalisation are introduced below.

Romance is likened to the "joy of learning" and "must be recognized as the basis of human learning" (Fidyk, 1997, p. 14). Whitehead felt so strongly that enjoyment be the basis of learning that he suggested anyone with students in their care who destroyed their enjoyment "should be prosecuted for soul murder" (p. 57). The preceding quotation illustrates Whitehead's intensity of purpose and the importance he placed on enjoyment for the learner, as well as how detrimental it could be for the process of learning if joy was absent. What skill or discipline did

you last learn that was not accompanied by joy and delight? It seems natural that when one undergoes the intensity of learning a skill such as casting in fly-fishing, playing cribbage, or even organizing a reference list according to APA rules, some pleasure must be experienced by the learner to undergo the discipline to master the rule inherent in the task.

The second stage or phase Whitehead (1929a) describes is precision. He defines this as the "exactness of formulation" (p. 18), which grows out of romance or the "joy of learning." Whilst the cycle of romance now acts in the background to the cycle of precision because of its "com[ing] to the fore," as Flynn (2000) discussed earlier, romance remains ever-present. The phase of precision requires a tactful combination held by tension because with too much time spent in the phase of precision or facts are overly emphasized, the student becomes bored and loses their interest in the learning (Fidyk, 2000). However, striking a balance in tension allows the emergence of the "development of specialized knowledge through analysis, negation, critique, and selection, which, as Whitehead maintains, are intrinsic to the development of consciousness" (Scarfe, 2003, p. 14). Unfortunately, all too often the majority of time spent in schools today remains entirely in this cycle. The over-emphasis and focus on discrete skills was exactly what Whitehead warned against in his education theory—to avoid having students accumulate inert knowledge, facts, and then testing them. As Whitehead states, "knowledge does not keep any better than fish" (p. 98)! Indeed, Whitehead's warning here remains "pace, pace, pace" (p. 36). In other words, students must get the information they need quickly and have an opportunity to use it immediately so the information integrates itself into their lives.

Knowledge exists to be used for something of importance, not simply to be acquired. Whitehead writes that there has been a systematic failure of modern education because of the focus placed on "text-book knowledge of subjects" at the expense of "divine wisdom, which was

the goal of the ancients" (p. 29). By "divine wisdom" I interpret Whitehead to imply the nature

of ideas and ideals, which are full, exciting, and inspiring, rather than simply emphasising the

details or mechanistic nature of a task. Although Whitehead does not claim ancient education

was necessarily better than in modernity, he suggests today students lack ideas, inspiration,

curiosity, and a zest for life (Whitehead, 1929a).

Lastly, generalisation is considered the beginning of a new romantic phase.

Generalisation acts as the active application of abstract principles to concrete facts or new

situations (Whitehead, 1929a). Generalisation, for example could be a student illustrating their

understanding of the concept of democracy through a critique of a novel addressing the life of a

girl in Afghanistan. During the phase of generalisation, there is infinite potential for creating

things not yet conceived or conceptualized. Here, Whitehead uses Hegel's concept of synthesis

as an analogy for generalisation, not as a way to describe the relationship between the two

(Whitehead, 1929a, p. 19). However, as discussed earlier in the section, Whitehead sees

synthesis as more static than generalisation because it constitutes and informs itself through the

preceding phase. Whereas generalisation emerges from a variety of former cycles—always fluid,

organic, in motion, and thus it is always becoming. For me, meaningful education allows

limitless potentialities for students to create something new—for emergent knowledge.

All three phases of romance, precision, and generalisation are important in creating and

allowing the emergence of understanding. However, as previously discussed, romance remains

of the utmost importance and although it recedes, at times, from "the stream that is life," it still

remains present at the stream's edge and therefore within each and every phase of learning

(Whitehead, 1929a, p. 3). In addition and amongst the three phases, the concurrent and

intermingling cycles of freedom and discipline are present.

Freedom and discipline: The waterfall. Freedom and discipline constitute Whitehead's

(1929a) rhythm of education, which he refers to as having a natural to and fro developmental

sway, like the ocean's tides. Also, he brilliantly claims that for education, freedom and discipline

are essential qualities: "no part of education can you do without discipline or can you do without

freedom" (Whitehead, 1929a, p. 33).[12] At the same time, there exists a similar rhythm with

freedom and discipline as with the phases of romance, precision, and generalisation. The

movement or rhythm described earlier in the section by Flynn (2000) arises when one

characteristic or phase has a stronger presence than the other. Particularly, within the phases of

romance and generalisation, freedom is emphasized. Alternatively, in the phase of precision,

greater discipline is necessary. "And all the while there is an implication for 'self-discipline'

where the learner and teacher in their own individual processes are true to the streams which are

their lives—and thus are the life force for all learning" (Fidyk, personal communication,

December 15, 2012). For Whitehead (1929a), self-discipline, in its own right remains essential,

but is only developed if students are given a reasonable amount of freedom because freedom

helps satisfy the interests of the students and keeps them engaged and disciplined in their inquiry.

Exploring freedom and discipline individually, as well as with the corresponding phases

of romance, precision, and generalisation will facilitate a fuller understanding of Whitehead's

educational theory. However, I must urgently bring to the reader's attention that although each

phase will be discussed in turn, it acts merely a momentary untangling for ease of explanation

and *not* an illustration of the ways they collectively exist in the world. On the contrary, the cycles

are very much responsive to the context and are always organically situated. As Whitehead

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[12] It is of import to note the tensionality between freedom and discipline, just as there is amongst the three phases of romance, precision, and generalization in the rhythm of education. The movement or interaction between or amongst each is not passive, but active.

(1929a) notes, "there is not one unique threefold cycle of freedom, discipline, and freedom; but that all mental development is composed of such cycles, and cycles of such cycles" (p. 31). Similarly, this cycle of cycles also represents the ways romance, precision, and generalisation live in the world.

Freedom is and must be the emphasis throughout the phase of romance, "to allow the child to see for itself and act for itself" (Whitehead, 1929a, p. 33). Otherwise, "at the best you get is inert knowledge without initiative, and at the worst you get contempt of ideas—without knowledge" (Whitehead, 1929a, p. 33), which often remains the case in many schools and classrooms today. Inert knowledge exists when the facts are memorized and regurgitated without context or real understanding, often creating boredom and even resentment by the student for school and learning. Unfortunately, much of the learning in schools today remains disconnected from the interests and lives of students.

According to Whitehead (1929a), the cycle of precision exists as "the time for pushing on, for knowing the subject exactly, and for retaining in the memory its salient features" (p. 34). Within Whitehead's cycle of precision, romance and wonder are always present. Though, rather than at the forefront, romance resides "in the background" (Whitehead, 1929a, p. 34). Similarly with romance, the omnipresence of freedom in the phase of discipline exists. When discipline must be centre stage, freedom lives backstage. It seems the concurrent phases of precision and discipline are the trickiest to balance with romance and freedom. For example, if a student does not understand a particular skill, such as long division and the skill is needed to answer the question "how many trees are needed in order to produce enough oxygen for everyone in the school?" the student must exercise greater discipline and precision to live in the joy and freedom of using the skill to answer the question. Whitehead agrees when he writes, "the real point is to

discover in practice the exact balance between freedom and discipline which will give the

greatest rate of progress over the things to be known" (pp. 34–35). He brings up a similar point

later in his writing by offering the "secret of success," which "is pace, and the secret of pace is

concentration. But, in respect to precise knowledge, the watchword remains pace, pace, pace.

Get your knowledge quickly, and then use it. If you can use it, you will retain it" (p. 36).

Whitehead suggests that in the precision phase, it remains key to get in, get what one needs, get

out and apply the skill(s) in a concrete situation. By concrete, Whitehead means a process where

something becomes fully actual in relation to one's particular life and interests (Cobb, 2008).

The curiosity and wonder in the concrete experience nurtures one's learning and process of

becoming in the world.

Having the specific knowledge and rules needed for students to actively use and engage

them in real life situations and problem acts as the stage of generalisation. Also, as the student

uses the newfound rules, details, and laws, they become conscious habits without the need to

deliberately think about them (Whitehead, 1929a, p. 37). During the stage of generalisation,

student freedom remains critical in finding meaningful, real world problems and using their

precise skills. Meaning, that a teacher's lessons planned in advance with prior questions for

students would not solely inform the classroom and its students because it must be organic and

attend to authentic and arising issues. The freedom to inquire into a problem or issue one has

curiosity of, for example homelessness, and having the necessary skills allows student interest,

joy, and excitement to arise in their learning. It also stays true to what Whitehead (1929a)

envisioned for education. It "should begin in research and end in research. An education which

does not begin by evoking initiative and end by encouraging it must be wrong. For its whole aim

is the production of active wisdom" (p. 37). Whitehead interprets wisdom as actively using the

principles or knowledge a student has learned. Cultivating wisdom requires opportunities for

students to engage in real world problems and precisely the focus of inquiry-based teaching-and-

learning at Potamoi School.

     The literary, the scientific, and the

technical eddies. Connecting Whitehead's

ideas with Potamoi is further illustrated

through Whitehead's focus on the three

curricular areas. The literary, scientific, and

technical, are educational areas he suggests

every curriculum incorporate. The specialized

subjects of Humanities and Math/Science

correspond to the curriculum areas of the

literary and scientific. Additionally, a strong

Figure 1. Venn Diagram of Whitehead's Curricular Areas and the Charter School
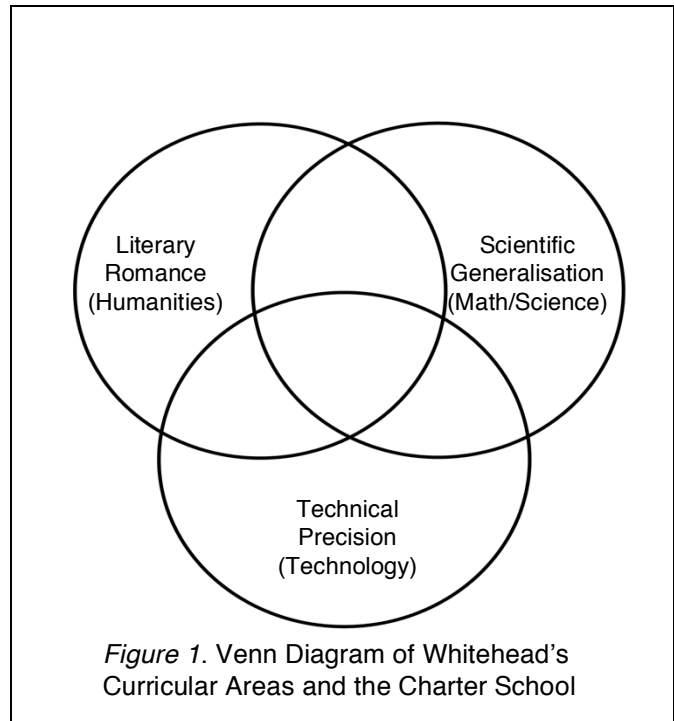
focus on technology exists at the school, which could link to the technical aspect of Whitehead's

curriculum (see Figure 1 for an illustrative understanding of the connections). Each student at the

school has either a laptop or iPad to use in order to support, create, and communicate their

learning.

     Technology in this form was likely not in Whitehead's realm of thinking in 1929!

However, he did see the technical connected with the act of creating. Training in this area was in

"utilising knowledge for the manufacture of material products . . . which emphasises manual

skill, and . . . the process of construction" (1929a, p. 50). As such the head and the hand are

crucial.

Today from the field of neuroscience[13] we understand synaptic connections are developed through using hand-eye coordination in a variety of situations. Whitehead was well ahead of his time in understanding and revering the connection between the body and mental activity. Although Whitehead (1929a) also communicated that these connections "are focussed in the eyes, the ears, the voice, and the hands" (p. 50), he remains clear that the connections are diffused through "every bodily feeling" (p. 50). Bodily feelings are like the stream's rock bed— essential for guiding and directing the stream, just as bodily feelings are vital for both learning and experience (Fidyk, 1997). Part of Whitehead's dissatisfaction with education was the neglect of technical education, which utilises knowledge and emphasises the connections and coordination of the hand and the eye in the process of manual skills and construction. Whitehead emphasized that carpentry and pottery are technical education because ideas are transformed, becoming a reality through creative activity and the coordination of the head and the hands. Whitehead often refers to creativity[14] when discussing technical education because it involves both the body and intellectual activity in the making of something, such as pottery, through the coordination and harmony of head, the hands, the eyes, ears, and the voice. Today, students working with robotics could be considered similar to Whitehead's technical education. Unfortunately, many teachers today focus solely on the minds of the students—neglecting and even forgetting students have bodies *and* embodied ways of knowing. The lack or complete absence of focus on the coordination and harmony of the mind and the body is detrimental in cultivating alive and dynamic environments students experience.

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[13] Neuroscience is the study of the nervous system. In very simplistic terms, synapses allow information to flow from one part of the brain (neuron) to another (neuron). The ability of the interconnection of synapses in the brain to respond to one's environment and activities helps one to learn and have memories.

[14] Creativity, for Whitehead underlies everything and is one of his universal concepts. It is of and within the cosmos and the Creator (or Divine or God) and is also part of one's being. Creativity is the principle, which allows one to become many and many to become one. It is adaptive to the ever-changing nature of the world.

In what ways then, might one look at technology in the 21st century so it remains meaningful and alive? Can or might technology be thought of as being subsumed under what Whitehead described as a technical education? Whitehead wrote that the "merit of technical education is, that it follows our deep natural instinct to translate thought into manual skill, and manual activity into thought" (p. 51). One has to, with the iPad, iPhone and other tablets, coordinate, depending on the task, harmonize the head, the hands, the eyes, ears, and the voice when creating. With the nature of the forms of current technology becoming even more "hands on," would they be considered to be in the realm of what Whitehead described as technical education?

Saturday, January 5, 2013:

Technology—according to *The Free Dictionary*, some of its possible definitions are:
1. a. The application of science, especially to industrial or commercial objectives.
b. The scientific method and material used to achieve a commercial or industrial objective.
2. Electronic or digital products and systems considered as a group: *a store specializing in office technology.*
3. *Anthropology* The body of knowledge available to a society that is of use in fashioning implements, practicing manual arts and skills, and extracting or collecting materials.
Other than the last definition, there is a privileging of the scientization of technology. While this is not surprising, it contains technology within the modern paradigm. I find most interesting how *Anthropology* has been inserted here with the others. For me, the definition referring to skills and "manual arts" very closely reflects Whitehead's original intention and definition of technology.

Technology today, when used thoughtfully, allows opportunities for student creation through the application of skills and processes gathered during the precision phrase. As well, throughout the process of creation, there exist potentialities for student reflection of the meaningful use of skills and processes used to create. For example, recent work taking place at Potamoi had students using the program Geometry Sketchpad in designing and physically building recycling

bins for use in each classroom of the school. To build the recycling bins accurately, students must learn and understand some geometrical principles, as well as the functions of the computer program in creating their design. Once students had their design, they needed to use it as a

blueprint to build functioning recycling bins. I wonder if using technology in this way fits

Whitehead's technical curricular area for the 21st century?

     Art and the aesthetic: A watershed. Whitehead (1925) suggests, the basis of education be

founded on appreciation of art and aesthetic because through them it makes possible a balance

and rhythm with the universe. Whitehead's (1929a) quotation below illustrates the importance he

placed on art.

> Education is the guidance of the individual towards a comprehension of the art of life;
> and by the art of life I mean the most complete achievement of varied activity expressing
> potentialities of that living creature in the face of its actual environment. (p. 39)

 Herein, one sees the broad sense with which Whitehead embraces art—it does not simply refer

to going to the opera or being in nature, rather it

emerges "from our basic relationship with the

world through bodily feelings" (Fidyk, 1997, p.

72). Through the cultivation and appreciation of

art and aesthetics and the bodily feelings

experienced in relation to both, one grows in the

deepest and most complete sense. Bodily feelings

are at the heart of Whitehead's (1929b)

epistemology. Unlike constructivists and

behaviourists such as Dewey, who attend to

feelings as an afterword, Whitehead's philosophy

begins with bodily feelings because they are the

fundamental makeup of the universe (Flynn, 2000).

Sunday, January 6, 2013:

Reflecting on art and aesthetics, which are central to Whitehead's theory of learning, the word "watershed" came into me. Looking more carefully into the details of a watershed, I believe it perfectly matches the essence of art and aesthetics as described by Whitehead because "A watershed is a basin-like landform defined by highpoints and ridgelines that descend into lower elevations and stream valleys. Drop by drop, water is channelled into soils, groundwater, creeks, and streams, making its way to larger rivers and eventually the sea. Water is a universal solvent, affected by all that it comes in contact with: the land it traverses, and the soils through which it travels. downstream." (What's a Watershed?, n.d.) In other words, in the context of Whitehead's learning theory, art and aesthetic touch everything and are the fabric of learning, therefore they must be revered.

     The appreciation of art and aesthetics also nurtures one's intrinsic value of her

ecosystem, such as the beauty inherent in an Arbutus tree and its connection to the universe and

its organic nature as a whole (Fidyk, 1997). Whitehead (1929a) writes, "You cannot, without

loss, ignore in the life of the spirit so great a factor as art. Our aesthetic emotions provide us with

vivid apprehensions of value" (p. 40). Through a painting, a sunset, or a piece of music, Life

manifests itself allowing us to feel the intrinsic nature of the world as it unfolds. The valuing of

this way of being would *radically* change the classroom ecosystem and its happenings and

encounters. The basis for wisdom, according to Whitehead (1925), exists through aesthetic

education and the connection of one's spirit to the deep value of all living organisms in the

universe (Fidyk, 1997).

   Caught in the riptide. Although Whitehead's work offers a way for us to think about

teaching-and-learning as emergent, there are critiques of his process philosophy or educational

theory, therefore it remains important to bring forth, acknowledge, and respond in this section to

some of the criticisms. As we all are, Whitehead reflects a specific time, place, and historicity.

With Alfred North Whitehead living in the 19th and 20th Centuries, one can readily see the echo

of the culture of this in some of his actions and writing. For example, Whitehead always refers to

"he" or "mankind" in his lectures and writing. Today, in many cultures, this is seen as sexist and

unacceptable. However, even within this time period, I would suggest that Whitehead

acknowledged some of these limitations. For example when he writes: "The typical education of

our public schools was devised for boys from well-to-do cultivated homes" (1929a, p. 40). Here,

Whitehead communicates the nature of education during his time, but does not uphold or

condone this structure of education. His thinking extends beyond his temporal space and time.

   Another critique of Whitehead's work, alluded to earlier in the section, is that he does not

have an all-encompassing educational theory outlining the main tenets of the theory. Whitehead

has several essays and writings on education, but they are not strictly linked to one another as an overarching or systematic theory of education (Scarfe, 2003). Researchers, such as Holmes (1951), Wegener (1957), and Dunkel (1965) are critical of the absence of a holistic and comprehensive educational theory for a variety of reasons. While Holmes (1951) critiques Whitehead's writing for not being extensively in the field of education, he does give Whitehead's ideas some leeway by suggesting the possibility for one to gain insight into education through Whitehead's general philosophical writings. In agreement with Holmes (1951), Wegener (1957) also brings up the question and concern of whether Whitehead's philosophy might be useful to pedagogy and education. At the same time, Wegener (1957) focuses more on Whitehead's philosophy of organism as a way to approach pedagogy than his other ideas such as the rhythm of education. While Wegener clearly refutes the use of Whitehead's metaphysics in education, he does see merit in some of the cosmological concepts Whitehead discusses in *Process and Reality* such as creativity and prehension. Dunkel (1965) continues in a similar vain of critique as the previous scholars suggesting that Whitehead made little attempt to connect his ideas of philosophy in a direct way with education. As with the other scholars, Dunkel also finds worth in Whitehead's concept of self-development and suggests more educators become familiar with and interested in philosophy so that a philosophy of education could grow and be elaborated. Such a suggestion—the idea of a comprehensive educational theory—is a project of modernity. Although I have outlined some of the critiques of Whitehead's educational theory, incredible merit exists in his work and I embrace it as a way to re-envision and take up education in these difficult and challenging times.

   The flowing tributary. Whitehead's educational theory offers potentialities for education because, as mentioned earlier, it allows one's thinking to shift from modern principles where

education has been stuck for so long to organic and living characteristics of post-postmodernity.

For example, the creation of standardized testing for students, supports the modern paradigm and

the accumulation of knowledge, as well as the privileging of scientific principles (i.e. cause and

effect). The opportunity to open up potentialities through Whitehead's educational theory bodes

well for inquiry-based teaching-and-learning because it does not reside in modernity. Inquiry

takes up real-life problems, and echoes Whitehead's learning theory (1929a) with education

beginning and ending in research. The central problem of education for Whitehead remains

"keeping knowledge alive" (p. 5), which is a vital aim of inquiry-based teaching-and-learning.

Students are curious with the universe and interested in many facets of it—inquiry offers

opportunities for them to experience and learn the ways issues, ideas, knowledge, and concepts

live in the world. It also opens up the time and space to apply skills and rules they have honed in

a variety of authentic situations. For example, creating opportunities for a student interested in

journalism to connect with one via Skype or e-mail, they will understand more fully the skills

and attributes necessary in becoming a journalist. At the same time, the student writes for the

school newsletter (sent out to every parent of the 600 students) and concretely applying her

particular knowledge and skills as a journalist.

  As I read Eliot's (*East Coker*, n.d.) poem below, I am reminded of the words of Arendt

(1969), one must "educate in such a way that a setting right remains actually possible, even

though it can, of course, never be assured" (pp. 192–193). Only within each moment—every

actual occasion, do the potentialities live where "a setting right" might remain. There appears to

me, a common thread of "waiting" between Eliot's poem, Whitehead's learning theory, and

hermeneutics. For Eliot, "the faith and the love and the hope are all in the waiting." Whitehead

(1929a), suggests that learning cannot be hurried and in the case of hermeneutics, Hermes always

comes in his own time—as will be made clearer in the following chapter outlining the

framework of the research study.

> I said to my soul, be still, and wait without hope
> For hope would be hope for the wrong thing; wait without love,
> For love would be love of the wrong thing; there is yet faith
> But the faith and the love and the hope are all in the waiting.
> Wait without thought, for you are not ready for thought:
> So the darkness shall be the light, and the stillness the dancing.
> Whisper of running streams, and winter lightning.
> The wild thyme unseen and the wild strawberry,
> The laughter in the garden, echoed ecstasy
> Not lost, but requiring, pointing to the agony
> Of death and birth. (Eliot, n.d., *East Coker*, p. 11)

Chapter 4

In the Stream with Hermeneutics

No [wo]man ever steps in the same river twice, for it's not the same river and [s]he's not the same [wo]man.
(Heraclitus, n.d.)

The chapter begins with a brief

discussion of the research approach—

hermeneutics. Next, Hermes, the mythic

figure of hermeneutics offers direction and

insight into the research process. Following

Hermes' lead, we drift into German

philosophical traditions and ancestors of

hermeneutics, as well as contemporary

scholars, providing a brief historical tracing

of hermeneutics. A discussion of

interpretive research in general and

specifically hermeneutics as the way of

proceeding with the inquiry unfolds. The

framework of the inquiry is described and

discussed, comprising of the sources of

data, the participants, location of the

inquiry, and the process of interpreting the

data. Lastly, the ethical considerations and

Saturday, January 19, 2013:

Pre—Face. Perhaps an odd subheading, but it came to me as soon as my fingers hit the keyboard in anticipation of what I am trying to explain and navigate here in this space. It is a beginning; a before where I must face you, the reader, and myself (always myself), to clarify where my understanding of hermeneutics, in this moment, lives. I suppose it is a confessional of sorts.

Currently, I am standing beside Hermes, the mythic figure of hermeneutics as he guides me through the *Truth and Method* course and nurtures my understanding of hermeneutics. I have recently stepped into the waters of the course *Truth and Method*, with Dr. David Jardine. The start of the course didn't allow for me to wade in and test the waters. Before I really knew what was happening, I was already in over my head. Currently, I am trying to simply breathe and keep my head above water because it seems as though I am in deep, without a lifeboat or life jacket or close enough to reach the safety of shore. Being in the middle of the raging river simply happened and now, as I try to write, re-write, edit, and revise I am drowning in hermeneutics without a way yet to see through it. My writing for this section before starting this course was much cleaner and clearer because I was able to talk *about* hermeneutics from a distance. Now that I am reading, listening, and talking from within hermeneutics I am simply unable to escape its riptide and move into calmer waters.

What has happened and what is happening while I am in the middle of this hermeneutics course is a process I am not in control of. Hermeneutics, because of its organic, messy, living-ness cannot be understood quickly. My desire to speed up the ways I understand hermeneutics because of candidacy and where I am pressing against time has only muddied the waters for me. I need to give myself to this process and also, at the same time, I must meet the requirements of a candidacy proposal and an exam where I must face my committee of well-respected scholars.

This section of the candidacy proposal will change the most because after my course finishes and I am able to trace the hermeneutic writing to the primary sources, such as Gadamer, Husserl, and Heidegger, I will be able to write *through* hermeneutics rather than *about* hermeneutics.

limitations of the study are outlined.

Making my orientations explicit remains important because they inform my worldview, as well as my ways of understanding, asking questions, choosing my data sources, and interpreting texts. The question itself—*In what ways do student-teachers understand inquiry-based teaching-and-learning after an inquiry-based field placement*?—suggests a particular way of proceeding with the study. Part of the process exists in acknowledging the potentialities of this work shaping and shifting my own understanding of the world. The means of proceeding live through the "openings. Opportunity. Possibilities," and "thereby possible ways of shaping our lives" (Gadamer, 1986, p. 59). Smith (1991), expanding on the ways our lives might be shaped when encountering something new, offers, "My language contains within it the evidence . . . of the openness of my life . . . toward what comes to meet me as new; [and] whether I engage it creatively in an effort to create a new common, shared reality" (p. 193). The evidence of my openness and creative engagement appears in the ways I open myself in the conversations between the student-teachers and myself. Other evidence emerges from the transcribed texts and within the writings of this dissertation.

Stepping into the River: The Research Approach

In this section, discussing why my particular research topic lends itself most readily to my research approach—hermeneutics, remains important. The focus of the research study is the ways in which student-teachers' understand inquiry after a field placement at an inquiry-based school. As the researcher, the topic engages me in considering the conversations I have with student-teachers concerning inquiry and interpreting them in the context of their practices. Friesen and Jardine (2009) attest interpretive research approaches most readily support educational studies interested in understanding classroom-based experiences.

Specifically, taking a hermeneutic approach, which exists as part of the interpretive

family, allows the researcher and participants "to clarify the conditions in which understanding

takes place" (Gadamer, 1989, p. 295). In addition, hermeneutics naturally lends itself to

describing and understanding the work students and teachers are already doing at the university

and in the classroom, such as writing, reading, discussing, and conversing (Gottesman, 1996). In

this case, pedagogy and learning are "already deeply hermeneutic" in practice because as

teachers and students we are always in the middle of negotiating the histories and traditions of

each other and ourselves (Moules, McCaffrey, Morck, & Jardine, 2011, p. 2). While we know

many teachers are mechanical and technical in the ways they approach teaching-and-learning,

perhaps disrupting the perpetuation of these common-sense approaches through discussion and

enactment is necessary.

My educational study connects seamlessly with hermeneutics' values, aims, and

understandings of the world, especially considering its focus on inquiry-based teaching-and-

learning and Whitehead's learning theory. Returning for a moment to ontology and

epistemology, all three (hermeneutics, inquiry, and Whitehead's learning theory) are situated in

an organic, alive, emerging worldview that is always unfolding *and* enfolding where knowledge

does not exist to be accumulated, memorized, or regurgitated. Instead, knowledge lives as

something co-created, contextual, and understood as part of one's being and the collective.

Hermeneutics intimately connects with and emerges from a post-postmodern paradigm.

According to Jardine and Siedel (2012), hermeneutics, "Provides a detailed articulation of how

human understanding operates, how it is intimately and inevitably linked to traditions, ancestry,

and the life-world of images and ideas that we and our students have inherited" (p. 1).

Hermeneutics offers the possibility to reimagine teaching-and-learning—in a way not enslaved

by the current language of education. Hermeneutics does not already know the way things will

play out, unlike education within modern and postmodern frames, which promises teachers a

faster, easier, and more productive way of "doing" teaching-and-learning through the latest and

greatest reform(s). Hermes, on the other hand, remains uninterested in promises or ensuring the

ease or predictability of things. Hermes appears as a messenger from the Gods and the only God

trusted with crossing between the three dimensions of Heaven (Olympus), Earth, and the

Underworld.

  Hermes: The navigator. Defining (once and for all), categorizing or containing

philosophical hermeneutics, remains impossible—thanks to the mythic figure Hermes, whose

trickster nature always tries to guide us in different directions (Moules, 2002). Hermes, a Greek

God from whom the interpretive tradition of hermeneutics was named, was the son of Zeus and

Maia (Stassinopoulos & Beny, 1983). Hermeneutics owes a lot to Hermes because of his abilities

in navigating Olympus, the Underworld, as well as the world of mortals. His ability to move

amongst and between worlds heralded him as a god of boundaries, transmissions, and roads.

Hermes acts as the doorkeeper and the guarder of entrances, illustrating Hermes' close

connection to doors and doorways. Again, the vision of Hermes as being in-between places

(inside or outside of the door) revolves around other middle-ways, such as "the alteration

between personal and public, conscious and unconscious, image and word" (Fidyk, 2010, p. 12).

Both of the preceding spaces and the liminal spaces between each of these worlds remains

needed because within these spaces the "pedagogic lives" (Fidyk, 2010, p. 13). The pedagogic

lives in "the middle place between our personal and public lives—our ontological and

epistemological positions and our teaching and curricular activities" (Fidyk, 2010, p. 13).

Articulated in hermeneutic work are Hermes' abilities to work within these in-between spaces.

Another of Hermes many responsibilities was messenger or herald of the gods. Hermes was a guide for the deceased souls to the underworld, a protector, as well as a patron of travellers—both the mortal and divine (Leadbetter, 2006). Hermes was also charged with being a trickster when it suited him—usually in order to outwit the gods and in some instances to come to the aid of humankind (Hermes, 2013). As a trickster, Hermes "know[s] how to seem unknowing while actually knowing" (Fidyk, 2010, p. 14). The intended spirit of hermeneutics today reflects Hermes' characteristics and his world.

The world "is not the heroic world of objective facts and rigid absolutes, but the shifting of reality that includes endless transformation" (Stassinopoulos & Beny, 1983, p. 196). Mercurial in nature, Hermes always seems to be everywhere and "whenever things seem fixed, rigid, 'stuck,' Hermes introduces fluidity, motion, new beginnings—and the confusion that almost inevitably precedes new beginnings" (Stassinopoulos & Beny, 1983, p. 190). Here, one can seamlessly connect the attributes of Hermes with Whitehead's process philosophy and learning theory, both of which are fluid, alive, and unfolding. According to Plato, Hermes was known as the god of language and speech and able to astutely attend to signifiers and signs, all of which contribute to the tradition of hermeneutics. (Stassinopoulos & Beny, 1983)

Monday, December 17, 2012:

I sit beside the bookshelf in our living room while I write and read. In the bookshelf are many books that were my grandmother's. She loved books, even just to hold them or look at them. When she died, I was given many of her treasured books. One of these books is *The Gods of Greece* by Arianna Stassinopoulos and Roloff Beny (1983).

I don't recall ever really looking and reading this book, although I remember moving its weightiness to and from several different places. It wasn't until I was introduced to the Greek God Hermes that I took notice of the book and began to explore its contents. My grandmother's spirit lives in these books and so to be able to use one in a way that brings my work to life seems particularly fitting.

Interpretive Boundaries: Betwixt and Between the Shorelines

Life erupts at the boundaries. (Jardine, 1994b, p. 9)

Hermeneutics, simply put, concerns itself with the interpretation of the world and acts as a theory of interpretation. As Smith (1991) writes, hermeneutics concerned itself with: "the question of human meaning and of how we might make sense of our lives in such a way that life can go on. . . . Hermeneutics is about finding ourselves, which also, curiously enough, is about losing ourselves" (pp. 200–201). Finding and losing oneself requires openness to the potentialities of the world and recognizing hermeneutics' main tenet that the world remains interpretable. Its history endures and must be traced back to its roots, acknowledging its ancestry and situating the study for the reader.

Historical passages. A historical perspective or a tracing of the history of hermeneutics remains important because it helps one understand which paradigm hermeneutics lives within. A key principle of philosophical hermeneutics stands that we are all historical beings and in each moment our ancestry shapes, consciously or unconsciously, the ways we live and interpret our world.

Friedrich Schleiermacher (1768–1834). While contemporary hermeneutics credits itself to Schleiermacher, he never published any of his own works on the topic (Grondin, 1985, Palmer, 1969, Moules, 2002). His influence came instead through lecturing on the topic of hermeneutics, specifically hermeneutic thinking and practice. Schleiermacher's hermeneutic legacy is threefold: the significance of language in understanding; the necessary creativity involved in interpretation, and the relationship between the part and the whole in the interpretive

process, known today as the hermeneutic circle[15] (Moules, 2002; Smith, 1991). Schleiermacher

also communicated that understanding as a continual and emerging process, rather than a final

event (Smith, 2006b).

Wilhelm Dilthey (1833-1911). Wilhelm Dilthey was Schleiermacher's student and was

the first to distinguish between the hard and soft sciences—natural and human sciences (Smith,

2006b). His main contribution to hermeneutics was focused on methodological concerns of

understanding, especially between the natural and human sciences. Dilthey insisted that each

science needed its own research method (Smith, 2006b). In line with this thinking, Dilthey

suggested human nature and other forms of nature were different from one another. Humans are

historically constructed through language, culture, as well as other contexts, suggesting we are

always in process and understanding always continues (Smith, 2006b).

Good interpretation for Dilthey revealed itself in the manifestation of our daily

experiences, emerging through creative expression. As well, Dilthey was the first scholar

suggesting and emphasising texts as superior to speech. In earlier times, speech or oral traditions

reigned supreme over text, but Dilthey refuted this, claiming written communication was greatest

(Moules, 2002; Smith, 1991). Interpretation's role, according to Dilthey, was uncovering the

original meaning or intention of the author. However, trying to ascertain an author's original

meaning remains an impossible quest because one always interprets from a particular time,

place, and experience, different from the author's. The "right" interpretation does not and cannot

lie with/in the original author. As well, Dilthey's work hints at an approach more at home with

the natural sciences, embracing human beings and nature as separate entities. His work struggles

to wholeheartedly embrace an approach without the certainty promised in the natural sciences

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[15] The hermeneutic circle is discussed in greater depth later in the section.

(Smith, 1993). Unlike Dilthey, Husserl embraced a more integrated and interconnected approach to interpretation.

Edmund Husserl (1859–1938). Edmund Husserl is considered to be the father of phenomenology. Phenomenology can be described as a sensibility thoroughly and richly describing a specific event, experience, or phenomena to get to its essence. Hermeneutics, on the other hand, does not separate or isolate the experience from the world in which it takes place, but understanding exists as something alive, continually taking shape, and emerging within the Life world. "Husserl introduced the notion of the 'life world' (*Lebenswelt*) to characterize our sense of the world as it is there for us before we say or do anything about it" (Smith, 1991, p. 191). For hermeneutics the world remains "always already" everywhere alive—and interpretable (Gadamer, 2004; Moules, 2002). A significant difference concerning hermeneutics and phenomenology exists with respect to the world and one's experience. Phenomenology believes in bracketing or parcelling out one's experiences to understand its essence or its truth (Moules, 2002). Hermeneutics, on the contrary, concerns itself with the ways these experiences live in the world, believing they cannot be separate from their ecosystem (Moules, 2002).

Husserl's work commonly associates itself with the notion of intentionality. According to Moules (2002), "This important idea embraces the idea that all experience is of something and that thinking and interpreting are about the world. It suggests that we are always already connected to the world" (p. 5). Intriguingly, Husserl commonly refuted that his work had any connection to hermeneutics. However, we can see that indeed, whether Husserl acknowledged it or not, there were and are philosophical connections between phenomenology and hermeneutics. In a sense, as Moules (2002) and Jardine (1994a) proclaim, hermeneutics and phenomenology need each other. Hermeneutics without the life world (*Lebenswelt*) would leave interpretation

without a context (Moules, 2002). However, unlike hermeneutics, phenomenology does not ask what might be at play in the experience or try answering the question: how did it come to be *this* way?

Martin Heidegger (1889–1976). Husserl's student, Martin Heidegger could be considered a game-changer in relation to hermeneutics. Whilst Heidegger's work was situated in the lifeworld (*Lebenswelt*), he broke free from "Husserl's ontological neutrality" (Moules, 2002). Specifically, Heidegger moved away from the phenomenological notion of "bracketing." Bracketing suggests the world can be kept at bay or separate from the individual, her experiences, and the truth of the experience can be known once and for all. Heidegger's understanding of interpretation as a way of being in the world rocked Dilthey's work, cultivating a method for interpretation (Smith, 1991). Thinking in this vein no longer allowed for a universal, stable, and solitary method of interpretation.

Heidegger's work explored and contributed to an understanding that human beings are historically and temporally situated. People make sense of their world with/in the world—in other words, understanding acts as a cooperative venture between the person and the world (Laing, 2013). For Heidegger, understanding arises through language, but life does not require explanation, rather it exists as "revealing and concealing, coming and going, present and absent—and the work of hermeneutics is entering into the interpretation of these things" (Moules, 2002, p. 15). Understanding, for Heidegger, does not concern itself with a method or procedure of interpretation. "It is not something we consciously do or fail to do, but something we are. Understanding is a mode of being, and as such it is characteristic of human being, of *Dasein*" (Ramberg & Gjesdal, 2013, para. 30). Heidegger's (2010) hermeneutics concerns itself with the conditions of *Dasein* or being in the world, reflecting an ontological issue (Laing, 2013,

Moules, 2002). Some would say Heidegger's work radically changed and even transformed

hermeneutics (Moules, 2002; Smith, 1991).

Hans-Georg Gadamer (1900–2002). Hans-Georg Gadamer, a student of both Husserl

and Heidegger, remains one of the most recognized hermeneutic scholars. Many of the ideas he

nurtured were initially proposed, "and brought under fire" by Heidegger (Caputo, 1987, p. 95).

Concepts such as, "preunderstanding, the hermeneutic circle . . . the theory of horizons"[16]

(Caputo, 1987, p. 95) led to his work being known as philosophical hermeneutics[17].

Philosophical hermeneutics from the German philosophical tradition primarily concerns itself

with understanding and interpreting the world. According to Coltman (1998): "Gadamer actually

succeeds in recovering a new way of philosophizing . . . the idea of remaining open to the

possibility of being wrong, the idea of constantly putting one's own ideas at risk, constitutes the

very core of philosophical hermeneutics" (pp. xi-xii). The idea of "remaining open" alleviates

the burden and fixation with method or methodology because how one inquires into a topic

cannot be separated from the topic itself. In other words, one can never know in advance the way

one will proceed with an inquiry because the focus of the investigation determines, at least in

part, the way one proceeds (Smith, 2006b).

> Hermeneutics is the art of interpretation or understanding, and, for Gadamer, always
> signifies an ongoing, never completable process of understanding, rooted in human
> finitude and human 'linguisticality' *(Sprachlichkeit)*. Gadamer follows Heidegger's
> *Being and Time* in seeing understanding as *the* central manner of human being-in-the-
> world. Humans are essentially involved in the historically situated and finite task of
> understanding the world, a world encountered and inhabited in and through language . . .
> Philosophy, then, is a conversation leading towards mutual understanding, a
> conversation, furthermore, where this very understanding comes as something genuinely
> *experienced*. (Moran, 2000, p. 248–249)

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[16] Preunderstanding (or prejudice), the hermeneutic circle, and the concept of horizons are explored in greater depth
later in the chapter, discussing the requirements of the hermeneutic scholar, as well as textual interpretation.
[17] One could argue, though, that all hermeneutics is philosophical.

Gadamer's (2004) hermeneutics, as Moran articulates suggests language—its form and

function—reveals the evidence of one's openness to possibility, as well as one's transformation

as they meet and engage in life (Smith, 1991). Interpretation and the experience of understanding

for Gadamer act as a "profoundly linguistic event" (Yeo, 2007, p. 58). The way one understands

life and the world tethers itself to language and cannot

be separated from the interpreter (Moules, 2002).

Hermeneutic interpretation also requires insight,

cultivated through understanding our own historicity and

experiences in new ways. Understanding through our

historicity remains possible because we *are* historical

beings belonging to history (Moules, 2002).

> Insight is more than knowledge of this or that
> situation. It always involves an escape from
> something that had deceived us and held us
> captive. Thus insight always involves an element
> of self-knowledge and constitutes a necessary
> side of what we call experience in the proper
> sense. Insight is something we come to.
> (Gadamer, 2004, p. 350)

However, insight cannot be guaranteed and never exists

"once and for all," rather it remains temporary, partial,

and contextual.

Contemporary tracings.

> We ought to be like elephants in the noontime sun in summer, when they are tormented
> by heat and thirst and catch sight of a cool lake. They throw themselves into the water
> with the greatest pleasure and without a moment's hesitation. In just the same way, for
> the sake of ourselves and others, we should give ourselves joyfully to the practice.
> (Pelden, 2007, p. 255)

July 17, 2012

The idea of "fluidity" and Whitehead's "stream" lingered with/in me as I was on my run, looking over the Elbow River. The river is always, in every moment making itself anew, which is why one must always be present for its offerings and gifts. For me, this is also true of hermeneutics—one must be open to possibilities/openings/gifts that the individual and/or the text may be willing to offer.

As I continue on my 5km run, far above the river, I can see it's meandering through the valley that it has created. I am taken back to some of the readings I had done earlier in the day about the breadth and depth of a study. Relating this river as a metaphor to these concepts, I note that from my vantage point, I am able to get a sense of the whole river, but only when one wades into the stream is one able to feel the depth, direction, and strength of current. Only once one is willing to wade in, will one be able to begin to understand its nature. So it is with this study . . . I must wade in . . . and be careful never to turn my back on the current.

The preceding passage, according to Jardine (2012b), acts as a most-fitting introduction to hermeneutics because it captures the joy that can be felt through interpretive work and, also, the sheer torment, suffering, and hell of its practice—like the elephant tormented by heat and thirst from the blazing summer sun. However, the joy and suffering are cyclical so neither lasts forever. Life and death, full and new moon, summer and winter—and everything in between, all have their time and cycles. Describing hermeneutics this way, as having cycles as well as joyfulness of practice, unearths Whitehead and his philosophical ideas. Again, as in preceding sections, there arises an interweaving of worlds between hermeneutics and Whitehead's (1929a) Rhythm of Education where there must be enjoyment and also joy for meaningful learning. Whitehead (1929a) explains: "Without the adventure of romance, at the very best you get inert knowledge without initiative, and at the worst you get contempt of ideas—without knowledge" (p. 33). Pelden's (2007) excerpt echoes Whitehead's cosmology, which supports the interconnectedness of all beings with one another, such as with the animals (e.g. elephants) and ecology (e.g. trees).

In this section, I discuss contemporary hermeneutic scholars whose work has and continues to inform and shape my life and my research. Although Moules' work mostly couches itself in the discipline of nursing, it remains pedagogic because of its concern with the meaningful practice of nursing, just as education concerns itself with the meaningful practice of teaching-and-learning. Jardine's and Smith's work, on the other hand, has been solely dedicated to the deeply hermeneutic practice of teaching-and-learning. All three researchers take up the work of hermeneutic scholars, such as Gadamer, with insight and ease. Jardine's, Smith's, and Moules' work and their interpretation of hermeneutics heavily influence this work.

Specifically, through *The Descarte Lecture*, Jardine (2012a) opens up the potentialities inherent in interpretive work, through German philosophers, such as Gadamer, and also Buddhism, through authors such as Pa-Kha-Tsong. *The Descarte Lecture* speaks to "the way" of interpretive work and offers a rich starting point discussing hermeneutics. Jardine offers a key question one asks while engaging in hermeneutic work: "what the hell is going on" (p. 2)? At this juncture the researcher must traverse the path to investigate, question, and "face[ing] the afflictions," both of the thing being investigated and the personal afflictions along the way (p. 2). The nature of hermeneutic work acts such that the one doing the research cannot be separated from the subject of the research itself. Indeed in a post-postmodern cosmos, the question becomes the subject pressing upon the researcher as its object. It answers the call and the research arises and emerges as the third. In this way, post-postmodernity honours that we are part of a creative collective. As well, hermeneutics demands the researcher take time to nurture and practice it, which is why there is no rushing it. It demands, according to Jardine (2012a) "reading as if your lives depended on it" (p. 4) because the texts are part of the practice of hermeneutics; they are pedagogical and help to show us the way.

Jardine (2012a) discusses how painful interpretive work can be, requiring one to trace back to "how it's ended up this way" (p. 9). Thinking, "about what's *already been done to us*" (p. 9) does not allow one to continue to dwell on the superficial and simply scuttle from surface to surface like a water strider might. "One of the fundamental beliefs in interpretive work is that this isn't simply 'the way things are'" (p. 9). Things have turned out a certain way; however, to more fully understand how and why they have turned out a certain way requires us to "wake up" and to explore what is going on (p. 9). As Jardine (2012a) reminds us, there are difficulties in learning and understanding interpretive work.

> *[It's] not* subjective, it's *not* about personal experiences, it's *not* about people telling their story and finding themes, that is all a crappy version of quantitative research that is found in almost every single book about how to do qualitative research. It is simply falling for the shadow-version of interpretive work that the natural sciences allow. (p. 24)

More broadly, in qualitative research the language used may appear interpretive and inquiring however, it often roots itself within the natural sciences, privileging modernity. For example, in qualitative research the number of participants often becomes an issue—ensuring one has enough participants for the research to be valid and generalizable. As well, themes might be generated from the number of participant responses. Oftentimes the language used appears interpretive and inquiring however, once one looks behind its veil and unpacks it, the connection to modernity reveals itself. Terms such as transferability, generalizability, and validity continue to exist in the pages of qualitative research textbooks (Creswell, 2013). The difficulty lies in understanding the life-world without falling into the traps of modernity. Although I have only touched the water with my toe in relation to the scope and depth of Jardine's work, I continue "read[ing] as if [my] li[fe] depended on it" (p. 4), knowing it informs and shapes me and my understanding of interpretive work and life.

Fishing Gear: The Requirements of the Hermeneutic Researcher

This particular section does *not* exist as a "how to" guide for hermeneutic researchers because organizing it in such a way would suggest a particular formula or method for a hermeneutic study, which would be the antithesis of interpretive work. Rather, the nature of the topic, the particularities of the participants, and the presence of Hermes informs the ways(s) a researcher might proceed. At the same time, being mindful of particular ways of approaching hermeneutic inquiry might be helpful for the researcher.

In hermeneutic inquiry, the role of the researcher: "lie[s] in a belief in the interpretability of the world and in a willingness to allow ourselves to be read back to us" (Moules, 2002, p. 12).

Such interpretation however, remains partial and temporary. The nature of hermeneutic inquiry

connects with Whitehead's cosmology of being, where the universe lives in us and we are in it—

through a rhythmic and organic flow, each is constantly informing the other. Moules asserts,

"Hermeneutics demands that we proceed delicately and yet wholeheartedly, and as a result of

what we study, we carry ourselves differently, and we live differently" (p. 12). In his writing,

Smith (1991) discusses the notion of transforming oneself through the research process. The

researcher must cultivate openness, so through the process of researching (and living),

transformation remains possible. Through hermeneutics, the potential of transforming oneself

exists because new light can be shone on traditional problems informing that ways one thinks

and lives in the world. Jardine (2012, personal communication) advises that, hermeneutics

requires maturity and composure. Similarly, Gadamer refers to *Bildung* as, "the *concept of self-

formation, education, or cultivation*" (Gadamer, 2004, p. 8). As well, "the result of *Bildung* is not

achieved in the manner of a technical construction, but grows out of an inner process of

formation and cultivation, and therefore constantly remains in a state of continual *Bildung*"

(Gadamer, 2004, p. 10). Thus, cultivating *Bildung* endures a difficult and on-going life process.

       Hermeneutic interpretation with/in the eddies. According to Moules (2002),

"hermeneutic interpretation comprehends the recognition that occurs when something rings

"true" of what is said; there is a familiarity, a kinship, a resonance, and a likeness" (p. 3).

Wittgenstein (1986) characterizes in his own writing the notion of "family resemblances" (p. 32).

Whether interpreting a text or an experience, there a familial sense arises when we already know

or recognize something in the complexity of it all.

Horizon. Similar to the notion of family resemblances in philosophical hermeneutics

exists Gadamer's (2004) concept of horizons. Gadamer defined horizon as "(t)he range of vision

that includes everything that can be seen from a particular vantage point" (p. 301).

> The concept of "horizon" . . . expresses the superior breadth of vision that the person who
> is trying to understand must have. To acquire a horizon means that one learns to look
> beyond what is close at hand—not in order to look away from it but to see it better,
> within a larger whole and in truer proportion. (Gadamer, 2004, p. 304)

Horizons are seen as one's boundaries of knowing, within which an individual's ancestry,

prejudices, expectations, gender, hopes, and so on. One makes sense of the world only within

one's particular horizon. Understanding remains possible, according to the theory of horizons,

when dialogue might unfold a "fusion of horizons" between self and another in which new

understandings might emerge (Smith, 1991, p. 193). In other words, there must be porosity to

one another's boundaries. A kinship, resonance or connection emerges through conversation or

textual engagement, allowing a better or different understanding to emerge. For a fusion of

horizons to unfold, each person must actively listen and hear the other.

If a fusion of horizons unfolds, it acts as an ongoing process, always combining old and

new "into something of living value" (Gadamer, 2004, p. 305), where what each person brings to

the dialogical encounter creates an opportunity for understanding to emerge (Smith, 2006b).

However, understanding only remains possible if an openness and willingness in meeting,

engaging and seeing something as new exists. The evidence of my openness to life as well as my

transformation resides within my language (Smith, 1991). A fusion of horizons requires the

researcher to engage with the text in open and creative ways. Interpretations unfold and emerge

as the researcher's horizon fuses with the text, allowing for the potentiality of texts to take on

new meanings. The Gadamerian notion of prejudice connects to one's horizon, suggesting one

makes sense of the world from within her own horizon.

Prejudice. Gadamer (2004) did not consider prejudice to be negative. The negative

connotation, remnant of modernity, only took hold after the Enlightenment, but clearly still

abides with us today. For example, modern science claims that distance between the researcher

and its object of knowledge remains not only possible, but also required. However, Moules

(2002), alerts hermeneutic researchers that one cannot know all of our prejudices because: "They

are intricately woven into the fabric of our lives, our beliefs, and our behaviours . . . but to

acknowledge that our prejudices move with us and stand in front and between us and the world,

filtering our perceptions and interpretations" (p. 12). Gadamer asserted that our prejudices are

necessarily with us as a starting point for the ways we think, act, and understand the world

(Smith, 1991).

> A person who believes he [*sic*] is free of prejudices, relying on the objectivity of his
> procedures and denying that he is himself conditioned by historical circumstances,
> experiences the power of the prejudices that unconsciously dominate him . . . A person
> who does not admit that he is dominated by prejudices will fail to see what manifests
> itself by their light. (Gadamer, 2004, p. 354)

In other words, we all have prejudices. However, the issue or problem arises when one does not

acknowledge or recognize one's prejudices in a particular situation *and also* what the situation

offers in learning and understanding ourselves within the Life world.

Smith (1991) asserts that to meaningfully work within the hermeneutic tradition there are

four requirements needed in cultivating one's "hermeneutic imagination" (p. 198). As discussed

earlier in the section, Smith has no interest in creating a "how-to" guide or hermeneutical

method. He is however, alerting the researcher to principles woven into hermeneutic research, to

be considered and honoured. The initial requirement Smith offers is "a deep attentiveness to

language itself, to notice how one uses it and how others use it . . . Our language is reflective of

our desires, our regrets, and our dreams; in its silences it even tells us of what we would forget"

(p. 199). The world remains interpretable and through language we try to make sense of and

understand the world. However, the attentiveness here to language does not reflect that of post-

modernity where one only exists in and through language. Rather, language acts as merely *one*

medium of making sense of, understanding, and interpreting the world. For Gadamer (2004),

through each and every word, the whole world-view emerges.

> Every word breaks forth as if from a center and is related to a whole, through which alone
> it is a word. Every word causes the whole of the language to which it belongs to resonate
> and the whole world-view that underlies it to appear. Thus every word, as the event of a
> moment, carries with it the unsaid, to which it is related by responding and summoning.
> (p. 454)

Here the use of center reflects Gadamer's modern bias, suggesting the word and therefore

language lives at the center of our existence. While Gadamer refers to the unsaid and its

implications, it still refers to language. Through language I reveal my openness to the life world

and the ways I might be transformed as I move through and interpret the world (Smith, 1991).

Language acts as one way meaning emerges with others,

such as through my conversations with student-teachers

in this research inquiry. At the same time, it does not

exist as the *only* way. I seek to move hermeneutics into

the imaginal of post-postmodernity, which does not

allow itself to be restricted by the cage of language.

Rather, the world exists through embodied and creative

ways of knowing and being—and not solely through

language.

An imaginal approach does *not* translate or read as "imagination." Rather, an imaginal approach to research is one that turns away from what the researcher and his/her ego wants from the work, but being in service to the work and what it wants from him or her (Romanyshyn, 2007). It "is a shift from an ego's perspective on research to the soul's perspective" (Romanyshyn, 2007, p. 82). Through the work, the researcher becomes "an agent for, and not the author of, the work" because she is in service to the "larger tale" making its claim on her through her complexes "for the sake of continuing that work" (Romanyshyn, 2007, p. 83).

A second requirement of a hermeneutic scholar is "a deepening of one's sense of the

basic interpretability of life itself. This remains a matter of taking up the interpretive task for oneself rather than simply receiving the delivered goods as bearing the final word" (Smith, 1991, p. 199). The responsibility of the hermeneutic researcher exists in practicing and seeing for oneself the interpretability of life in daily experiences. For one to develop a deep sense and appreciation for the interpretability of the world, it demands that the hermeneutic researcher practices the interpretive task in everyday experiences—understanding and experiencing the world as always everywhere present, alive, and interpretable. Similar to the excerpt earlier in this section by Pelden (2007) that, as hermeneutic researchers, we "should give ourselves joyfully to the practice" (p. 255).

Third, "The hermeneutic imagination works to rescue the specificities of our lives from the burden of their everydayness to show how they reverberate within grander schemes of things (pp. 200–201). The third requirement of the hermeneutic imagination relates to the hermeneutic circle and looking at the micro or specificities in relation to the macro or grand scheme of things—continually taking into consideration what came before in the micro and the macro, again and again, so as to interpret and make sense of it. At the same time, the researcher reads and returns to the texts and then reads them again. Being attentive and mindful of the specificities in our lives resists the grand narrative of modern science, based on objectivity, as well as, for example, the dualism of mind and body. Challenging the privileging of the modernity paradigm and its scientization, harkens back to Whitehead's cosmology of being and understanding the world as alive, connected, and dynamic (Fidyk, 2000). No separation exists in Whitehead's cosmology or post-postmodernity between one and the universe or vice-versa. Each—the known and the unknown always informs the other. Thus, for hermeneutics in an

animated or post-postmodern world, interpretation is informed by and co-arises in and through the creative and dynamic nature of the universe and the unconscious.

Lastly for Smith (1991), "Hermeneutics is about creating meaning, not simply reporting on it" (p. 201). The purpose does not lie in translating my subjectivity out of the picture but to take it up with a new sense of responsibility. Smith's final hermeneutic requirement connects to what Gadamer (2004) referred to as "the art of hermeneutic writing" . . . which according to Blum (1984) is "strong when its desire is to provoke new ways of seeing and thinking within a deep sense of tradition, bringing about new forms of engagement and dialogue about the world we face together" (pp. 201–202). Within the modern paradigm, positivist thinking claims objectivity and separation between the subject and the object rather than meaning being created collectively and not in isolation. Meaning, images, figures, ancestors, and even the spirit of the tree in my front yard informs my understanding and interpretations of the world. It remains impossible to separate ourselves from the very cosmos of which we are part. Each of the preceding requirements of the hermeneutic imagination as outlined and discussed by Smith, informs all aspects of this study, including its framework. Along with Smith, the work of Romanyshyn in Alchemical Hermeneutics is necessary and embraced as we navigate the streams of the inquiry. Alchemical Hermeneutics makes "a place for those more subtle ways of knowing too often marginalized by methods that do not take into account the unconscious presence of the researcher to his or her work" (Romanyshyn, 2007, pp. 259–260). Romanyshyn's work within Alchemical Hermeneutics allows for intuition, dreams, synchronicities, and feelings to have a place and for me to be fully present with the work in an embodied way.

Preparing for the Voyage: The Research Framework

According to Gadamer (2004), in genuine inquiry the possibility of establishing a correct method, independent of what it is one inquires into does not exist. Caputo (1987) agrees, "The concern with 'method' so characteristic of modern science . . . makes science subservient to method, so that method rules instead of serving, constrains instead of liberating, and fails conspicuously to let science be" (p. 213). The topic of inquiry holds part of the answer concerning the way it might be inquired into so one can never know a priori (as claimed in science) "the method" for proceeding. Inquiry acts as more of a kind of dialogical messing about, in tune with what the Greeks simply called "thinking" (Smith, 1991, p. 198). With this "thinking" I endeavour to provide a framework for this study, without becoming trapped and confined by the rules and objectivities, such as generalizability and validity, often plaguing pedagogical studies. As Smith (1991) describes: "hermeneutic inquiry is not validated by numbers but by the completeness of examining the topic under study and the fullness and depth to which the interpretation extends understanding" (as cited in Moules, 2002, p. 14). Therefore, in this study, as in inquiry, I seek depth of understanding, rather than a cursory overview.

Throughout this section and study the terms "method" and "methodology" will *not* be used to describe the process of research because it does not reflect inherent hermeneutic values. Values such as understanding as continuous and emergent, rather than "knowing" a priori; understanding as a way of being in the world; and meaning constituted through language opens the world to us. With these values in view, terms such as method or methodology are contradictory to the process of a hermeneutic inquiry. The terms used in this chapter communicating the process of the study will be "way" or "the framework" and these terms will be used interchangeably.

Location: The context for meaning-making. The interviews, often referred to as "data collection," or in this case the context for meaning making, took place between April and May 2013. The site for the study is a board-governed, publicly funded, independent school in Alberta with 600 students from Grades 4 through 9. Each grade has four classes of 25 students. Teachers share 50 students as they move between their Math/Science and Humanities subjects. Students also travel to other specialist teachers for Art, Music, Drama, and Physical Education. Each school day comprises eight, 40-minute periods.

The mandate of Potamoi School abides in rich inquiry-based learning experiences fostering engagement, curiosity, innovation, and creativity. Technology and outdoor education are integral components of the inquiry work. Each and every student at the school is provided with either an iPad or laptop. An enrichment fee of approximately $600 per year covers the iPad or laptop, the majority of school supplies (pens, paper, binders, rulers, and so on), as well as any and all school related field trips, guest speakers, and curricular supplies.

The majority of students come from across the city and are bussed to the school each and every day. Of importance, the school's population could be considered a reflection of many publicly-funded, non-independent schools in the region. For example, of the 600 students there are approximately 60 English Language Learners who receive provincial funding and at least another 10–15 students who no longer qualify for funding (i.e. their maximum allotted funding has been depleted). As well, there are approximately 30–40 students with other learning needs such as ADHD/ADD, spectrum disorders, and reading and math learning difficulties. Thus, approximately 12–13% of the school's population is considered ELL and another 5–10% have additional learning needs. The school has one inclusive practices specialist, one educational assistant, and one part-time counsellor to work with students. Further contextualization of

Potamoi School exists through the interpretation of its texts in Chapter 5.

Participants. I endeavoured to conduct my research *with* rather than *on* the student-teachers choosing to participate. Also, this research does not offer an explanation of the phenomena of inquiry-based teaching, rather my approach exists in understanding the ways in which student-teachers experience inquiry. All names used in this study are pseudonyms to retain confidentiality.

Once field placements for the school were set up through our school's Communication and Collaboration Leader, Dirk[18] and the university, I recruited Dirk to act as an intermediary for the study. As such, he provided student-teachers with a letter explaining the research opportunity, inviting them to participate, and requesting their contact information if they chose to participate. Extending the invitation to the student-teachers, via my colleague, was to help minimize any pressure they may have experienced if the researcher, as a teacher at the school, requests their participation. As well, it was important to clearly explain to the student-teachers that conceptualizations and understandings of inquiry, rather than the student-teachers themselves, were the topic at hand.

Participants were enrolled in the inaugural undergraduate education program at the University beginning in Fall 2011. There are two possible entry points into this particular Bachelor of Education program, either as a concurrent, five-year program or as a consecutive, two-year, after-degree program. The participants in this study were enrolled in the consecutive, after-degree program. To enrol in one's field placement, student-teachers complete a form asking questions regarding where they live, if they have a car, if they want a public or Catholic school placement, or if they prefer a placement in a rural area, and so on. The complicated process of

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[18] Dirk is a pseudonym to maintain confidentiality.

securing field placements does not usually allow for student-teachers or teachers to make

requests.

Participants in the research came from a cohort of nine student-teachers in their final,

eight-week field placement. Student-teachers are assigned to each and every school by the

university undergraduate field placement coordinator. The coordinator takes into consideration

the student teachers' preferences, as well as the availability of partner teachers at the schools.

The school and partner teachers receive this information several weeks prior to the

commencement of the practicum.

Of the nine student-teachers invited to participate in the research, eight student-teachers

accepted. However, one student-teacher left the program and his field placement prior to the

research commencing. I hosted a focus group conversation with seven and had two one-on-one

conversations with five of the student-teachers.[19] An interpretive study concerns itself with depth

of understanding rather than breadth, unlike quantitative studies where a minimum number of

participants are recruited so the ability exists to report statistically significant results. The focus

group took place the day prior to the completion of their field placement. The one-on-one

conversations were scheduled approximately one month apart from one another. Participants

were from the disciplines of Humanities, Math/Science, Fine Arts, and Physical Education.

Proceeding

Fishing the seas: gatherings. Multiple texts were gathered for interpretation and

consisted of: (a) university course assignments or artefacts; (b) planning documents created and

used during their field placement; (c) one focus group with seven of the student-teachers during

the final week of their field placement; and (d) two in-depth semi-structured, one-on-one

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[19] Two of the student-teachers in the focus group were unable to continue with one-on-one conversations due to
work commitments in another province and country, as well as intensive athletic commitments.

conversations with five student-teachers (one at the end of the eight-week field placement and one, one month after the completion of their field placement).

    Conversations. The main texts interpreted came from the transcripts of the semi-structured conversations with each participant. Each of the conversations lasted from 45 minutes to over one and a half hours. All conversations were digitally recorded and transcribed. The focus group took place at the school, in the library's collaboration room where student-teachers (and other teachers) consistently held meetings. I scheduled our one-on-one conversations twice over the course of one month after the completion of the field placement. Within these conversations, I was interested in emerging interpretations from the student-teachers themselves, rather than attempting to "judge" their nascent practice or simply describe them. Hermeneutically speaking, through the dialogical experiences the student-teachers and I shared, new understandings emerged. An invitation for the student-teachers to participate in the research outlined and addressed each of these elements facilitating their full understanding of the process (See Appendix B for a complete copy of the letter of intent).

    The questions I came with to the first semi-structured conversation allowed me to remain open to the way the dialogue flowed between the student-teacher and myself (See Appendix C, for a

Wednesday, September 5, 2012:

Fifty Grade 6 students are scattered at dusk in the middle of a forest situated on the Little Red Deer River. One wouldn't necessarily know it by the fact that you can really only hear the sounds of nature...other than the occasional muffled cough or sneeze. They are taking up what we have asked of them . . . "to stop outputting into nature and for a period of time simply take it in." There was also the hope, but not the promise, though, of the sound of coyotes . . . and they actually delivered. I was ecstatic and hopeful that the students were able to hear their faint calls.

I too wonder, as I try to find my way through hermeneutics if I will be able to hear the sometimes muffled call of the texts . . . the subtleties, the nuances . . . even the absences. How will I be able to? . . . will I be able to? "stop outputting" into the world and simply allow myself to take it in . . . to breathe it all in at once and to also be able to navigate the parts needed for that one breath. I return to the idea of the parts and the whole and the whole and the parts—each always informing the other . . . The magic spot time with my students is nearly over, but I truly hope they were able to embrace their experience . . . and just for a few moments able to feel the gift that nature has to offer us, if only we are willing to listen.

complete listing of potential questions). In addition, some of the questions were asked more than

once and other questions were added or omitted depending on the nature of the conversation, my

previous dialogic encounters with a particular student-teacher, as well as the "feeling" of the

ways the conversations unfolded. Each conversation was digitally recorded and transcribed.

Diving In and Living with the Conversations

First and foremost, it remains of import to note that the process of understanding the

texts[20] and my attunement to the texts guided me in how to proceed in and throughout my

interpretations. At the same time, there are certain approaches or ways one may take up

hermeneutically, which I attend to in the following section.

Hermeneutic circle. I attempted to read the texts hermeneutically which "involves a

playing back and forth between the specific and the general, the micro and the macro," known as

the hermeneutic circle (Smith, 1991, p. 190). However, the hermeneutic circle does not act as a

method or a procedure to follow. The hermeneutic circle exists as a metaphor, facilitating the

understanding of the process that I, as the researcher, move through, attempting to interpret the

texts. Acknowledging that as I move into the hermeneutic circle, I carry forth with me all of my

prejudices, my gender, my historicity, beliefs, teaching experiences, assumptions, and

expectations (Moules, 2002). According to Moules, when engaging with/in the hermeneutic

circle, one must be immersed and have a "dynamic and evolving interaction with, the data as a

whole and the data in part, through extensive readings, re-readings, reflection, and writing (p.

15). The process of the hermeneutic circle requires the researcher to "focus on recognizing the

particular, isolating understandings, dialoguing with others about interpretations, making explicit

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[20] By texts, I mean lesson plans the student-teacher may have created, the transcripts of the conversations, as well as books or articles I read at the time. It also means what I listened to and discussions I may have had with others. Each of the "texts" inform my understandings of the topic in particular ways.

the implicit, and, eventually finding the language to describe the language" (p. 15).

The hermeneutic circle exists similarly to Whitehead's ideas of the universe and the ways

it exists as unfolding, dynamic, and alive, just as rich and deep hermeneutic work must be.

During the hermeneutic circle, I took up readings related to particular ideas, concepts, words, or

phrases the participant(s) brought forth in our conversations, as well as re-reading works

connected to my process and/or the participants. As Gadamer (2004) suggests, understanding

emerges from and through language—both written and spoken. Romanyshyn (2007) expands

Gadamer's notions, including imaginal and embodied knowing. Endeavouring to more fully

describe the ways in which I attended to the data, I would be remiss not to mention

Wittgenstein's (1986) insights and advice concerning this process.

> As in spinning a thread, we twist fibre on fibre. Don't say "There must be something
> common." . . . For if you look at them you will not see something that is common to all,
> but similarities, relationships. . . . We see a complicated network of similarities,
> overlapping and criss-crossing: sometimes overall similarities, sometimes similarities of
> detail. I can think of no better expression to characterize these similarities than "family
> resemblances" (*Familienahnlichkeiten*). (p. 32)

Whitehead's rhythm of education and the stream are alive in Wittgenstein's (1986) spinning

thread analogy. As a hermeneutic researcher, I must trace the stream's tributaries, the wetlands,

the oceans, even the waterfalls, without expecting, searching, or saying there *must* be

commonalities amongst all of the water sources, but rather seeing the kinship that *might* be

there—the family resemblances. The way one approaches the interpretation of the lifeworld, as

well as the overall research study has ethical implications and concerns that must be attended to.

The following section outlines some of the concerns and the ways I addressed them throughout

the study.

Ethical Concerns and Procedures

Working with student-teachers during, what can be, a stressful and personal part of their journeying into teaching and can be intense. With this in mind, every effort has been made to keep the identity of student-teachers participating in the study completely confidential. All records and transcripts have been kept private. In this vein, pseudonyms have been used. I obtained ethical approval from the University of Alberta and written permission from the student-teachers participating in the study, which was part of the ethical procedures. While a teacher at the school, I did not work directly with a student-teacher in my own classroom to minimize potential for concerns with power differential.

Boundaries of the Study

One natural and important limitation of this study remains the fact that each individual's experience with inquiry will be unique to that individual. Even though there may be patterns and similarities in experiences of student-teachers with/in inquiry, this work is not meant as a means to predict a student-teachers' actions or thoughts in the ways they conceptualize inquiry or seek or make thematic clusters. Nor does it intend to provide a how-to guidebook to teach or learn inquiry. Rather, by a thorough, careful, and attentive reading of the particular cohort of student-teachers, my hope lies in anyone reading this work, cultivates deeper insights into the ways inquiry is lived and understood during a field placement at and inquiry-based school.

However, this study will not allow me to "distance" myself from the research with the promise of "objectivity" because in interpretive research the researcher always remains present and one of the participants. Another limitation exists in the study only taking place in one middle school in a suburb in Alberta. While hope lies in this work being relevant to other teaching contexts, it is not meant to be generalizable. Concerning teacher education, Falkenberg and Smits

(2011) write, "research does not generate reproducible findings—thus, the findings are not

generalizable—because the findings are always tentative and contextual, since the context in

which we and our graduates teach are not at all 'fixed and stable'" (p. 4).

> The aim of interpretation, it could be said, is not just another interpretation but human
> freedom, which finds its light, identity, and dignity in those brief moments when one's
> lived burdens can be shown to have their source in too limited a view of things. (Smith,
> 1991, p. 189)

As part of my research process, I hope to experience and address this "light, identity, and

dignity." I also hope "human freedom" may find its way in and through this research because it

is through this, as Fidyk (2011) suggests the potential for transformative education might exist:

> In this way, without exception, our own liberation from suffering is intertwined with the
> liberation of others. It means rather than seeing other beings as adversaries, we must see
> them as fellow participants in this endeavor to freedom. This endeavor is central to
> transformative education. (Fidyk, 2008, p. 154)

Within the context of this study transformative education cannot be expected or promised, as this

way of thinking would turn its back on everything previously discussed. Rather an offering of

openness to the potentialities that might exist for a transformation in education lies here.

> In the end . . . hermeneutics does not lead us back to the safe shores and terra firma; it
> leaves us twisting slowly in the wind. It leaves us exposed and without grounds, exposed to the
> groundlessness of the mystery . . . this intractable mystery is the final difficulty that hermeneutics
> is bent on restoring.
> (Caputo, 1987, p. 267)

Chapter 5

"Going Down the Rabbit Hole:"[21] Interpretations of Culture and Place through Texts

Alice started to her feet, for it flashed across her mind that she had never before seen a rabbit
with either a waistcoat-pocket, or a watch to take out of it, and burning with curiosity, she ran
across the field after it, and fortunately was just in time to see it pop down a large rabbit-hole
under the hedge. In another moment down went Alice after it, never once considering how in the
world she was to get out again. The rabbit-hole went straight on like a tunnel for some way, and
then dipped suddenly down, so suddenly that Alice had not a moment to think about stopping
herself before she found herself falling down a very deep well. (Carroll, 2006, p. 12)

For the purpose of this chapter, I needed to find my way through and into the texts

student-teachers received or accessed during their two-year consecutive (after degree)

undergraduate education program at a university in Alberta, as well as texts offered to them at

Potamoi School during their final eight-week field placement. The texts from the University

included: websites outlining and describing the overview of the program and courses; course

outlines and information and descriptors of the four field experiences. Texts from Potamoi

School included: The online professional learning journal (blog); a Keynote presentation given to

student-teachers at the school; a resource package comprising the guiding principles, vision,

mission, and goals of the school; teaching and learning frameworks; the Galileo Educational

Network Inquiry Rubric; the school calendar and school timetable. Reading, analysing, reading

other literature, reviewing, questioning, rereading, and sitting with the texts, informed my

interpretation process. I compared and contrasted the framework or vision of the University's

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[21] Initially for this chapter I had continued with my metaphor of water, using the term estuary. The Oxford English
Dictionary defines estuary as "the tidal mouth of a large river, where the tide [of the ocean] meets the stream" (n.d.).
I was using the term to illustrate the ways student-teachers navigated between and with/in both the university
(stream/river) and the school (ocean). The metaphor felt forced. In the span of five days the idea of *Alice in
Wonderland* and/or "going down the rabbit hole" surfaced and then grabbed hold of me and I it. While I chose the
metaphor, the metaphor also chose me. "Going down the rabbit hole" represents my process in interpreting the
texts—diving feet first into the texts; having absolutely no idea where the texts will take me; feeling as though the
journey interpreting them will never end; and hoping that I will come out the "other side" with something interesting
and insightful. As well, I suspect many student-teachers feel the same way when they begin their field placement—
as if they too are "going down the rabbit hole" simply hoping to survive.

Bachelor of Education Program[22] with its course outlines. I scoured all of the texts for the term

or reference to the term inquiry. I also looked through all texts for reference to synonyms often

used in lieu of inquiry, such as project-based learning, hands-on learning, discovery learning, and

experiential learning. If a term, idea, concept, activity, reading or assignment in the texts struck

me or caught my attention I highlighted or starred it so I could return to it when needed. I also

wrote notes on the course outlines—questions, comments, ideas or connections I made to other

researchers. The main question framing Chapter 5 is: *In what ways do the texts shape the world*

the student-teachers enter?

Culture: Falling In

Place entangles itself within the culture of Potamoi School and the university and was at

play in informing the ways student-teachers understood inquiry-based teaching-and-learning. In

this chapter, texts serve as an invitation to "place" for the student-teachers because they come

in/to the school through these texts—remembering that place does *not* exist statically, but *always*

porous, evolving, and emergent.

Understanding the ways culture and place emerge, co-develop, and are at play for the

student-teachers through the texts acts as the focus of this chapter. Some ideas or understandings

will emerge or be revealed and others will remain hidden or closed (and a range in between)—

thus the nature of *Alethia* lives here. *Alethia* is the Greek word for "the event of concealment and

unconcealment" (Caputo, 1987, p. 115). It occurs when something opens up or reveals

something that was closed before—knowing that with every opening up a closure of something

else also exists. Some things, then, must necessarily be left behind. *Alethia* comes from the word

Lethe, the river of forgetting in Hades where souls cross over into the next life (Moules, 2002).

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[22] The specific University and the Bachelor of Education program where the student-teachers are enrolled is not revealed in an attempt to maintain the confidentiality of the participants of the study.

Forgetting, as one passes into the next life might be a process the student-teachers go through as they move from their life at or within the university to their life in the school during their field placement. What might be opened up or concealed by texts concerning inquiry and in what ways might inquiry be shaped by the various texts?

Using the term "culture" to help describe and understand life in schools originated with Waller (1932). However, similar to the term inquiry, a single or universal agreed upon definition or interpretation of culture does not exist (Deal & Peterson, 1999). According to Williams (1985), culture remains one of the most complicated words in the English language because of its history as well as its wide and varied cross-discipline usage. Culture was taken from the Latin derivation of *cultura*, having numerous meanings such as "a cultivating, agriculture," and "figuratively [as] "care, culture, an honouring" (culture, n.d.). However, tending and cultivation were its main medieval meanings and entirely based on culture as a process—"the tending *of* something" such as crops and animals in agriculture (Williams, 1985, p. 87).

The complex notion of culture can be integrally connected to place. Cultures are reflected in the messages given and received in a specific place and/or context. For example, what is important, what needs attending to and what can be ignored, as well as the ways the school functions or operates reflects the culture of the school (Blenkinsop, 2012). Also, culture created within and by place, emerges from the discourse or language within that particular place "because language is at the intersection of the individual and the social, of text and discourse, it both reflects and construes the . . . 'context'" (Kramsch, 1993, p. 67). Within the context, a monolithic or unitary culture does not exist, rather there are multiple realities with often competing and contradictory agendas, ideologies, and discourses vying for attention (Britzman, 2003). To be clear, "culture is not a static and received script for enactment of behaviors, [*sic*]

rules, values, commitments, and perspectives defined elsewhere" (Britzman, 2003, p. 70).

Culture exists as emergent, evolving, temporal, and often contested (Clifford, 1986). Teachers

are continually in the process of, often unconsciously, interpreting, inventing, contesting, and

negotiating culture, and student-teachers arriving at a school understand themselves within and

in relation to others in the enculturated place.

Hurling into the Texts

As an introduction to and outline of the undergraduate Bachelor of Education program at

the University, its webpage asserts that its program allows student-teachers to understand the

complex qualities of teaching-and-learning through dimensions of inquiry. The dimensions have

student-teachers specializing in a particular discipline and through ethical action in contemporary

teaching and learning student-teachers learn about learning.

Although the webpage suggests the guiding principles of the program are five dimensions

of engaged inquiry, the text in the majority of the course syllabi or outlines reflect inquiry in a

modern paradigm. An overview of the syllabi from the university suggests the following: the student-teachers do learn of learning; they do so within their specializations; at times the courses engage students in contemporary contexts (schools); student-teachers are involved with teaching and learning communities (they need to, at times, collaborate on assignments and work

Monday, September 30, 2013: Syllabus. An aptly used word in the current context of the University. The etymological tracing of syllabus from the 1650s is a "table of contents of a series of lectures, etc.," from Late Latin *syllabus* "list" (n.d.). For most of the course syllabi, they are simply a listing of lecture topics and readings rather than living documents emerging organically depending on the students, the instructor or professor, the time, the place, and other current events.

with a mentor teacher in their practicums); and they are required to act ethically while in the

program. However, I suggest each of the dimensions can be taught, enacted, and learned without

"engaged inquiry." In fact, "inquiry" is rarely mentioned within the course outlines. As well, the

"lecture," textbook chapters, and assignments most instructors offered in their course outlines do

not appear to invite student-teachers to engage in inquiry. Also, with the lecture style format

outlined in many of the course syllabi, it remains difficult to ascertain whether instructors or

professors enact or model inquiry-based teaching-and-learning within their own classrooms. If

engaged inquiry acts as the thread connecting the program and courses together, it appears to

have frayed. To put it differently, I return to Alice for help.

> It was all very well to say 'Drink me,' but the wise little Alice was not going to do *that* in a
> hurry. 'No, I'll look first,' she said, 'and see whether it's marked "*poison*" or not'; for she had
> read several nice little histories about children . . . and she had never forgotten that, if you drink
> much from a bottle marked 'poison,' it is almost certain to disagree with you, sooner or later.
> (Carroll, 2006, pp. 17–18)

> However, this bottle was *not* marked 'poison,' so Alice ventured to taste it, and finding it very
> nice, (it had, in fact, a sort of mixed flavour of cherry-tart, custard, pine-apple, roast turkey,
> toffee, and hot buttered toast,) she very soon finished it off. (Carroll, 2006, p. 18)

Creators and administrators in the Bachelor of Education Program at the university have drunk

the potion (of inquiry). According to the description of the program, understanding the

complexity of teaching requires learning through the dimensions of engaged inquiry. However,

as with Alice, the broad ideal of inquiry seemingly shrinks. Once one inquires into the

program—the course descriptors and the required learning tasks—the big ideas and dimensions

of inquiry do not appear so big after all. For example, in the course outline of *Basic Principles of*

Assessment, student-teachers are required to "develop an assessment plan for a unit of

instruction."

Understanding of assessment and assessment principles remains critical in learning to

teach. At the same time, according to the course outline, the student-teachers do not need a

specific, "real life" context to create the unit and assessment plan. As well, students are

comprised into groups of 10–12, organizing themselves based on a common subject area and

grade level. A context for inquiry has the potentiality to help the work, understanding, and

experience remain alive. Meaning, being informed by the students, culture, and place one is

working with/in.

At Potamoi School, inquiry-based teaching-and-learning is ubiquitous in its discussion

and promotion as "what we do." In all texts associated with the school, inquiry remains at the

forefront. For example, in the school's online Professional Learning Journal, a blog discusses

inquiry at the school.

> At the core of our program is inquiry—an approach to learning and teaching (including teacher learning) that is the foundation of all we do. Our thinking around inquiry is that it is more than just 'doing projects' but is rather nurturing a disposition toward critical thinking, reflection and idea improvement in all learners in our building.[23]

Galileo's Educational Network Rubric for discipline-based inquiry is a resource and frame that

Potamoi has used and referred to for many years—especially in the early years of its existence.

Rather than phases, checklists, or plans to follow, the Galileo Educational Network generated

eight "dimensions of inquiry" (What is inquiry?, 2013, para. 4). Creating the eight dimensions

was a way to enhance one's understanding of rich, thoughtful, and deliberate inquiry and what it

can and might entail.

Potamoi School has, in the past, used the language and framework of the Inquiry Rubric

to discuss inquiry-based teaching-and-learning. As well, the Inquiry Rubric was also provided

for student-teachers on their second day at the school as part of a resource package. (see

Appendix A for the Galileo Inquiry Rubric).[24] However, what message(s) might be conveyed to

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[23] It is important to note in this chapter that citations and the full reference from a particular Professional Learning Journal would reveal the school site and therefore will not be provided. The lack of detail is not an indication of sloppy work on my behalf. Rather, it is a concerted effort to maintain the confidentiality of the student-teachers, for which I am ethically bound.

[24] It is important to note that the "Inquiry Rubric" provided here and also to the student-teachers, by the Potamoi School liaison, in their resource package was an older draft and unedited version from 2007. Galileo Educational

the student-teachers when they are given an incomplete version of an out-of-date rubric? For me,

Thursday, January 2, 2013:

Critically examining the dimensions of inquiry by the Galileo Organization Network (2013), has me wondering how meaningful and authentic it actually is and can be when it is framed around the scientific language of "requires," "causes," "evidence," etc. Each of which, I admit, I have never fully noted or unpacked until now. At the same time, the phrase of "collective understanding" or having students "appreciate" digital technologies, suggests that perhaps there is a negotiation or conversation happening here between the modern worldview and a post-postmodern one (outlined and discussed in Chapter 2) . . . however, I would suggest there is a stronger pull by modernity. What I find most interesting and disappointing is that it was not until today, this day, after over six years of "using" these dimensions that I realized the nature of its language and the sub-text of what it was communicating. Clearly, it will be important for me, in my day-to-day life to "make the familiar strange."

there are two potential and plausible messages communicated; a lack of care organizing the resources and/or the Inquiry Rubric is not being used at the school—both because of the incompleteness of the version and also the fact that the version provided was six years older than the most recent one (although it difficult exists in establishing whether or not the student-teachers knew there was a more recent version of the rubric).

The Inquiry Rubric, though given to the student-teachers as part of a resource package, and discussed by administrators and the school's Communication and Collaboration Leader, it has not been overtly used or discussed as a staff in over three years. Begging the question; are teachers at Potamoi School using the rubric as a resource to understand and plan through inquiry, as well as assessing their inquiry work? Although the Inquiry Rubric has been an important document and resource to Potamoi School in the past, recent history suggests that perhaps few teachers are currently using it.

Network updated their rubric and a more recent (2014) and complete version is available from their website at http://galileo.org/rubric.pdf.

"The Curriculum of Place:"[25] **An Invitation**

Invitation exists as a lived experience and as part of the Life world. There are multitudes of ways one can be invited in/to something. For example, a formal invitation to a friend's wedding, requiring a response by a particular date; an informal invitation by a colleague to meet for coffee after work; perhaps you invite yourself over to a friend's place to watch a sporting event on television. I often receive e-mails inviting me to fill out a company's survey and sometimes my students invite me over to their desk to show me what they are working on or to ask me a question. Each invitation offered also invites a response. "'Invitation' is *not* simple, clear, distinct, or able to be separated off and pinned down once and for all" (Jardine, personal communication, September 19, 2012). Illustrated in the preceding examples, invitation, similar to inquiry remains "complex, multivocal, ambiguous, unresolved, ongoing, living, [and] emergent" (D. Jardine, Roots of Inquiry Lecture, September 19, 2012). I wonder, then, in what ways might these texts invite student-teachers into inquiry-based teaching-and-learning?

In the lifeworld, everything connects to everything else. In hermeneutics, though, one must be cautious not to get caught tracing every thread because you will end up getting lost. The point exists in drawing in the topic in (in this case, the texts), in such a way that they remain living, alive. If I try to control, manage, manipulate or nail down the meaning of the text once and for all, it will lose its life. In trying to keep the texts alive, I whiled over them for days— reading them, rereading them, going away from them and reading other texts, and then coming back to reread them, so as to allow them to gather and then tossed them back and forth to see what shook loose.

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[25] "The Curriculum of Place" is taken from Chambers' (2008) article titled *Where are we? Finding Common Ground in a Curriculum of Place* and will be a framework or shell to navigate and interpret the texts discussed in this chapter. The sub-headings from the research article of "the four dimensions of a curriculum of place" will act as the frame.

It was through the reading of Chambers' (2008) article titled *Where are we? Finding Common Ground in a Curriculum of Place*, when I found an opening, a thread—the subheadings of the "four dimensions of the curriculum of place." Using this thread, I cultivated a way others might discuss and understand the texts. As well, Ingold's (2000) work in the field of geography, informing Chambers' writing, might allow one to disrupt our common-sense notions of teaching-and-learning and also language our understandings in different ways. At the same time, in choosing to use Chambers' article as a framework, I recognize that I am making a decision to turn my back on other potentialities.

Four dimensions of a curriculum of place.[26] Although there may be more than four dimensions of a curriculum of place, which Chambers (2008) acknowledges, it provides an opening up or opening into conversation concerned with what it is, the way it lives, and the implications it may have for education. Chambers' work situates itself within an Indigenous frame considering the land, nature, ancestry, and the cosmos. While I engaged with the text in a different way and in a different place, I still wished to honour the sentiments Chambers offers through her writing. As such, the four dimensions are not considered linear, chronological, or hierarchical in nature.

A curriculum of place calls for an "education of attention." (Ingold, 2000). According to Chambers (2008), learning to watch and listen is required if one wants to know what is appropriate to do in a particular place, to find one's way around, and to act wisely. As well, cultivating and nurturing an education of awareness requires one to "learn how to feel with their hands and their bodies" (p. 121). The notion of embodiment emerges as a critical mode of being

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[26] Each of the dimensions outlined in this chapter come directly from the Chambers, C. (2008). Where are we? Finding common ground in a curriculum of place. *Journal of the Canadian Association for Curriculum Studies*, *6*(2), 113-128.

in a curriculum of place. In this sense, student-teachers must learn to feel their way around. They need to learn to interpret the place in which they are immersed. Similarly, in both hermeneutics and inquiry—one cannot tell you how to proceed because your topic, your students, and your context are unknown.

Focusing the attention of the student-teachers on the culture of schools for their initial field experience may facilitate their sensibilities of watching and listening. Structured as an ethnographic research inquiry, the student-teachers are required to research the culture of the schools, the teachers, and the students. They need to cultivate educational attention and awareness for the two schools they inhabit for one week at a time. While the focus of the work student-teachers complete during their field placement focuses on the culture of the schools, this may or may not inform their understandings of inquiry-based teaching-and-learning.

Tuesday, September 10, 2013:

I have been reviewing, analysing, digesting, and trying to interpret the texts—both from the University's Bachelor of Education Program, as well as from the field experience site. In trying to find my way through and into the texts, I started to revisit some of the readings from the years past. Nothing in my recent readings particularly "struck me." Although there were helpful reminders throughout the readings, it was not what I was looking for—I felt an urging to find some writings about culture or place.

This morning, the yellow binder on the shelf in my home office called to me. The binder houses all of my readings from a course last fall that I took with Dr. Jardine and Dr. Siedel on the topic of "the roots of inquiry." I hurriedly opened the binder and started at the back with the most recent articles (I organized them according to the chronology of the course). Nothing too stirring. I then pressed the articles all the way to the back and started at the front of the binder. Reading or skimming some passages and skipping others. I arrived at an article written by Dr. Cynthia Chambers (2008) titled: *Where are we? Finding Common Ground in a Curriculum of Place*. I distinctly remember reading the article during the course and shrugging it off as not being particularly interesting or helpful for my studies and me—other than the term "wayfinding." Wayfinding spoke to, at the time (and still today), what I have been and am trying to do. This morning, though, a different affect came over me when I saw the article. I was drawn into the article and could not read the text quickly enough. By the time I was five pages into the article, I was overcome with excitement—to the point where I forced myself to stop and begin writing this piece tracing how I came to the article and it came to me. I do not precisely know how the article might shape me or my topic or my interpretation of my topic . . . I just know it will. Perhaps it already has. The article is "nagging" at me—something to do with place and so I must urgently return to it.

However, the texts of Potamoi School direct student-teacher attention to inquiry-based

teaching-and-learning. For example, in the Keynote presentation, as well as in the resources given to the student-teachers, the school goals were provided. The first goal concerns itself with a disposition of inquiry. Also within the Keynote presentation from Potamoi School, it specifically states inquiry-based learning as, "Authentic, real work that reflects the work that an adult at work or in the community might tackle." On the same slide it goes on to offer "Respect and cultivate the dispositions that all children bring with them when they first walk through our doors: imagination, curiosity, persistence, and the drive to understand the world." However, to note, the way of "defining" inquiry in the Keynote does not reflect an interpretation I have seen or heard in any other school documents prior (or since). Which begs the question, "whose interpretation are we seeing, hearing, enacting within the school?"

Within the teaching and learning frameworks, there are several sub-headings and descriptors. One of the first descriptors one encounters concerns inquiry-based practice. Inquiry-based practice within the framework for teachers, concerns itself with promoting learning through a disposition of inquiry and connecting learning to real-life experiences. One of the guiding principles of the school and its mission refers to promoting innovation within an inquiry-based learning community. "The Story of Potamoi" video brings the other school texts to life, illustrating and narrating the ways inquiry-based teaching-and-learning lives at Potamoi School. One's attention and awareness, through the texts at Potamoi School, unlike the university, points one in the direction of inquiry.

A curriculum of place is enskillment. "From a dwelling perspective, a person's being is constituted through the tasks that he or she conducts as he or she dwells in a particular place" (Chambers, 2008, p. 116). The tasks student-teachers are asked

to complete, both at the university and in their field placement shape their being. *Indwelling* is

the word Aoki (2005b) used in his writing to provoke an understanding of the two curricular

worlds teachers face; the tenuous worlds of

"curriculum-as-planned" and "curriculum-as-

lived-experience." I suggest indwelling also acts

as a way to think through the tensions between

the worlds student-teachers face. They dwell

between the worlds of university and school(s).

They dwell in the hyphen—between student and

teacher. If one inquires etymologically into the

word dwell, there exists a sense of cruelty meant

to mislead, make a fool of or even deceive. I

dwell (v.) Old English dwellan "to mislead, deceive," originally "to make a fool of, lead astray," from Proto-Germanic *dwaljanan (cf. Old Norse dvöl "delay," dvali "sleep;" Middle Dutch dwellen "to stun, make giddy, perplex;" Old High German twellen "to hinder, delay;" Danish dvale "trance, stupor," dvaelbær "narcotic berry," source of Middle English dwale "nightshade"), from PIE *dhwel-, from root *dheu- (1) "dust, cloud, vapor, smoke" (and related notions of "defective perception or wits").

Related to Old English gedweola "error, heresy, madness." Sense shifted in Middle English through "hinder, delay," to "linger" (c.1200, as still in phrase to dwell upon), to "make a home" (mid-13c.). Related: Dwelled; dwelt; dwells. (n.d.)

wonder, might student-teachers at times, feel misled or led astray by their program, professors,

and/or other teachers as they learn to teach? Do they feel as though their time in university

classes acted as simply a delay and hindrance to them getting to the "real" work of teaching?

Perhaps some student-teachers dwell in the sense of being perplexed or even stunned as they

journey into teaching-and-learning, both at the university and in the schools. How might one

come to understand and feel that to dwell with/in the spaces of teaching-and-learning could be to

"make a home?"

Indwelling. Student-teachers continually negotiate the in-between spaces and worlds of

university and schools (theory and practice), as well as student and teacher with varying degrees

of tensionality. As Aoki (2005b) suggests, getting rid of tension does not provide the answer.

Many life experiences require a certain level of tension to exist. For example, without tension, a

cello's strings and bow would be unable to enliven a composer's notes. A teacher's day often

dwells in the tension—the pushing and pulling in different directions, as well as feelings of

frustration, being overwhelmed along with other moments filled with enthusiasm, hopefulness,

and joy.

In the tensionality of the "Zone of Between" (Aoki, 2005b, p. 163) teachers, as well as

student-teachers, must navigate the worlds of "curriculum-as-planned" and "curriculum-as-lived-

experience" (Aoki, 2005b p. 163). Curriculum-as-planned often originates from outside of the

school and classroom, for example, school boards, Ministries of Education, and other policy

makers. Curriculum-as-planned inhabits curriculum documents. In Alberta each discipline or

subject area has a program of study designed to inform teachers what to teach. The language of

curriculum documents remains couched in terms or statements outlining the objectives, tasks or

activities, outcomes, assessment or evaluation, and resources teachers are required to use.

Inevitably, the authors or planners of the curriculum incorporate their own interests as

well as their epistemological (the nature of knowledge) and ontological (the nature of being)

understandings of the world. Some programs of study in Alberta, for example, regard teachers as

"installers of the curriculum" (Aoki, 2005b, p. 160). Certainly the curricular documents provide

some flexibility and require insights and professional decision-making on the part of the teacher,

but for the most part the language remains couched in the teacher implementing the curriculum

to the students. Curriculum-as-planned often negates the skills and understandings teachers have

and nurture through ongoing critical reflection. Teachers also fall into the trap and/or are

encultured to think of themselves solely as "doers" whose job it exists in reproducing the

curriculum-as-planned in the classroom without being mindful of or attending to the living and

embodied nature of teaching-and-learning.

> There is also a forgetfulness that what matters deeply in the situated world of the classroom is how the teachers' 'doings' flow from who they are, their beings. That is, there is a forgetfulness that teaching is fundamentally a mode of being. (Aoki, 2005b, p. 160)

Similarly perhaps, concerning the assessment assignment from the University where a unit plan and subsequent assessment gets created, but without necessarily having, knowing or understanding a particular context from which it might arise.

Curriculum-as-lived-experience honours the organic, authentic, living, and unique nature of teaching-and-learning. Teachers, and student-teachers, dwell with/in the "Zone of Between." Tension exists when living simultaneously within and between both limitations and possibilities. However, the culture of teaching-and-learning beckons us to do so. Perhaps the indwelling—the tension of living between worlds becomes even greater for student-teachers navigating the cultures of both university and school—sometimes simultaneously. In what ways then, might the texts existing in both cultures (the university and the school) invite an understanding of inquiry-based teaching-and-learning?

Within skilled practice there is intentionality and functionality. (Ingold, 2000). Intentionality in the context of enskillment tethers itself with practice. In other words, a student-teacher thinking and then acting *does not* practice intentionality. Nor is functionality in the object of practice. Rather, both reside "in the practice itself" (Chambers, 2008, p. 117)—they are inseparable and each informs the other. Thus, inquiry only becomes inquiry when situated within practice and a teacher of inquiry becomes a teacher of inquiry only as she works with the students and teaches-and-learns with/in inquiry. To further clarify, inquiry exists "embedded within a particular set of ecological relations" (Chambers, 2008, p. 117). Understanding inquiry within its ecological relations of teaching-and-learning begs the question—what nurtures inquiry arising from a modern worldview and in what ways does inquiry live in a post-postmodern

worldview? Also, what does inquiry look like, where does it live, how does it feel, and what influences it? The student-teacher must have opportunities to work in ecological relation to the students, a mentor teacher who has an inquiry disposition, and resources allowing inquiry to emerge. Only through inquiry will a student-teacher (or teacher) become one who teaches-and learns as an inquirer. The practice itself dwells inherently within its intentionality and functionality.

Interpreting the texts through the intentionality and functionality of practice, asks what were student-teachers required to do (practice) in both their university courses and in their field placement at Potamoi School? Do the tasks nurture the practice in and a disposition of inquiry? Few course outlines from the University used the term inquiry and even fewer ask students to engage in inquiry-based practices through assignments or in-class work. For example, a course focused on the topic of First Nations, Métis, and Inuit (FNMI) history, education, and leadership used two timed exams, each worth 50% as the assessment and evaluation of students' learning and understanding. As well, the syllabus was organized over the eight-week duration of the course, into scheduled topics for lectures and corresponding readings.

Through Whitehead's (1929a) lens, the interpretation of this particular course might be that it has lost its meaning because of its sole focus appears to be on inert ideas. Specifically, the assessments in relation to the topic seemingly "deaden" the work. I wonder, in what ways might the two timed (60 minutes), multiple choice and short essay exams, each worth 50% bring the topic of FNMI to life for the students? Within the context of these two examinations, do students have opportunities to take their understandings from the two textbooks assigned and apply them in concrete situations as Whitehead suggests in the phase of generalisation? Situating students or have them dwell in the place of this course seemingly does not allow or nurture intentionality

and functionality to live within the skilled practice of inquiry.

There are other courses—one on the topic of English Language Learners (ELL) and another addressing Ethics and Law, which are similarly organized with lecture topics corresponding with reading assignments—a course where inert knowledge appears to reign supreme. Similar to the FNMI course, the tasks required of the student-teachers include two timed in-class writing assignments, each worth 50% of the course mark and based on questions related to the lecture topics presented by the instructor. The questions for the first timed writing assignment are based on the initial four lectures and readings, while the other basis itself on the final three lectures. Students are provided with the four possible questions two-weeks prior to the in-class writing assignment (the exam basis itself on two of the four questions) and in their writing, they are required to "engage in analytical reflection on the topics (going beyond the descriptive level)" (English Language Learners Course Outline). Referring again to Chambers (2008), and the ways enskillment and intentionality are "embedded within a particular set of ecological relations," (p. 117) and are located within the practice itself, in what ways might student-teachers in the ELL course nurture the skills of analytical reflection? Within the course outline no mention exists of opportunities to practice or engage in analytical reflection. Each lecture and reading are separated physically (in the course syllabus) by rows and columns as well as by topic, fostering independence, separateness, concreteness, isolation, and objectivity of ideas from the learner, as well as the context of learning. The modern paradigm, seemingly directing many of the course syllabi, impedes the possibility of situated practice thriving within particular ecological relations because the world exists as a given, not alive (Chambers, 2008). It remains stamped out through the generic tasks the student-teachers are required to complete, using "hypothetical scenarios" as a context to write of an ethical dilemma. Would most students

not have had an ethical dilemma in their own lives that they could use as a meaningful context?

As I spent time with/in the university texts, the formulaic nature of the course outlines continued to strike me. While one cannot overcome the formulaic nature entirely, adding images and quotations might be one way to invite the student into the course in a more interesting and engaging way. All syllabi appeared to require specific information such as policies on plagiarism, the Privacy Act, academic accommodations, campus security, the student union representative, and the required format to return assignments to students. I would argue that the information outlined in the syllabi pertaining to the previous topics remains important for students to understand and access. However, the blanket statement under the heading "Changes to Schedule" where each and every course outline states: "Please note that changes to the schedule may occur in response to student questions and conversations" caught my attention. In what ways are university instructors and professors are "condemned to plan for faceless people" (Aoki, 2005a, p. 206). A course, to be most meaningful might consider the teacher, the learner, the context or place of learning, and the existing ecological relations. If course instructors and university professors are "condemned to plan for faceless people," because of university policy, that acts as one issue. However, if *enacting* this plan as their template for learning, exists as the way university professors proceed, then potentialities for fostering enskillment in the practice itself (teaching-and-learning through inquiry) likely remains lost.

At the same time, some courses, through their text (as well as images) might more readily

nurture the enskillment of inquiry through the practice itself. The image above of a collection of eggs in a wire basket exists as the first image seen on one particular course outline. No mention exists in the course outline concerning why the image was included and/or for what purpose. Initially, I was struck by the image and simply interpreted it using the colloquial saying "don't put all of your eggs in one basket." I was confused by its inclusion and placement in a course focused on interdisciplinary learning, specifically the "Principles of Social and Cultural Engagement." I began thinking of the eggs through the concept of interdisciplinary learning such that do not put all of the eggs in one basket (one discipline), but be mindful and inclusive of other disciplines (the inclusion of several different coloured eggs within the same basket). Then I met Jardine (2008) again one evening with one of his books falling open to a chapter titled "The Profession Needs New Blood" and his reference to "chicks and eggs" (p. 203) leapt off of the page. "The images of the arrival of 'new blood' thus suggests an image of pedagogy itself. This arrival is full of possibility and full of hope for a re-invigoration of the course (*currere*) of our human inheritance" (p. 203). Interpreting the eggs in the basket as the "arrival of new blood" holding the potentialities for something different than what has come before, fosters openness and hope within the interdisciplinary learning course, which arrives quite differently than the ways other texts communicate teaching-and-learning.

    Skilled practices are embedded within specific ecologies. Knowledge in a curriculum of place lives because of its practice within a particular locality embracing ecologically embedded skills within and between place, people, and the cosmos. Although some might suggest because the practice lives within a particular locality, it might be arising from an understanding of modernity. However, unlike modernity, where knowledge remains objective, accumulated, and separate from the individual, "knowledgeability that has its source in the very activities, of

inhabiting the land, that both bring places into being and constitute persons as *of* those places, as

local" is alive (Ingold and Kurttila, 2000, p. 185).

>She generally gave herself very good advice, (though she very seldom followed it) (Carroll,
>2006, p. 19).

Using dimensions of inquiry to frame the Bachelor of Education program, appears to be

"very good advice" considering the importance placed on it from research, policy documents,

and government officials. However, like Alice, the program does not seem to follow its own

advice. If the University wants inquiry embedded in its program, an ecological network must be

cultivated and nurtured, not simply a top-down approach. However, cultivating such an

ecological network as a statement of policy might be more alienating than inviting—especially if

it is offered as another "thing" on the "to-do" list.

As a place where students, teachers, administrators, deans, and chairs dwell, the program

would do well to foster interconnectedness and collaboration. Inquiry must live within the walls

of the classrooms and buildings for it to emerge as something one does and exists as when

dwelling in that particular place. Opportunities and spaces for students, instructors, and

professors to practice the skills of inquiry could be meaningful. In other words, a significant and

dramatic shift from the modern paradigm to the integral or post-postmodern paradigm remains

necessary if the university wants the ecology of its place and its program to nurture a disposition

of inquiry for student-teachers (Fidyk, 2013).

>*The generation of this knowledge, and the practice of these skills, involves qualities of*
>
>*care, judgment, and dexterity.* (Ingold, 2000). Enskillment requires ongoing perceptual

engagement with a task, *not* mechanical application of knowledge and/or skill. Chambers (2008)

takes the skill of carving, illustrating enskillment and the way carving unfolds "with his hands,

his eyes, his ears, and his entire body" (p. 118). In other words, carving emerges from and

through the embodiment of the skill. My reading of Whitehead (1929a) agrees, "The connections

between intellectual activity and the body, though diffused in every bodily feeling, are focussed

in the eyes, the ears, the voice, and the hands. There is a coordination of senses and thought . . ."

(p. 50). In this sense, as with Chambers, adjustments are made to the emerging task as a response

to the unfolding environmental and bodily conditions. If one understands enskillment as

embodied, on-going, and emerging, in what ways might the culture student-teachers' dwell in

(and the texts informing the culture) shape and inform their understandings of inquiry-based

teaching-and-learning as enskillment? Particularly in the texts at the university, inquiry

seemingly lies (mostly dormant) in the shadows. There are intermittent whispers of inquiry (i.e.

completing an inquiry-based unit plan), but they arise only as whispers and only by a few. It

could be difficult to embody inquiry within an environment where it is only seemingly whispered

and enacted (by either professor or student-teacher).

     Skilled practice is acquired and passed on through the practical hands-on experience.

(Ingold, 2000). Similar to the preceding dimension, opportunities to practice the skill must be

offered. However, the fourth dimension of skilled practice emphasises understanding knowledge

as embedded within the skills—not separate from them. They "cannot be codified as a system of

rules and representations, much as is expected in school curricula; nor can they be transmitted as

schemata or by formulae, much as is expected in lesson and unit planning" (Chambers, 2008, p.

118). For example, in one particular course at the university, a graded assignment worth 45% of

the mark required student-teachers to create a *"Collaborative Interdisciplinary Unit Plan*

Inquiry." The intent of the unit plan was for student-teachers to work collaboratively in planning

a one-month interdisciplinary unit plan "for a class, which is prompted by a deliberate and

significant topic/theme/phenomenon." Although inquiry exists as one of the stated intentions of

the unit plan, no indication in the course outline exists of what inquiry might be or if and when

the student-teachers enacted the unit plan. In other words, "hands on" opportunities cultivating

skilled practice in inquiry-based teaching-and-learning are not readily apparent.

Within the fourth dimension of enskillment, Chambers (2008) suggests teaching critical

skills by practitioners (mentors) to novices in two ways, "education of attention" and

"environmentally situated action" (p. 119). Teaching and enacting skills through these

opportunities avoids direct teaching of rules and formulas without a context or deep

understanding. The work student-teachers were asked to attend to in one specific course was a

daily in-class "inquiry" requiring reflection of readings and viewings from previous classes.

Although the student-teachers' attention was directed to inquiry, the course outline does not

describe or discuss what "inquiry" might look like in this particular context.

The four required field experiences student-teachers needed to complete for their degree

focused their attention in specific ways within "environmentally situated action." For example, in

the first semester's field experience, the "education of attention" was focused as an ethnographic

research inquiry into the culture of schools. Student-teachers spent one week, as a cohort, in an

elementary school and the other week in either a middle or secondary school. Semester two's

field placement focuses its inquiry theme on individual learners and learning. Student-teachers

work with individual and small groups during this field placement. Although the statement

suggests that the student-teachers are inquiring into individual learners and learning, additional

details regarding what it might look like and the ways one might "inquire" into this topic are not

shared in the text.

"Collaborative learning and teaching both in and across disciplines" focuses the third

field experience, lasting four-weeks. While the educational focus remains clearly stated, whether

or not it takes place remains undetermined because the culture of the school informs the student-teachers with what might be appropriate to do in that particular place. Explained differently, regardless of a specific focus or mandate from the university, if mentor teachers in the school where student-teachers are placed do not have the skills, understandings or desire to collaborate, it is unlikely these opportunities for student-teachers will arise. As well, specific to inquiry, the text outlining the focus for the field placement does not mention or allude to what it might mean.

The final eight-week field placement for student-teachers, focused on "curriculum planning, implementation and assessment." Unlike the preceding field placement, educational attention for student-teachers at Potamoi School would have initially been drawn to inquiry-based teaching-and-learning. The texts offered to the student-teachers included: the Galileo Educational Network Inquiry Rubric; a one-page sheet outlining the school's guiding principles, vision, mission, and goals; the teaching and learning frameworks; a school calendar and timetable. In addition, the school's Communication and Collaboration Leader gave a Keynote presentation outlining several topics. The presentation was organized through a discussion concerning relationships and school culture; teaching-and-learning practices; the community of learners); and learner engagement and success. In addition to sharing the teaching and learning frameworks, additional topics included: school goals; the number of collaborative opportunities (through the blog, visitors, other teachers, etc.); the Potamoi School video; and a brief synopsis of inquiry-based learning.

Particularly through viewing "The Story of Potamoi" documentary video, the student-teachers could see ways in which "skilled practice is acquired and passed on through the practical hands-on experience" (Chambers, 2008, p. 118). As well, it provides a cursory illustrative understanding, of "what is appropriate to do in this place" (p. 119). Examples of

inquiry-based teaching-and-learning from the perspectives of teachers, parents, students, and administrators at Potamoi School are showcased. The video acts as a strong example of "education of attention" as the student-teachers are directed to "watch, listen, and feel" what it is like to practice inquiry, as well, "the education of attention is undertaken through story . . . and through modelling rather than verbal directions" (p. 119). The student-teachers are not told to do this, and this, and that, in cultivating inquiry. Instead, attention moves to the story of a school whose goal of fostering the disposition of inquiry exists.

A curriculum of place is a wayfinding. Cultivating the necessary skills for wayfinding requires a long and complex apprenticeship with opportunities for novices to learn from their mentors (Chambers, 2008). To know as you go (wayfinding), one must dwell in a place to learn "what is appropriate and necessary to do there" (Chambers, 2008, p. 123). The longest field experience the student-teachers have in their undergraduate program is eight-weeks with the total required time in schools being 17 weeks. While more does not necessarily mean better when it comes to teaching-and-learning, there remains something to be said for opportunities to dwell in a place for a while. Likely the field experiences the student-teachers had were complex because teaching-and-learning *is* complex. However, with all 17 weeks not in an inquiry-based environment, might eight-weeks within an inquiry-based field placement allow time to cultivate and foster an understanding and enact, inquiry-based teaching-and learning?

"We will also incorporate the notions of teachers/students as researchers in our own multiperspectival pedagogical and cognitive development" (Socio Cultural Theories of Learning, Fall, 2012, Course Outline).

" . . . education should begin in research and end in research" (Whitehead, 1929a, p. 37).

Potamoi School Goal:

Teachers and students are active researchers, exploring and understanding classrooms and other learning environments.

Wayfinding requires research, investigating the practices and ways of being that are appropriate for a particular place. In a course outline at the University, as well as one of Potamoi's school goals, a focus was research. Whitehead (1929a), as noted in the above quotation, also discussed the critical importance and paramount place of research in one's education. Inquiring into some *thing* acts as a form of research. Inquiry requires an understanding of a topic and whilst research in this particular context does not subscribe to research according to the scientific method, it remains research nonetheless. As well, for research and wayfinding, both teachers and students take on the role of learners in understanding either a concept or topic or what one needs to learn while dwelling in a particular place.

One of the guiding principles of Potamoi School is that we are all in this together. Teachers and students are expected to be inquirers and find their way through, engaging in inquiry-based teaching-and-learning. However, as Chambers (2008) notes, learning what is appropriate to do in a specific place at a specific time requires practice. Cultivating wayfinding in relation to inquiry requires opportunities, guidance, and mentorship for student-teachers—in both places they dwell (at the university and in their field experiences).

A curriculum of place calls for a different sense of time. 8:45 am—the warning bell rings, indicating the time for students (and teachers) to get to their designated homeroom in time for the second bell—8:50 am summons the recorded playing of the national anthem through the intercom and the ensuing morning announcements given by one of three male Potamoi School administrators. Before period one resumes at 9:00 am, teachers need to take attendance. 10:35 am—another bell, only it rings outside after their 15 minute recess break, to call students from Grades 4–7 inside and back to class. Inside, classes and work continue for students in Grades 8 and 9, without disruption. The absence of bells continues for everyone until the end of the lunch hour and recess. 12:40 pm. Afternoon classes are without bells until the signalling of the end of the day—3:30 pm. The students rush outside where the majority of them board one of the buses ready to take them home. 3:40 pm. A final bell serves as a warning to students taking the bus that their last chance remains to get on or they will be left behind.

Although Potamoi School, compared to many other public schools I have visited and taught, has few bells throughout the day, it remains structured by ten minutes of homeroom time at the beginning and end of the day as well as eight, 40 minute class periods. The bells simply serve as an aural reminder in schools of the legacy of the industrial revolution with everything structured by an external man-made clock. The bell, the whistle, the hands on the clock all signify what the worker (or students) should be doing—starting their work, taking a break, ending their break, eating or going home. For one to know what they should be doing, they simply refer to the time on the clock. Alternatively, Indigenous peoples and others have used the stars, the land, the weather, the sun, and the moon, and the body to know what is appropriate to do in a particular place and when (Chambers, 2008).

The structure of a university schedule acts in a more relaxed and less rigorous than K-12

schools. There are no bells signifying the beginning or ending of class, when to eat or when to go

home. However, the clock and ensuing schedules still reign supreme. Classes are organized by

day of the week and block of time. For example, student-teachers registered in one section of

Socio-Cultural Theories of Learning, took the course on Mondays from 3:00 pm–4:50 pm. As

well, if they needed to meet the instructor of the course, office hours were scheduled for

Mondays from 2:00 pm to 3:00 pm.

Whilst the Industrial Revolution began approximately 250 years ago, it continues to

inform and shape the way school acts. For example, as illustrated in the preceding paragraph, the

clock and time still influences choices and decisions of what happens in schools and when.

Students do not move to another topic or class when the discussion or work they are doing is

completed or at a stopping point, they mentally and sometimes physically move when the teacher

tells them, often directly informed by the time on the clock.

> We recognize that our position in a place is in relation to the circumstances of that place.
> Once we understand this . . . we may be able to proceed to a reliable idea of what is
> appropriate to do in that place. (Chambers, 2008, p. 115)

Potamoi School, informed student-teachers throughout their field placement of their position

within the school—what was appropriate to do at the school and best way to proceed as a

student-teacher in this place. Part of the way they understood their role in this place was through

the class and daily schedule—through time and the ways it was or was not structured and

organized.

Within the school, teachers have some choices in how and when Math/Science and

Humanities classes are scheduled as long as they assured there are 15 classes of each in a six-day

cycle, in addition to three classes of Daily Physical Education (DPA), three Learning Strategies

classes and one Health class. All other classes (electives, physical education, art, drama, music,

and family groups) are firmly in place within the schedule. With the flexibility in scheduling the

core classes, many teachers purposefully organize double blocks (and sometime triple blocks, but

not as often). Creating less frequent class and subject changes allowing both students and teacher

greater opportunities and time to settle into the work. It helps, to slow the pace—rather than

having 40 minutes to discuss a particular concept or dig into research on the freedom of North

Korea people, for example, it becomes 80 minutes. There are moments and even time periods

throughout a week when the grip of time and the clock seems to loosen, where the students and I

get lost in our work together. The times when the students look up at the clock and realize recess

has arrived and say "Wow! It's recess already? That went by so fast!" I think of

Csikszentmihalyi's (1996) concept of "flow experience," when separation between the activity

and the self does not exist, but rather a complete immersion and absorption into what one is

doing. The essence of "flow" illustrates itself in one of the texts from the Potamoi School. The

"Our Story" video, documenting the story of the school—illustrated examples of inquiry-based

teaching-and-learning, as well as the values and purposes of the school. Within the video, the

narrators (two teachers at the school) state: "when students are deeply engaged in the art of

learning, time ceases to exist and the possibilities are endless." While referring to time as ceasing

to exist, I suspect they mean time exists differently than experienced in modernity (as discussed

previously)—thus, connecting to Csikszentmihalyi's (1996) concept of "flow."

     Understanding and having the discernment and wisdom to know what is appropriate to

do in a particular place takes a long time. Chambers (2008) refers to the Blackfoot who talk of

the settlers arriving in their territory over 150 years ago as "have[ing] just arrived" (p. 116) 150

years ago. Time in that sense does not exist as something often acknowledged or understood,

especially in schools informed by the industrial revolution and a neoliberalist agenda. We might

do well to try and slow things down and dig more deeply into our work—both as teachers,

students, and student-teachers rather than always speeding things up to "get to the next thing."

By practicing slowing things down, we may learn and become more aware of what it means to be

nourished by a place, what that place requires of me, and what might be an appropriate response.

We may be more apt to find our way.

('What is the use' photoshop editing, n.d.)

Closing In: Concluding Thoughts

". . . when suddenly, thump! thump! down she came upon a heap of sticks and dry leaves, and
the fall was over. Alice was not a bit hurt, and she jumped up on to her feet in a moment: she
looked up, but it was all dark overhead; before her was another long passage . . ." (Carroll, 2006,
p. 15)

Chambers (2008) writes: "It is where we are that matters" (p. 125). Alice would agree—

she remains alive, "not a bit hurt" in fact, and where she is remains all that matters because she

still has an opportunity to catch up with the rabbit. However, might Alice learn more of where

she remains if she sits, listens, and watches rather than darting away, chasing after the rabbit?

Sounds similar to what happens in many schools and universities where students and teachers

move quickly from one topic or class or teacher to another. Whether the focus is finding one's

way around inquiry or a new school, few opportunities exist to *really* find one's way around.

To help find my way around this chapter, my question was: *In what ways do the texts shape the world the student-teachers enter?* The texts interpreted and discussed in Chapter 5 seemingly fit into two camps, texts-as-planned and texts-as-lived. Whitehead (1929a) would consider texts-as-planned, as "dead knowledge." The texts are created as a document that tells. It tells instructors, professors, students, or student-teachers what they need to do in a particular place, at a particular time, and the way to go about it. Texts-as-planned connects with den Heyer's (2013) term curriculum-as-thing, where curriculum acts as a "body of facts, skills, attitudes, or attributes to deliver to the student body" (para. 19). Many texts from the university would be considered texts-as-planned or curriculum-as-thing. As well, the texts rarely mention, discuss or engage student-teachers in inquiry-based teaching-or-learning. Meaning, student-teachers placed at Potamoi School for their final field experience might have a limited understanding or experience from the university concerning inquiry-based teaching-and-learning.

Alternatively, texts-as-lived emerge; are organic; formed collectively, considering all participants (teachers, students, professors, instructors, student-teachers); take into account place; are alive; and integrated. Curriculum-as-encounter, asks for curriculum to be understood as "formed" rather than "produced." It also requires one to inquire into the ways in which "our shared sense-making is itself a historical legacy" (den Heyer, 2013, para. 19). Meaning, one already arrives as a historical being in the world where knowledge remains alive and formed with others. Of course, it remains important that both texts-as-lived and texts-as-planned exist because, at times one does need to know where to be and understand particular knowledge from that place.

However, the problem lies when solely placing the emphasis on texts-as-planned, something perhaps, through the interpretation of their texts, the University's Bachelor of

Education Program has embraced. Alternatively, at Potamoi School, texts-as-lived was more

often reflected in school documents and perhaps had the potential to invite student-teachers into

the world of inquiry-based teaching-and-learning.

Chapter 6

Journeying

We call upon the waters that rim the earth, horizon to horizon, that flow in our rivers and streams, that fall upon our gardens and fields, and we ask that they teach us and show us the way.

(Harvey, 1996)

Where Are We?: Returning to the Water's Edge

In the preceding chapter, texts from both the university and Potamoi School were gathered and interpreted in an attempt to sketch the ways in which students were invited into the nature of inquiry within both places. In the following three chapters the focus solely lies in the emerging clusters,[27] from listening and reading participant conversation transcripts, as well as additional materials provided by the student-teachers (lesson and unit plans, reflections, teaching philosophies, etc.). There were particular ways I interpreted student-teacher materials, specifically the transcripts of our conversations. I listened to and through each of the recorded conversations, making notes on the digital copies, listening to the student-teacher's breathing or remembering a particular

Saturday, December 7, 2013:

Moving through the transcripts of the conversations between myself and the student-teachers, immersing myself in their language, hearing their voices, and seeing their gestures, still doesn't seem to be enough. I'm trying to see and feel the thread(s) that will allow their journey in understanding inquiry-based teaching-and-learning to emerge. Yet, I feel myself almost paralyzed in the writing process and continually asking myself "Is 'journeying' the metaphor that best illustrates the ways they came to know about inquiry?"; "Am I being 'true' to what the student-teachers said?"; "Am I interpreting the transcripts as fully as one can?"; "Am I tracing the thread(s) or am I chasing them?" So many overwhelming doubts and distrust within me now. It is as if the cold snap we are experiencing (-40C with the wind chill) has frozen me from moving—not only the work forward, but also my own growth and learning. I await the Chinook and trust that my quiet, reflective perseverance will help me trust myself again so I will be taught and shown the way. For now, I take comfort in Berry's (n.d.) words:

> It may be that when we no longer know what to do we have come to our real work, and that when we no longer know which way to go we have come to our real journey. The mind that is not baffled is not employed. The impeded stream is the one that sings.

---

[27] I am reluctant to use the word "theme" to describe and discuss what has emerged from participant materials because it is often overused in much of the qualitative research I have read. I want to break what I see as a common sense notion of how the analysis and subsequent interpretation of conversations and materials from participants might take place. In other words, in the spirit of hermeneutics I feel compelled to displace the myth that there is a particular "method" the researcher follows, which results in themes arising from the data.

gesture given as he or she spoke. I also went through the transcripts and highlighted the words or passages that struck me. I was not looking for "themes" or ideas that were similar in each of the student-teacher's transcripts. Rather, I was reading and listening for what grabbed me, pulled at me or struck me as being interesting, odd or creating an emotive reaction for me. As I went through the transcripts, I made notes underneath, with questions, ideas or concerns I had. After reading through and highlighting what struck me, I went back into the transcripts and highlighted, in a different colour the words, phrases, and passages that spoke specifically to and of inquiry and inquiry-based teaching-and-learning.

As discussed in Chapter 4, I the hermeneutic circle was a strategy to facilitate my process of working with student-teacher materials. I read the transcripts as a whole and then would focus in on the particularities of a specific phrase or passage. Continuing with the process, I had several discussions with my supervisor and a colleague concerning the three clusters and the general frame of the last half of the dissertation. Once the frame began emerging, the discussions were opportunities to think more fully through the clusters and as important, what I may not have thought of. As I worked with the materials, I also continually read them alongside the writings of Whitehead, Gadamer, Romanyshyn, and Chambers to name just a few.

Of import to note—while working with the texts, they were also working on me. As I encountered and worked on and with the complexity of the work, I was also "worked on and even worked over by it" (Romanyshyn, 2007, p. 48). Through the process, three clusters emerged, which are the focus of three of the four subsequent chapters: Journeying, The Dragon, and Freedom, Discipline, and Letting Go. As well, the notion of embodiment and the body acts as a thread running through each of the clusters and chapters. The closing chapter of the dissertation reflects on, of, and through inquiry-based teaching-and-learning practices,

particularly in light of the ways in which the field

experience placement is, has been, and continues to be

framed.

        Another part of the process of analyzing and

interpreting the materials took shape once the tentative

frame of the four chapters was in place. I began re-reading

the transcripts and filtered the particular phrases and

passages into the different clusters of journeying, the

dragon, and freedom, discipline and letting go. Further

filtering was necessary, as there were dozens and dozens of

passages in each and every chapter, so I continued to look

and listen to that which not only spoke to me, but also

Friday, December 6, 2013:

Struggle, struggling, struggling,
Caught in the in-between
Here . . . somewhere and yet,
Nowhere.
Journeying on my own.
Trying to find my feet,
The movement
Like rubber boots suctioned
By the grip of the soupy mud.
Struggling, moving, forward and then,
Back.
Up and then,
Down.
Breathing and moving.
Finding the confidence in the quietude.
Noticing the connections.
Movement
Breathing.
Trusting.
Knowing.
Moving.
Now.

allowed something to gather around the words and would communicate that *some thing* to the

reader. An important note regarding the hermeneutic process I wish to highlight here remains

that it can never fully be complete and finished—once and for all. There are more and other

ideas, phrases, and passages not discussed in this dissertation and yet with that knowing I must

move.

Where Are We Going?: The Trickling of the Creek

        Like water, this chapter cascades from the texts to the place(s) where they are alive. For

example, the participants are introduced with/in the context of one of their passages. Isolating

them by introducing them one at a time, in alphabetical order seems to feed the nature of

isolation and separation rather than honouring the ontological and epistemological approaches

enlivening this work and me. As well, like a journey, we do not know in advance who we will

come upon and where, which speaks to the adventure and mystery of it all.

The undercurrents of inquiry-based teaching-and-learning are revealed and discussed as we wade into Chapter 7's stream, *The Dragon*. I use the metaphor of the dragon and the dragon's lair for the ways in which the student-teachers understand inquiry as "going deeper" and what meets them and the ways they respond to this meeting (kill it, run, befriend it, and so on) when delving into the depths of the underworld. Chapter 8, *Freedom, Discipline, and Letting Go*, highlights the openness the student-teachers discussed as important for inquiry, as well as the freedom they felt in taking risks in their teaching-and-learning at Potamoi School. Chapter 9, the culminating chapter of the dissertation is titled *Reflections on the Practice: Navigating the Stream of Inquiry*. The chapter discusses the insights emerging from the study and illuminates ways education and teaching-and-learning practices are framed in education today. Through the insights, I discuss ways we might re-imagine and re-frame current practices in teaching-and-learning with student-teachers.

> It's good to have an end to journey toward;
> but it's the journey that matters, in the end.
>
> (LeGuin, n.d.)

The notion of "journey" oftentimes appears as an overused cliché describing parts of one's life or endeavours. Clichés such as: "it's the journey, not the destination that matters" and "the journey of a thousand miles begins with a single step" (Lao Tzu, n.d.), have merit and insight into our lives. Yet the meaning and intent behind the words seems to have lost its vitality over time. If the meaning has been lost and the notion of journey has become a cliché, then why focus this chapter on that exact idea? For me, peering behind and into the taken-for-granted ideas, such as journey remains necessary. Sometimes the most obvious notions require the greatest attention. What continues to hold true or have merit in our day-to-day language that uses

the metaphor of the journey? The noun journey has been traced back to the 12th century when it described "a defined course of traveling; one's path in life," handed over from "Old French *journee* "day's work or travel" (journey, n.d.). However, journey or journeying has other interpretations conveying one's meaning. One of the reasons I chose the word journeying instead of journey is because it is a gerund and ergo, active in nature. Journeying requires one's active participation compared with journey, which acts as a way of identifying or classifying a thing one does or has done. Journey also holds a connotation, for me, of clearly defined beginnings and endings whereas journeying remains ongoing—it is wayfinding.

Throughout this chapter, I return to the German word *Erfarhung* and the root of the word *Fahren* to more deeply understand the ways in which journey or journeying can be taken up. *Fahren*, means to travel; to journey; to endure; to go through something and even venturing (adventure) (Jardine, personal communication, February 14, 2013). *Erfahrung*, discussed in Chapter 1, also means, "experience." Merely existing in this world does not make one experienced. Becoming experienced requires something of oneself—availability to the world. Putting it another way, one cannot become experienced if approaching the world thinking they already know everything regarding a particular concept, such as inquiry. Moving through the world without openness or availability does not allow the Life world to address us, hindering our ability to experience or become experienced.

As Gadamer discusses, "it is necessary to take the concept of experience (*Erfahrung*) more broadly . . . so that the experience of the work of art can be understood as experience" (p. 84). Although Gadamer uses art as an example to illustrate experience, one could insert for example, inquiry. However, what remains vital concerning experience, what gives it its Life in Gadamer's assertion is that it acts as experience concerned with *some thing*. In my research, the

some thing the student-teachers and I discussed concerned their experience in the ways they understand inquiry-based teaching-and-learning. Gadamer (2004) explains: "Our experience . . . is a mode of self-understanding. Self-understanding always occurs through understanding something other than the self . . ." (p. 83). In my reading of Gadamer, he suggests that experience, as with journeying, remains active in nature. It is a verb because it is a way of being—the way one carries oneself in the world. One does not carry their experience with them like a backpack, rather experiencing an encounter or situation changes one's very being and the way(s) one experiences the next encounter because the self exists differently now. Venturing with others or not alone is also *Erfahrung*, but it can be translated as experience. Similarly, like a stream, it never ventures alone. It moves and lives with rocks, sand, minerals, through marshes or bogs, alongside trees, grasses, moss, and animals.

As well as *Erfahrung*, wayfinding exists as another word and concept helping illustrate and enliven the journeying of student-teachers while at Potamoi School in their final field placement. Discussed in the preceding chapter, cultivating the necessary skills for wayfinding requires a long and complex apprenticeship where novices have opportunities to learn from their mentors (Chambers, 2008, p. 122). To know as you go (wayfinding), one must dwell in a place to learn "what is appropriate and necessary to do there" (Chambers, 2008, p. 123). The metaphor of journeying for Chapter 6 deeply traces the tributaries and the beautiful, natural inclinations of the student-teachers in zigzagging, bending back, and returning home, just like the stream to the ocean—knowing that once home, the journeying does not end.

> Each day is a journey, and the journey itself is home.
>
> (Bashō, n.d.)

Wayfinding: Sea Legs and Feeling One's Way

I will share some resources because the lesson plans are interesting. I have to share one with you for sure because I changed it before I taught it—it was for evaluation for Sarah[28]—I ended up scrapping it that morning and I was sick to my stomach on the drive in and Dianne was talking me down from the ledge the whole way because I had written it for her [Sarah] and not the kids. That was kind of the turning point in the whole thing. I was flying from the seat of my pants in front of them and it was the best lesson I taught the whole three times she came.

I had no choice, but to trust myself and what I was doing and so it leaves you with that internal feeling, it was real, I guess, and it was the most real lesson I had taught to that point because all I had was myself at that point and the students in front of me—actually it wasn't all myself. So it was all of us in that room at that point, and it evolved from there. Again, I did know what the outcome was and I didn't change that from the lesson plan, and there are X's through a lot of things, but not through what the goal was.[29]
(Sam)

Sam is a 31-year-old student-teacher whose specialization was in secondary English Language Arts. Teaching was not Sam's first career. Prior to teaching, he was a highly regarded full-time ski coach for several years. However, Sam felt any advanced opportunities to coach skiing as a career were limited and he was interested in a change. He enjoyed the teaching aspect of his role in skiing and his wife was also a full-time teacher. Sam is a soft-spoken and reserved student-teacher who is hard-working, kind-natured, deeply reflective, and often critical of his own teaching practices.

Although the outcome or goal for the particular lesson Sam referred to in the preceding passage did not change, Sam's feeling(s) prior to the lesson guided him in an unanticipated way from his initial plan. Such that he ended up "scrapping" much of the plan the morning before he was set to teach. Sam's awareness and recognition of having planned the lesson for his university supervisor and not his students was an important event.

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[28] Sarah was the university supervisor responsible for evaluating the cohort of student-teachers at Potamoi School for their final, eight-week university field placement.

[29] Student-teachers' voices are be indicated using italics. As well, verbal ticks, such as "like" were removed at times to support the context and the content of the statements of the student-teachers.

Enter Hermes with his "ability to hold the tension between two opposites, a third arises . . . and a doorway to transformation appears" (Fidyk, 2010, p. 12). From the third—something beautiful, creative, and alive emerges that could not cultivate in and of itself—a transformation. At the same time, the third lives autonomously; it exists as its own entity. The third echoes Bohm's (1980) work articulating the "deeper order" of the universe via the opposites of enfolding and unfolding (p. xv). Bohm describes the unfolding or explicate order as the physical world, whereas in the enfolding or implicate order, a different connection exists.

> Space and time are no longer the dominant factors determining the relationships of dependence or independence of different elements. Rather, an entirely different sort of basic connection of elements is possible, from which our ordinary notions of space and time, along with those of separately existent material particles, are abstracted as forms derived from the deeper order. (p. xv)

The unfolding or explicate world can be seen, felt, heard, and touched, whereas the enfolding or implicate order connecting everything with everything else, cannot.

Reminiscent of the third, Sam was open to his students and understood that it "wasn't all myself," it was his students as well, which were critical in shaping the experience. Sam's ability to hold the tension between having a well laid out lesson plan ahead of time with the need for him to teach with and for his students and not his university supervisor allowed for a third space of transformation to arise. Together with his students, the tension was held; cultivating something neither of them could do alone—an embodied sense of being in the classroom. Cultivating and tuning into one's awareness in different teaching-and-learning situations are critical in learning to teach. Sam acknowledged what he was *feeling* in the moment and allowed the feeling to guide his responses throughout the lesson. He felt what was rising and emerging with/in, between, and amongst himself and his students and taught in sync with that.

Hermes, with his "long kinship with letters, music, play and poetry signals something is happening, becoming, changing—something chaotic, messy, even distrustful yet ripe with potential" (Fidyk, 2010, p. 10). Prior to Sarah visiting his classroom and evaluate his teaching, Sam's morning was surely chaotic, messy, and had Sam wrestling with self-trust. As a student-teacher, Sam's willingness to enact change and embrace vulnerability enough to feel his way through the lesson was significant in his wayfinding and journeying through the field placement. Ingold (2000) articulates the way "feeling one's way" as they go remains important.

> In wayfinding, people do not traverse the surface of a world whose layout is fixed in advance—as represented on the cartographic map. Rather, they 'feel their way' through a world that is itself in motion, continually coming into being through the combined action of human and non-human agencies. (p. 155)

While Ingold's (2000) reference to wayfinding exists geographically, I suggest it has strong merit in reference to student-teachers and their journeying.

Initially, and contrary to Ingold's (2000) description of wayfinding, Sam had a fixed plan laid out in advance for part of his evaluation from his university supervisor. In conversation with Sam, though, the support and reaction from Sarah when debriefing the lesson were positive and reassuring. Sam described: *she was a phenomenal resource and she [said], 'I am so glad you did this! Don't be upset! Never teach for anyone but who you are in front of.' And we always knew . . . you always know that stuff but you get put in these weird situations*. I suspect the encouragement Sarah offered Sam nurtured his confidence and willingness to more consistently "feel his way" through and throughout the rest of his field placement. Perhaps the nature of the cohort structure, in which the student-teachers and Sarah met weekly over a lunch hour at the school discussing their work, assessment, and ongoing issues in education, such as teacher identity and school culture, allowed Sam to more readily take into consideration Sarah's encouraging words. Sam and Sarah, along with the other student-teachers were journeying

together during the eight-week field placement and created what Wenger (1998) termed, a

"community of practice" (p. 5). Communities of practice focus on discussing the

aforementioned, such as student work and feedback on any number of teaching issues (Duschl,

Schweingruber & Shouse, 2007). The skills of wayfinding are cultivated through novices

spending time learning with their mentors, including university supervisors, with/in communities

of practice in complex and extended apprenticeships (Chambers, 2008).

> Specifically on the topic of inquiry and the way it might live, Sam hesitantly suggested:
>
> *maybe it—inquiry—is more of a process than any kind of a product or plan. I would
> never try to create an inquiry lesson plan because I don't know if that is something you
> can put down on paper, it is a lot more than that.*

The notion that Sam would never try creating an inquiry lesson plan harkens back to wayfinding

and Ingold's (2000) reference to not having a fixed plan in advance wherever one traverses. If a

teacher already knows and has rigidly mapped out in advance, what s/he as the teacher will do or

say and what the students are going to do, little opportunity exists for openness to things being

"other than." At the same time, while inquiry does not act as something to fit into the boxes of a

lesson plan template, it remains important to have a vision for what the teacher (and students)

want to know and understand through the inquiry. In other words, it does not exist as simply a

"free-for-all" for students and teachers to do whatever they please. Although one can never fully

know in advance what one wants or needs to know, the work must be important, real, purposeful,

and emerging. Also, documenting the question or questions framing the inquiry remains

important. As well, there are certain concepts and/or activities as part of the inquiry process

where students participate and engage. Thus, while a traditional or formal lesson plan format[30]

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[30] I consider a traditional or formal lesson plan format as a pre-determined or pre-conceived template consisting of
objectives (curricular outcomes), performance activities (both for teacher and student), assessment(s), and a pre-
determined summary or closure.

does not necessarily support inquiry, there are key ideas, questions, and processes that can be

beneficial in planning for and documenting. At the same time, knowing throughout the work "the

plan" continuously emerges with the students, teachers, and their ecosystem. The richness of

teaching-and-learning lives in the pedagogic moments when and where questions are asked,

conversations unfold, and ideas flourish.

> Water, thou hast no taste, no color, no odor; canst not be defined, art relished while ever mysterious. Not necessary to life, but rather life itself, thou fillest us with a gratification that exceeds the delight of the senses.
>
> (de Saint-Exupéry, 1939, p. 184)

Seafaring With: "The Eyes, The Ears, The Voice, and The Hands" (Whitehead, 1929a, p.

50).

> *Pay attention to what is going on in your classroom. Pay attention—when I say that I mean pay attention not only to what you are teaching or what your plan is, but what ideas are coming up in conversation with your students. Which is scary and I noticed this change in myself too when I first started teaching in this practicum, I was focusing so much on what I was saying and how the lesson was going from my perspective that I wasn't paying as much attention—enough attention—to what I was getting back from them and what their reactions were, or the comments they were making. So you almost have to put yourself in that space too where, obviously, you have to be aware of what you are doing, but you are much, much more aware of what your students are doing as well so that you can hear those opportunities, when they come up, and that you are okay with taking a little bit of a venture away from your linear plan that day and having a side conversation about something you can bring into your inquiry—if that makes sense?* (Julie)

Julie is a 26-year-old elementary mathematics specialist. Not *math*, but *mathematics*. This

was the word she used to introduce her discipline specialization during the focus group

discussion on April 22, 2013. I want to take a moment to trace the etymology of mathematics

because it offers a way of turning towards Julie in perhaps an unanticipated way.

The term mathematics comes from the singular mathematic noun from the late 14th

century, but was replaced by mathematics in the early 17th century from the plural Latin word

mathematica (n.d.) The Greek tracing of *mathematikos* (adj.) is not surprising in its relationship

to "mathematics, scientific, astronomical." I suspect most would find links to science and the knowledge of math to be quite pedestrian. However *mathematikos* also means being "disposed to learn," related to *manthanein* "to learn." Continuing to pull the etymological thread, one discovers that *manthanein* "to learn" can be compared to the Greek word *menthere* "to care." Indeed, I found Julie to be a passionate and dedicated learner who cares deeply for teaching-and-learning, her students, and the profession. In Lithuanian, *mandras* "wide-awake," also acts as an apt descriptor. Julie was awake to many of the challenges of education today, as well as in trying to cultivate meaningful practice. In Old Church Slavonic *madru* translates as "wise, sage."

I have worked with, mentored, taught, and talked with many student teachers in the past 14 years and I suggest Julie has a wisdom far beyond her chronological years. The depth of understanding she articulated and illustrated through our conversations, her lesson plans and blog posts embodies a wisdom few student-teachers have so early in life. Lastly, the Gothic *mundonsis* "to look at," (n.d.) depicts Julie's willingness to look at, reflect, and critique her practice. On the other hand, if Julie had introduced herself as an elementary "math" specialist, it would have only offered *what* she taught not *the way* she lives in the world because the etymological tracing of math simply translates into an American English shortening of mathematics (n.d.).

Julie embodies teaching-and-learning. Julie's passage from our conversation, discusses her journey in realizing her movement from paying attention solely to herself—what she was saying and doing to an awareness of what the students had to say, offer, and what unfolded or happened between them. Throughout her field placement, Julie cultivated rich relationships between her students, self, her mentor-teacher and her teaching disciplines of math and science (Macintyre Latta & Buck, 2008). She nurtured and became experienced in understanding she

needed to "pay attention" to what the students, the work and herself demanded of her with/in the

moment.

In teaching, Whitehead (1929a) remarks, "you will come to grief as soon as you forget

that your pupils have bodies" (p. 50). Not only recognizing and remembering that the pupils have

bodies, but the teacher does too! As Macintyre Latta and Buck (2008) remind us, "embodied

teaching/learning demands being in the moment, at the juncture between self and other. The

continuous process of reciprocal interaction and modification is embodiment's significance in

teaching and learning" (p. 317). Embodiment requires awareness or as Ingold (2000), discusses

"attunement" to the environment, the students, oneself, and what arises in the space. An

embodied way of being in the world naturally connects with attuning oneself to the immediacy

of the moment—what emerges and dissipates, as well as what the moment requires of oneself.

The cultivation of attunement remains critical in learning to finding one's way in inquiry-based

teaching-and-learning because it informs the way(s) the topic or question unfolds with/in the

students in that moment. Foremost for Ingold (2000) is attunement.

> Wayfinding depends upon the attunement of the traveller's movements in response to the
> movements, in his or her surroundings, of other people, animals, the wind, celestial
> bodies, and so on. Where nothing moves there is nothing to which one can respond . . .
> (p. 242)

Attunement, etymologically means, "a bringing into harmony" (n.d.). In our context, for student-

teachers and teachers, the harmonizing of oneself with one's environment, the cosmos, and the

people within it remains critical. Looking at the components of the word attunement, one can see

its root word "tune." As a verb, in a figurative sense tune can mean, "become aware" (n.d.). At

the same time, though, the concept of being "in tune" in reference to "becoming aware" requires

one to "tune out" or "disregard, stop heeding" other things. In opening up something or in

becoming more attuned, Julie had to make decisions concerning what to turn her back on.

Attunement for Julie required a "re-cognition, a moment of realization and release, a moment of

transformation and surrender" (Romanyshyn, 2007, p. 84). At once, in that moment of turning

towards the students and what they were saying, Julie turned away from and tuned out "the

plan." The plan became inert or "dead knowledge" (Whitehead, 1929a, p. v) for Julie whereas

inquiry, the students, and the conversations were alive, lively, and organic. As well, Julie

allowed herself to surrender to the Life of it all.

Although Julie never abandoned lesson plans entirely, as the field placement progressed,

they become less detailed and more focused on the ways she and the students were moving

towards their topic of inquiry.

> It is the first glimmerings of a precious realization so essential for student teachers to
> undergo, that understanding erupts out of life itself, and not simply as a response to an act
> of teaching and therefore, that teaching must first and foremost attune itself to what is
> already at work in our lives and the lives of the children we teach. (Jardine, 1997, pp.
> 197–198)

Throughout Julie's placement at Potamoi School, her attunement and attentiveness to her

students and what they offered her, the other students, and the inquiry was clearly articulated.

Julie understood mathematics as a *living discipline*, which she specifically mentioned, emerged

from her mathematics specialization course with Dr. Watson at the University. Julie discusses:

> *It became this living discipline for me and really inspired a lot of my . . . interest and
> enthusiasm for it, and the way that I talk about it with my students, 'What do you mean
> this isn't interesting? It is interesting because this, this number isn't just a number
> anymore, it is connected to multiplication and, you know, multiples and all [of] these
> different ideas! You guys are making those connections now! That is awesome! That is
> the work that mathematicians are doing!' and not just, 'One plus one equals two.' So
> what?*

The passage exudes enthusiasm and teeming with excitement for mathematics as a living entity,

alive in the classroom with its connections to the students and the life world. Not only was Julie

attuned to the students and their ecosystem, but also mathematics and the ways in which it is

already at work in the universe and the lives of her students. Whitehead (1929a), as a university

educator and mathematician, consistently spoke and wrote of the importance of connecting

student learning with useful and living concepts and ideas in the world.

Julie was open on more than one occasion in our conversations, recognizing she had

tuned out or was not as attuned to the students and their engagement in the work they were

doing. Rather, initially, Julie focused on what she was saying and the way the lesson was

unfolding. Through her wayfinding during the eight-week field placement, Julie became more

attuned to the students, herself, her surroundings, and the disciplines of mathematics and science.

In other words, Julie became more attuned with the educational ecosystem, which are precisely

the relationships embodied teaching-and-learning are concerned with (Macintyre Latta & Buck,

2008).

For Julie, *hearing* the opportunities arising and emerging from conversations with the

students was an important part of her journeying in learning to teach. Hearing, for Gadamer

(2004) exists as a way of being addressed—not only the person who hears (the one talking), but

also the person being addressed *must* hear, whether they want to or not. Unlike seeing, one can

turn away from being addressed, but as Gadamer points out, one "cannot 'hear away'" (p. 458).

At the same time, one remains capable of "tuning out" others. While it may appear one is

listening, they are not fully hearing what the other has to say. Julie, during her field placement

became present to her student's voices, the conversations they were having, and hearing what

they had to say.

Hearing acts as part of an embodied approach in understanding inquiry. Whitehead

(1929a) wrote, "the connections between intellectual activity and the body, diffused in every

bodily feeling, are focused in the eyes, the ears, the voice, and the hands. There is a co-ordination

of senses and thought. . .” (p. 50). Whitehead’s pioneering work understanding and articulating

the vital importance of the body in teaching-and-learning remains remarkable. Nearly a century

later, Macintyre Latta and Buck (2008) discuss in their article how little research, attention, and

discussion the body has been given in relation to teaching and learning to teach. Using Merleau-

Ponty’s (1962) concept of “flesh,” I offer another way of framing embodied teaching-and-

learning by Macintyre Latta and Buck as, “reorienting to the very ‘flesh’ of learning, assuming a

self wholly involved as participator, bringing thinking, feeling, seeing, and acting into a vital

relationship” (p. 324). Embodiment dismantles the mind/body dualism of teaching-and-learning

by understanding, as Heidegger (1997) does that “we do not ‘have’ a body; rather we ‘are’

bodily” (p. 98–99). For Julie, hearing the students required her to be in the moment with them

where the potentiality of sense-making unfolding was possible.

Throughout the transcripts of our conversations, Julie regularly ended sentences,

including the passage at the beginning of this section, with, “if that makes sense?” Macintyre

Latta and Buck’s (2008) work helps here in understanding that perhaps Julie is trying to make

sense out of things through her consistent rhetorical questioning and checking if her “listener”

exists in the same “eco-place” as her. They write: “the body as the ground of sense-making must

trust the simultaneous interplay of theory and practice” (p. 325). In other words, I interpret

Julie’s questioning as a way for her to bodily process the negotiations of what she says through

the lens of theory and practice. Consistently, there were illustrative examples Julie gave in

reference to questions I was asking, as well as tying it to the readings and research she did at the

university.

As part of Julie’s journeying during her eight-week field placement, *Erfahrung* was of

import. Here, I use *Erfahrung* with its double meaning—both as experience and as venturing

with others. Julie became experienced in inquiry-based teaching-and-learning through journeying

with others throughout the course of her two-year undergraduate education degree. During our

conversations, Julie specifically discussed the support of her partner-teacher, Dianne at Potamoi.

Not only did Julie feel the work she and Dianne were doing was wholly collaborative, she was

clear that the work Dianne and her students had been doing was inquiry. As I mentioned

previously in the section, Julie also ventured together with Dr. Watson, her mathematics

specialization course professor. As well, Julie discussed on several occasions the scholarly work

of Dr. Friesen concerning educational reform, inquiry, as well as mathematics.

Along with Dianne, Dr. Watson, and Dr. Friesen, Julie also ventured with the Grade 4

math and science students. She and the students cultivated a strong relationship in their eight-

weeks together. Julie was the only student-teacher in the transcripts to refer to the students she

taught as *my* students. On both occasions when Julie and I had our conversations, we met at the

school. After the conversations, we walked out of the library and inevitably at some point, one or

several of the Grade 4 students could be seen running towards her yelling her name and diving in

for a big hug. Just as Julie's students embraced her, she embraced wayfinding in her eight-week

placement, cultivating experience—not experiences that she *had*, but experiences she

underwent—in inquiry-based teaching-and-learning (Gadamer, 2004).

Hitting the Bulls-Eye: Diving In

When asked what he learned regarding inquiry-based teaching-and-learning over the

course of his field placement, Marty replied:

> *Not to put it in the box. Not to worry so much about trying to get to the answer—get to*
> *the result—and that is more of what my background is, from top-down, 'Here is where*
> *the company is going so I know where we need to be,' and my goal was to get my group*
> *there, and so if I knew my employees, I knew who liked to be told what to do and who*
> *didn't, and then I knew we were all getting to that point and I had to get them there*
> *because that was my job. So translating that into the classroom thinking, 'Oh, this is*

great because I have all this experience,' but that is not what I need to be doing; I need to know, 'this is kind of where they should get.'

'Does training affect performance?' yes, and there is nothing wrong with that answer if you are saying, 'Yeah.' Okay, where is your proof? Here is my proof. It is this sport. Here is what I did. Versus a completely different sport activity, where I would have been, 'They all have to be doing the same sport and you should all see the answer.' I don't have to do that with any type of learning—and really that is what I took away because the students are getting it and I am not being rated on, 'Did all the kids make it to bull's-eye?' No, they didn't, but they took away the overlying question, they get it, they know how to go out and do research, they know tracking, they know planning, they know doing it daily, they understand there is always big ticket items, whereas in my past experience that doesn't matter. That doesn't matter, but what did was, 'Did they get to the centre?' and so that was what I was focused on. I am trying to get away from that and that would be what I took away from your school.

Marty is a 39-year-old with a background in kinesiology and was completing his education degree, specializing in physical education. Similarly to Sam, teaching was not Marty's first career. While working on his first degree in kinesiology, he worked part-time as a courier for the large, worldwide delivery company FedEx. With graduation looming, Marty was uncertain of his future and the paths a kinesiology degree might offer. So Marty took his manager's offer to move into a management position once he graduated. After working at FedEx for eight years he moved into an operations management position at Canadian Pacific (CP) Rail.

However, Marty was restless in the corporate world and looking for a different challenge. Also, he wanted to have more fun in his work. In our conversation, he mentioned that he was always passionate with Phys. Ed, had spent a lot of time coaching, and felt many the skills from his previous work experience could transfer, such as classroom management and timetables. Marty was genuine. He was an incredibly nice guy—polite, respectful, and thoughtful. We had lengthy and lovely conversations, although Marty had a way of talking around questions. Often, after trying to follow his thinking and getting lost, I tried navigating us back to the particular

topic or question, sometimes successfully and other times we just carried on in another

direction—similar to streams navigating their ways to the ocean.

> Ordinary movement in a familiar environment lacks the stop-go character of navigation, in which every physical or bodily manoeuvre (displacement in space) is preceded by a mental or calculative one (fixing the course). 'Finding one's way' is not a computational operation carried out prior to departure from a place, but is tantamount to one's own movement through the world. To recapitulate my earlier point, we know *as* we go, not *before* we go. (Ingold, 2000, p. 239)

Returning to the passage from the transcript of the final recorded conversation I had with Marty,

discussing what he learned regarding inquiry-based teaching-and-learning after his field

placement at Potamoi, he often referred to his corporate management work. With the length of

time he had been in that particular environment, Marty seemed to really "know his way around,"

which speaks to Ingold's (2000) reference in lacking the "stop-go character" of navigating a

familiar environment. Whereas, Marty struggled with "finding his way" in or through inquiry-

based teaching-and-learning in the physical education context.

In his management positions, Marty knew in advance where he needed to get to and

where he need to get his employees to, which Ingold (2000) writes does not describe how one

finds their way in the world. Wayfinding does not act as knowing "before we go," but "as we

go"—a significant departure from the ways Marty had learned to live in the corporate world

where there were targets to get to or "fixed courses" to follow. Marty was beginning to connect

with the idea of wayfinding when admitting that he was trying to "get away from" *the* answer or

having only one way for students to learn in a physical education environment.

Marty's first sentence in response to what he learned regarding inquiry-based teaching-

and-learning over the course of his field placement was, *not to put it in the box*. Boxing it in

would mean trying to contain it. Inquiry lives through its ambiguity. One can draw a boundary

around inquiry, but it does not mean it exists. Inquiry remains messy, complicated, multi-layered,

interdependent, interconnected and because of this an urge often exists to define it, contain it or box it in. One of the difficulties with inquiry that Marty spoke of was that he had never seen it.

In our initial one-on-one conversation, Marty remarked that it remains tough to think of and enact inquiry-based teaching-and-learning because "*I don't want to say 'because no one is doing it,' but who is doing it? Who is doing it in the Phys. Ed world? Really?*" The research literature, discussed in Chapter 3, supports Marty's claim that enacting inquiry-based teaching-and-learning rarely happens within schools today (Singleton, 2007). Admittedly, in conversation with Marty's partner-teacher, Samantha, she mentioned few physical education teachers try to insert inquiry into their practice. As well, there was a learning curve for Marty's partner-teacher in helping create the inquiry, indicating they also did not have ongoing experience or sustained engagement in inquiry-based teaching-and-learning. After completing several key word searches for research concerning physical education and inquiry-based teaching-and-learning, few articles emerged. Still, Marty and the other physical education student-teacher in his cohort were intrigued and excited for the opportunity to see and try their hand at inquiry. With the support of their partner-teachers, Marty and his fellow student-teacher collaborated and attempted to engage and enact inquiry during their field placement.

Being or becoming experienced in finding one's way requires venturing with others (*Erfahrung*). *Erfahrung* translates as not only as venturing with others or not alone and also translates as experience (Gadamer, 2004). Initially in Marty and the other student-teacher's field placement, they worked with the school's Communication and Collaboration Leader, Dirk[31] in

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[31] As Potamoi School's Communication and Collaboration Leader, Dirk is the main representative for the school. He is responsible for conducting tours (42 in 2013) of the school and classes explaining inquiry for outside visitors. In addition, Dirk spends time organizing student-teacher placements, planning inquiries with teachers, connecting experts with teachers, and facilitating the online professional learning journal of the school, which highlights much of the inquiry work teachers and students are doing.

wanting to experience and become experienced in understanding the ways in which inquiry-based teaching-and-learning might look in physical education. The inquiry was planned as a two-week unit where the students planned and tracked the answer to the question "does training affect performance?" Students could choose any sport or activity they wanted to improve. Once they chose that, students broke the sport or activity down into an isolated skill to track their progress while training during their physical education classes. For example, for the sport of basketball, students could solely practice free throws.

Marty discussed with me the process he, the other student-teacher, and Dirk went through during their first planning meeting. I was surprised to learn they started the planning of the "unit"[32] with the creation of a rubric. Languaging inquiry using the word "unit" does not create openings for embodying the work because it remains framed as an object to be created or manipulated. Using the term "unit" also indicates a logical sequencing of specific lessons, as well as a finality of its end. In Marty's case, the inquiry unit lasted two-weeks.

Ingold (2000) warns that nurturing wayfinding happens "*as* we go, not *before* we go" (p. 239). In other words, before the inquiry was framed, Dirk and the student-teachers were figuring out what and the way students were going to be assessed (a rubric). In inquiry, it remains important for students to have opportunities to journey *with* the teacher as they embark into an inquiry, especially in terms of assessment. Also, knowing what will be assessed *before* the inquiry was framed worries me because the inquiry and student understanding help inform what and the way student work might be assessed.

Marty talked of giving students the assignment rather than including the students in the process of inquiry. The notion of "giving the assignment" harkens back to the industrial era and

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[32] It is of import to note that the word "unit" was used by Marty to describe the inquiry he, his fellow student-teacher, the two partner-teachers and Dirk created.

the assembly line of teaching. The teacher creates the assignment −> gives the assignment to the

student −> the student completes the assignment −> hands in the assignment to the teacher −>

the teacher marks the assignment −> and then returns the assignment to the student. Again,

similar to "the unit," the assignment exists as a manipulated object, rather than an enlivened and

organic entity. The unit or assignment was seemingly dictated to the student, by the teacher,

rather than negotiated or mediated together (Freire, 2003).

I am not suggesting the teacher and students not know what they hope to learn or

understand through the inquiry. It remains important for the teacher or in this case, the student-

teacher to know and understand what they hope students will understand through inquiry. In

other words, the purpose of the inquiry. However, the difference in the planning process Marty

discussed is the assessment was completed *before* understanding the purpose of the inquiry.

Marty commented, *I think that is where we struggled: how do we tell them [the students] what to*

do, but we don't want them to do what we did. Marty's language speaks to and of objectivity in

education where the teacher will tell you what to do and students follow. In relation to Ingold's

(2000) work, it has "the stop-go character of navigation" when one remains unfamiliar in moving

in an environment. Marty's language, wayfinding and *Erfahrung* through planning the inquiry

unit are not surprising—as the inquiry unit was only two-weeks of an eight-week field

placement. Considering *Erfahrung*, Gadamer (2004) postulates.

> This kind of "experience" is not the residue of isolated moments, but an ongoing
> integrative process in which what we encounter widens our horizon, but only by
> overturning an existing perspective. . . . Its effect, therefore, is not simply to make us
> "knowing," to add to our stock of information. . . . *Erfahrung* is something you undergo,
> so that subjectivity is overcome and drawn into an "event" (*Geschehen*) of meaning. (p.
> xiii)

Field (2007) also describes the importance of inquiry in the context of the field "experience"

because of its ability to introduce student-teachers to the "perplexity and mystery" (p. 80) of

teaching and the possibilities that it may open up "richer, more diverse opportunities for learning" (McGregor et al., 2010, p. 302). I consider two-weeks in and eight-week field placement, not an "ongoing integrative process" for Marty to fully "experience" inquiry-based teaching-and-learning. Marty asserted that "*once we did our [inquiry] unit I would say that was that, and it was wrap it up and put it on the shelf.* As well, Marty was journeying with others (Dirk and his partner-teacher) whose experience was limited in physical education inquiry-based teaching-and-learning. Another layer, arising in Mintrop's (2004) research lies in the student-teachers from his study and their willingness to simply follow the lead of their mentor teacher; defaulting to their mentor teachers' practices who they deemed as experts or master teachers. In conjunction, Crawford (2007) discussed that some student-teachers felt they did not want "to step on any toes" when it came to trying different practices than their mentor teachers (p. 623). Marty illustrates both of the preceding points in his comment "*It is not my school, not my students and they are going back to Samantha and back to Derek and going into the next unit.*" Marty's comment alludes to students as things to be traded between teachers and trained, rather than understanding the students as connected to his life, and he was connected with theirs.

Ingold (2000) reminds us; "In ordinary wayfinding however, whether on land or at sea, the world is apprehended from within. One makes one's way *through* it, not over or across it" (p. 241). Cultivating meaningful, rich, and organic opportunities as one moves through the world, also rings true with the nature of inquiry.

The only journey is the one within (Rilke, n.d.).

Glassy Waters: Reflections on Journeying and Inquiry[33]

Here I started to discover my own way for the first time. (Sam)

In journeying, attunement is needed to deeply experience (*Erfahrung*) teaching-and-learning.

Attunement to the movement of self, the students, and the topic are necessary so one can find the

way through. Ordinarily, one is taught to know where one is going (a map or plan), and what

supplies need to be packed before one journeys, not *as* one is journeying.

> It remains a challenge, however, to account for everyday skills of orientation and
> wayfinding. This challenge is compounded by the considerable potential for
> misunderstanding surrounding the question of what it actually *means* to know where one
> is, or the way to go. (Ingold, 2000, p. 219)

Ingold (2000) brings forth a critical challenge of wayfinding, similar to inquiry—

misunderstanding. Misunderstanding of what might be as well as also the urge to pinpoint

specific skills necessary for inquiry-based teaching-and-learning can emerge. Trying to trace the

threads of the ways in which student-teachers understand inquiry remains part of what I am

charged with in this research. At the same time, perhaps part of the challenge rests in re-

imagining teaching-and-learning—a way not always possible to be languaged into being, but

exists as lived and alive as an embodied way of knowing and being in the world. If one tries to

explain and contain inquiry solely through and into everyday skills, lesson plans and checklists,

it loses its life and meaning. As Julie aptly explains inquiry: *it is just a way of living almost, you*

know? I don't know! Which makes it really hard to put into, 'here is how you do it.'

> We shall not cease from exploration,
>   and the end of all our exploring
>   will be to arrive where we started
> and know the place for the first time.
> (Eliot, *Little Gidding*, n.d.)

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[33] I wrestled with the best or most meaningful heading to frame the last section of the chapter. I was resistant in using the words conclusion or concluding because it felt too final. I want the ideas; interpretations and discussions to remain open, alive and emerging rather than closed, lifeless, and complete.

Chapter 7

The Dragon

They heard the roar and rumble of Smaug's fury. He was breaking rocks to pieces, smashing wall and cliff with the lashings of his huge tail. Smaug had left his lair in silent stealth, quietly soared into the air, and then floated heavy and slow in the dark like a monstrous crow.

So great was his speed, they could see him as a spark of fire rushing towards them and growing even huger and more bright. The bridge to the land was thrown down and destroyed, before the roar of Smaug's terrible approach grew loud, and the lake rippled red as fire beneath the awful beating of his wings. (Tolkien, 2010, p. 213–214)

Fire leaped from the dragon's jaws. He circled for a while high in the air above them lighting all the lake; the trees by the shores shone like copper and like blood . . . Then down he swooped . . . reckless in his rage, taking no heed to turn his scaly sides towards his foes, seeking only to set their town ablaze. (Tolkien, 2010, p. 227)

Dragons have been part of cultures, mythology, literature, and folklore worldwide for thousands of years. While there are a multitude of dragon images, this chapter focuses on two. One image of the dragon stems from a Western perspective, portraying the mythical creature as evil, ferocious, fire breathing, and treasure-hoarding. Whereas the Eastern image of the dragon acts benevolent—kind, generous, grateful, as well as wise and life-giving (Legg, Salariya, & Scrace, 1998). To be clear, dichotomizing dragons "as either good or evil, cure or poison, fact or fiction, stranger or kin," misses the point. (Wallin, 2007, p. 2) The point here, in the present chapter, lies in paying attention to what Wallin (2007) would refer to as "borderline figures" (p. 2). As well, water returns again, bridging the seemingly dichotomous nature of the Eastern and Western images of the dragon. Regardless of East or West, dragons live in rivers, riverbanks, streams, the sea or seashores and have the powerful ability to control the waterways and the rains (Schumacher, 2013).

Chapter 7, The Dragon, brings alive the mythical beast. The relationship between the student-teachers and dragons is discussed in detail in the sections below. Although in some

cases, different dragons *appear* to host opposite dimensions and characteristics—good and evil,

creation and destruction, "the dragon is also a symbol of unity for it combines the features and

talents of many beings in oneness and wholeness" (Miller, 2009, par. 6). So the dragon itself

exists as neither good nor evil, but its power can be turned towards good or evil purposes (Miller,

2009).

The image and metaphor of the dragon arose quite surprisingly for me. Discussed in the

preceding chapter, part of my process navigating the transcripts and other materials from the

student-teachers was reading and listening for words, phrases, and/or ideas that "struck" or

troubled me.

> Interpretation seeks out its affinity to its "topic." One does not have and "interpretation"
> in hand as a method and *then* go out looking for a topic—scouring transcripts, for
> example, and "doing" and interpretation of them. Rather something *happens to me* in my
> reading of the text, when something *strikes* me, tears me open, "wounds" me and leaves
> me vulnerable and open to the world, like the sensitivities of open flesh (Jardine, 2008, p.
> 199).

One of the striking phrases from my first one-on-one conversation with Sam arose as he

recounted hearing Dr. Friesen speak at the local teacher's convention in February 2013:

> *I had a chance to go and listen to Sharon Friesen at the teacher's convention and that*
> *was really cool . . . The best line she said was, 'Watch out for the tail of the dragon*
> *because it is pretty powerful as it is dying.'*

The image of the dragon would not let me go, or I it—I was being claimed by it (Romanyshyn,

2007). As "a metaphoric sensibility" there was "an invitation to regard [the] work through the

image(s) that animate it" (p. 322). Rather than ignore the dragon, I befriended it, trying to

understand it more fully.

> Language itself contains sedimented layers of emotionally resonant metaphors,
> knowledge and associations, which when paid attention to can be experienced as
> discoveries and revelations. . . . [The interpretive task] is to inquire into what is hidden in
> language, what is deferred by signs, what is pointed to, what is repressed, implicit or
> mediated. (Fischer, 1986, as cited in Jardine, 2008, p. 198)

A gathering around the dragon metaphor ensued as my understanding of dragons was cultivated—their powers, characteristics, types, myths and folklore. The dragon's connection to water—inhabiting lakes, oceans, and streams, as well as causing rain to drought-ridden landscapes when needed, readily entangles itself with the central metaphor of the dissertation (Miller, 2009). Other connections emerged during conversations with the student-teachers and specific types of dragons. The chapter below opens by entering the dragon's lair and the subsequent fear ensued by doing so. The ensuing chapter connects to three common forms or images of dragons: the guardian, fire breathing, and benevolent.

The Dragon's Lair

Perhaps all the dragons in our lives are princesses who are only waiting to see us act, just once, with beauty and courage. Perhaps everything that frightens us is, in its deepest essence, something helpless that wants our love.

(Rilke, n.d., p. 54)

Journeying and finding one's way into and within the darkness of a dragon's lair is apt to be frightening and unnerving. In a conversation with Julie, discussing whether inquiry was a way everyone might be able to learn, she brought up that it could be scary.

> *I don't think [inquiry] is for everyone initially, I think that is really scary, and I think you build those skills and competencies, and that ability to live in a space where you are okay with the fact that you might not always have the right answer, you might make mistakes, that you are not going to be told when your work is done, or good enough and that it is part of your responsibility as a learner to begin to recognize that and push yourself further all the time. I think that is something that you build every time, I don't think that is something you just walk through the doors and know how to do. So I think that . . . once you build those skills, inquiry is a place—a place!—or a space that . . . if you are living within a space where you are pushed to inquire about the world, I think that is a way most people can learn.*

Julie refers to "the ability to live in a space" where there are responsibilities as learners— referring to the notion that everyone in the space could be considered students of inquiry. As such, perhaps some students, student-teachers, and teachers enter the space feeling as though

they are in a dragon's lair. The discomfort of living in the dark and cavernous space of the

dragon's lair surely arises. Wallin (2008) points out that monsters can teach us difficult lessons,

"calling us beyond our sense of firm footing in the familiar" (p. 312). Only when one dwells in

the comfort of the discomfort will growth continue because it requires pushing oneself further

into the cave, deeper into inquiry, to look and feel one's way around.

Entering the dragon's lair, student-teachers would do well to have Hermes close because

he acts as keeper of the gateway, which can open up and lead one "to the hidden world of

meanings beneath the surface of the obvious" (Stassinopoulas & Beny, 1983, p. 193). We turn to

Hermes because as a boundary crosser he moves between the earth and the underworld (Fidyk,

2010; Stassinopoulas & Beny, 1983, p. 194). Julie discussed delving into the "underlying stuff"

in one of our conversations with the nature of inquiry and the work she was doing with her Grade

4 students:

> *What makes, work authentic and real, and meaningful is pushing [the students] to think deeper about it, and not just by allowing them to learn about what they want to learn about. Inquiry is just a way of being. So no, I don't think it is prescriptive, I think it is a way of looking for the underlying stuff, the really juicy, meaty stuff below the surface of whatever it is you are talking about. It is a way I would hope a lot of students continue on to live in the world for the rest of their lives, and a way of looking and asking questions, and learning deeply about everything, and a way of being curious about how the world works.*

Julie's passage highlights the Stassinopoulas and Beny quotation concerning getting to the

hidden world below the surface where the juicy and meaty stuff live. Inquiry "requires a different

way of seeing and knowing" (Romanyshyn, 2007, p. 147). As Rilke (n.d.) points to in the

opening quotation of the section, perhaps seeing and embracing the seemingly ferocious dragon

as frightened and helpless itself, may shape the way we engage with it. Approaching the dragon

in a generous way, for instance, opens ourselves in unanticipated ways (Wallin, 2008).

Approaching inquiry, then, as a different way of *being* in the world—attuning to one's learning

environment and everything within it changes oneself. One must push oneself to descend into the

underworld and sometimes darkness to wrestle with a topic or idea, seeing it differently and

helping breathe life and meaning into it. Thinking differently concerning the dragon's lair as an

opening or portal allows for ways to delve deeper into the juicy and meaty stuff, rather than

paralyzing one with fear. Wallin (2007) points to the portal as a wound, "the hole (*porta*) of

signification, as opportunities to maintain an openness to the wor(l)d" (p. 2). Thinking differently

and delving into the darkness and unknown, however, requires something on behalf of the

student-teacher. One must be courageous, open, and willing to fully experience the experience—

to take risks and cultivate one's vulnerability.

The Guardian and the Hero

In literature, movies and folklore, the dragon often reveals itself as a guardian and

hoarder of treasure. In this vein, the dragon's image remains evil and therefore must be slain,

rather than tamed or controlled, in order to secure the treasure and for the hero to be deemed a

hero (Mee, 1995).

> *I guess different expectations—not that [Potamoi] has crazy expectations—but knowing that our goal isn't to go to Kiwanis[34] and win, or put on some big concert, it is about inquiry. So laying that down to the parents and teachers and being, 'This is what we are experimenting with here,' because it would definitely be an experiment. It is almost like there is a risk in that, and I found—I messed up this[35] a little bit—and there was risk in that, and by doing something so totally new I didn't know how perfectly it was going to work, so if I was to do [it] and meaningfully take a stab at doing inquiry in Band and do those ideas that we talked about today, I would need to lay it out, 'We are not trying to win a gold in Festival this year, we are trying to do inquiry so I don't know what the results are going to look like.'*

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[34] Kiwanis Festival is an annual music and performance competition for amateurs. School bands often register and play in front of musicians who adjudicate each performance and offer verbal and written feedback to the band students. Bands that excel have an opportunity to be selected to move to provincial and national levels of competition.

[35] The project Brian is referring to is one he created where band students used GarageBand to understand the ways songs are put together and then had them create their own version of a song with different layers, such as lyrics, drums, synthesizer, bass, etc.

Especially early on in my career I wouldn't want to do it [inquiry], I would want to nail it to the wall, I want to prove that I can do this and do it really well and make sure that my band can play amazing, and if that means following Standard of Excellence step by step I would probably do it. So I would have to let go of that expectation that things have to be perfect and that you have to nail it all the time, and every kid has to be a perfect whatever-they-play, and just be about the kids learning and enjoying it. So . . . yeah. Letting go of that expectation and that competitive nature. I would want to go and beat other schools—there, I am being honest and you are my therapist—that is the honest truth; I would want to go and beat other schools! How messed up is that? (Brian)

Brian is an independent, focused, 25-year-old music specialist with high energy, an ambitious attitude, and confident demeanour. As illustrated by the preceding passage, Brian was forthcoming and honest in our conversations regarding teaching-and-learning at Potamoi School and his experiences during the eight-week field placement. His passion for music, the students and wanting his band to be successful was evident throughout our conversations. Although in the passage Brian brings up teaching beyond Potamoi rather than his specific experience there, it speaks to Brian's on-going struggle arising in our conversations—similar to the struggle the hero has in defeating the dragon in battle and slaying it. Struggle and turmoil surfaced for Brian in relation to the ways one might attempt to use inquiry in band, as well as whether or not there was merit in doing so.

Brian discussed on more than one occasion that rather than teaching through inquiry, he wanted to "tear it up" or "nail it" at Kiwanis during his first couple of years teaching band. Another phrase one might use is "slaying it." I portray Brian here as "the hero," wanting to slay the dragon. The Dragon as Guardian always protects something, like the treasure of gold and diamonds Smaug guards in *The Hobbit* (Tolkien, 2010). Often the common image of the Guardian Dragon arises as one of an evil, destructive, and dangerous beast. The hero, rather than attempting to tame or control it, he slays it, securing the treasure for himself or the rightful benefactor. The treasure for Brian would be the gold his band would win at the Kiwanis Music

Festival.

To be the hero and win "the treasure," Brian suggested the need to be perfect "*and that you have to nail it all the time, and every kid has to be a perfect whatever-they-play.*" Ferrero's (1998) work in relation to modernity and perfection is helpful here. "It is indisputable that the modern world demands two contradictory things, speed and perfection. We wish to conquer the earth and its treasures with all possible haste" (p. 31). Working hastily to ensure perfection can often be at the peril of joy and creativity. Enchantment with the creative and embodied world is largely denied in modernity, favouring order, predictability, and technical curriculum implementation (Wallin, 2008).

In *The Hobbit* (Tolkien, 2010), Bilbo was sent into the dragon's lair as a "thief" to steal back the special Arkenstone gem—the birth right of the dwarves. The dragon, Smaug, was obsessed with gold and his mound of treasure. Like Brian coming into his eight-week field placement, Bilbo was sent into Smaug's cavernous lair as a newcomer, a novice. However, the dwarves, and perhaps even Bilbo himself, had little confidence in his abilities as a "thief." Yet, he was able to save the dwarves, secure the Arkenstone, and in the end was considered a hero (even without slaying the dragon). Similarly, Brian discussed winning "gold" at the Kiwanis festival and it being a "prize" brought back in victory to the school. Brian talked passionately and enviously of a first year band teacher winning a teaching award and the way the teacher really "tore it up" in his first year. *I want to go and beat other schools*. Brian wanted the prize to showcase his abilities as an outstanding band teacher—to be the hero.

Brian's passage at the outset of the section illuminates his hesitation and challenge with inquiry and student success. In our conversation, Brian felt that if he wanted the band to do well

in school performances and/or at music festivals such as Kiwanis, he needed to teach students in

a traditional way.

> *I thought, 'I am going to go to Kiwanis and I am going to win,' and there is that competitiveness inside me, and then I would think, 'How am I going to do that?' Well I am going to do that exactly how I am supposed to do that—which is kind of sad.* (Brian)

Referring to our conversations, going to Kiwanis and winning, Brian's students would use and

work through the Standards of Excellence books, with him at the front of the classroom

conducting the group as a whole. At times when discussing inquiry, Brian struggled, viewing it

as an either/or scenario—either the teacher and students did inquiry, risking success at

performances or festivals *or* band students were taught in a traditional way giving the teacher

and students greater opportunity for performative success. Like the hero slaying the dragon, the

tale continues to be revered and retold in the literature, set up as an epic performance to behold.

Traditionally, band or music in schools exists as performance-based and conductor (or

music teacher) focused. A traditional view of music curriculum focuses on teacher decisions

made in the planning phase prior to students engaging with the curriculum. Like the hero's slain

dragon, the curriculum remains inert or dead, rather than enlivened. Therefore, curriculum

planning remains treated as a rational, orderly, and sequential event with student learning as the

outcome or product (Barrett, 2005). A reconceptualised curriculum for the teaching-and-learning

of music has students' musical understanding at the centre of the approach, rather than as the

final result or outcome. Musical understanding, according to Barrett exists as "the various ways

that students organize knowledge in order to solve musical problems, create new musical ideas,

or derive meaning from music" (p. 23). A curriculum promoting musical understanding uses

instructional strategies embracing inquiry, however not necessarily as a disposition or an

embodied way of being.

Although there are a couple of anecdotal examples of music teachers embracing inquiry-based teaching-and-learning in the research (Barrett, 2005; Scott, 2007), little additional research supporting or enacting such an approach or way of being exists. With minimal teaching-and-learning focused on inquiry both in research and practice, opportunities for Brian to see or experience inquiry in band during his eight-week field placement was seemingly absent. Perhaps unsurprisingly, then, Brian did not discuss enacting inquiry in a sustained way within his field placement. Towers' (2010) research expressly suggests talking and explaining inquiry remains insufficient, it needs to be *experienced*.

For Brian, the struggle arose in not seeing inquiry at all in band—either at the university or at Potamoi or not recognizing it because it was not presented as such.

> *With Band you would have to figure out how to do it [inquiry] first of all! I actually don't know what that looks like. One of your questions was, 'Bring any materials you have about inquiry,' and I literally don't have any. I haven't seen any. I would love to, I am all ears!*

Although Brian discussed wanting to slay it and, as the hero, win gold at the Kiwanis music festival, he was also keen in our conversations to learn more of inquiry and the way it might look in band. Together we generated some initial ideas for teaching skills and understandings through inquiry such as embouchure and setting up a music stand. Through our conversations regarding inquiry and the ways in which it might be useful in band, shifts in Brian's understanding of inquiry began happening.

Moments when Brian discussed and imagined using inquiry in band were as though Hermes as the *psithyristis* (meaning whisperer in Greek) was quietly coaxing him to embark on the journey into inquiry (Stassinopoulas & Beny, 1983, p. 193). "Hermes world is not the heroic world of objective facts and rigid absolutes but the shifting world of reality that includes endless transformations" (Stassinopoulas & Beny, 1983, p. 196). However, because Brian's field

placement was complete, we were simply *talking* of *applying* inquiry in band rather than opportunities for the embodiment of inquiry by living it as a practice or a way of being in the world. Although Brian began to talk of inquiry as beneficial, it was explicitly as a method to apply.

> *Someone should craft example lesson plans just like that of, 'here is an example of how to teach tuning through inquiry.' It would take a little bit longer, but the learning would be so much better. Everyone would really understand why and how. It would take longer, but especially with Grade 6, [it] is the perfect place to do that because then they would go into junior high with these core understandings. So it doesn't matter that they don't have as many pieces polished because they didn't practice and rehearse as much, but they are learning specific things in a way that is so much richer and deeper. That's good. That is really good stuff.*

However, in our initial conversations, Brian did not articulate a strong understanding of inquiry. He commented that he had never seen inquiry and did not know how to enact it. While one might be able to understand inquiry and talk about it, others might be able to enact it, but not articulate it, which is reflected in Towers' (2010) research with one particular neophyte teacher. What might it mean to understand inquiry? I suggest that what it might mean and the ways the understanding(s) are enacted could be different for everyone and dependent on the discipline and the topic of the discipline. In other words, the topic ought to inform the ways it is taken up.

I heard in our discussions, however, the challenges Brian faced with band as a unique discipline, with its public perfomative nature. The pressure to teach to the performance "can signal calcification and closure as much as it can signal a healthy desire for stability, order, continuity, memory, community, and the like" (Jardine, 2008, p. 207). As a student-teacher, one simply might want to be part of the community of band teachers and to do so might mean perpetuating traditions in the ways in which band is and has been taught. Teaching band, it seems, "is a task that has befallen all members . . . and as such, is bequeathed upon each

successive generation." (p. 315). Also, part of the hero motif exists in an effort to gain and keep

order, to turn chaos into stability.

> *A teacher might be scared to spend time doing inquiry not knowing if it is going to be*
> *perfect or if you really know they are learning, it is going to take time away from the*
> *presentation, or the performance preparations. I can see why a teacher would be, 'I just*
> *want to play it safe and get that performance ready.' But that is not really a good excuse*
> *and we shouldn't just teach to the performance, but it is easy to do.* (Brian)

As Brian mentions, similar to the hero facing the dangerous dragon, the fear of the unknown with

"doing" inquiry remains. For Brian inquiry was both an ally and an adversary, at the same time.

The dragon also combines seeming opposite characteristics into "oneness and wholeness"

(Miller, 2009, par. 6). Similar to the hermeneutic part-whole insight, where "the part *is* of

particular significance to the whole" and in the process of becoming domesticated "requires

something different of us, our habits and orientation to the wor(l)d" (Wallin, 2007, p. 3). Brian

saw the ways in which inquiry might be beneficial for band students and also discussed the

courage needed to take the risk. It was as though the Guardian dragons were challenging Brian

and he was at times being pulled down into a sea of darkness and the depths of its lair not

knowing which way to turn.

> Man [sic] uses and is influenced by the
> whole world ocean, but that narrow
> zone where the land containing his
> civilization meets the sea is unique.
> This is the point where man [sic], the sea
> his [sic] immemorial ally and adversary—
> and the land meet and challenge each
> other.
> (U.S. Department of the Interior, 1969, p. 3)

Breathing Fire

An image commonly associated with dragons exists as a fire-breathing monster with

horrific power used to destroy its enemies. The depiction of dragons with the ability to breath

fire originated with the Egyptians, but was later associated with Christianity and the "fires of

Hell" (Mee, 1995, para. 22). A fire-breathing, winged dragon remains a feared and powerful

creature bringing danger and intent to destroy. With its "poisonous breath" (Mee, 1995, para.

22), often keeps its enemies at bay.

> *If we try to impose inquiry on everybody without fully understanding what it could be and losing some of that openness . . . looking towards facts as a target rather than skills as a target, that could be very dangerous because it is not really inquiry at that point, but I guess that all-encompassing term could become quite dangerous. Some traditional teaching methods might actually work, sometimes there are things you [have] to know and maybe if some student does need a more simple way to get there—well not always simple, but straightforward way—sometimes you have to be open that way too. I think inquiry probably should be seen as this thing that is more open to everything and I would be worried if . . . or the danger could be if it becomes about shutting anything down potentially, or going off down a tangent and calling it something it is not, or using inquiry to justify something that is not inquiry.* (Sam)

As Sam discusses above, to paint a picture illustrating the technical or instrumental way

of teaching as "all bad" would be unfair. There are a host of ways "traditional" teaching methods

might provide benefits to teachers, such as organizational structures in the classroom, routines,

techniques, and models (Field & Macintyre Latta, 2001). However, the threat comes when the

instrumentalism exists as the *only* mode of action in teaching-and-learning or as Sam suggests,

when it shuts down potentiality. Education then, becomes concerned with managing children to

neatly and efficiently complete tasks with predetermined objectives and checking off a list of

fixed outcomes (Field & Macintyre Latta, 2001). A teacher's purpose becomes as a technician

ensuring sustained productivity from their students—part of the neoliberal agenda. In other

words, the life—the mindful embodiedness of teaching-and-learning for both teachers and

students is deadened (Field & Macintyre Latta, 2001). Whitehead (1929a) refers to teaching this

way as being stuck in the stage (or phase) of precision, but without being held by romance.

Whitehead's (1929a) vision of precision remains "pace, pace, pace" and to "get your knowledge

quickly, and then use it" (p. 36). Unlike Whitehead, many traditional schools and schooling

focus solely on the accumulation of knowledge, facts, and information, which Whitehead was

vehemently against. Whitehead wrote in the preface of the *Aims of Education*, "The whole book

is a protest against dead knowledge, that is to say, against inert ideas" (p. v).

Through Whitehead's (1929a) intertwining phases of romance, precision, and

generalization, teaching-and-learning comes alive. Teaching-and-learning becomes a living

discipline, rather than a method flattening out and destroying its life. The danger arises precisely

when teaching-and-learning becomes concerned with shutting things down—ideas,

conversations, curiosities, questions—in the name of a method privileging management, control,

and predetermined ends. Inquiry, as Sam discussed, used as a way to label or justify something

that is not inquiry, destroys the potentiality for deep understanding. Concerning inquiry, Bastock,

Gladstone and Martin (2006) explain further in the following quotation.

> Inquiry, if it is only a label, may have a brief shelf life, because there is the danger that it
> can become simplified and devoid of deeply rooted understanding, or that it can be used
> to describe any teaching situation. (para. 5)

The way we treat inquiry changes its nature. If not treated properly, it will likely burn out and

simply turn into another "thing" teachers are supposed to do in their classrooms. Inquiry does not

concern itself with simplifying teaching-and-learning into a "one size fits all" method. Turning

inquiry into a catchall word or method is dangerous—like the indiscriminate fire-breathing

dragon torching everything in its path. Jardine and Seidel (2012) further illuminate the issue our

profession has labeling things.

> As educators, we all understand how susceptible our profession is to latching on to terms
> and ideas whose "shelf life" often seems to be inevitably fleeting. The great irony, here,
> is that the term "inquiry has been recently proffered in educational theory and practice as
> a way to name a form of deep, rich, articulate, engaging, rigorous and pleasurable form of
> classroom work, a type of work that is precisely not fleeting, not "new and improved,"
> not a passing fad or fancy. (*Course Outline*, p. 1)

Bastock, et al. (2006) and Jardine and Seidel (2012) bring up the term "shelf life" in relation to

inquiry. Imposing inquiry on everyone, as Sam suggested, may turn it into an all-encompassing

term or label describing and justifying teaching that has lost its openness. Inquiry that "expires"

or loses its (shelf) life—taking its last breath, no longer remains inquiry, but something else

because by its very nature it is alive, organic, and rich. The breath of the fire-breathing dragon

can also be used to breathe life into inquiry. To aspire, arrives from the Latin *aspirare* "to

breathe upon, blow upon, to breathe" (aspire, n.d.). Sometimes, as the fire wanes, a light breath

on the hot coals can bring it back to life. It does not always require the raging, undiscerning

breath of the dragon.

The Benevolent

Water is fluid, soft, and yielding. But water will wear away rock, which is rigid and cannot yield.
As a rule, whatever is fluid, soft, and yielding will overcome whatever is rigid and hard. This is
another paradox: what is soft is strong.

(Lao-Tzu, n.d.)

Benevolent dragons, most often linked to Asian countries, are connected with the

elements (specifically water), and often "display human emotions such as devotion, kindness and

gratitude" (Rosen, 2009, p. 64). In Buddhism, the dragon acts a symbol representing "ultimate

wisdom, confidence, and power" (Rinpoche, 2005, para. 4). Similar to water, the benevolent

dragon exists as both soft and strong, yielding and powerful. The power of the benevolent dragon

was often seen guiding natural forces such as rain to drought stricken agricultural lands—giving

them and its people life again.

When asked if his idea or understanding of inquiry changed over the course of the eight-

week field placement, Sam replied,

> *I think so. I am a lot more grounded, I think, in what I can attach and say 'this is a part*
> *of inquiry' and 'this is a part of inquiry' and 'I truly believe that this needs to be there so*

you can get to inquiry.' I think I sort of believe in inquiry as that goal—I never didn't—because when I look at myself and what I enjoy most in life—in life and learning too—there is a bit of a challenge to it, and it requires me to invest in it personally. Again, those are all things that become a part of inquiry. It is that space where I am at, or I am happiest when I am in that space. I still couldn't nail it down, I couldn't define it for you, but I can tell you a whole bunch of pieces that lead towards it. I can define it as that space and I can understand the feeling of it, I guess, a little better and I am able to relate to that, and way more confident in communicating it because now I have some concrete examples of, 'This is what I did' and it is not an extra bullet point on a list of things that another school might do; 'Oh, we also use inquiry' because it really is at the heart and it surrounds everything. Now it is backwards the other way, and it is looking at what you have done and, 'What fit? What parts of this fit? Where was inquiry? How did it support inquiry overall?' and I think that is a much healthier place to be rather than trying to pin down something that is hard to understand and implement it. Go with what you know in what you are actually doing and then come back and, 'Did it fit?' or, 'How could it have fit to be more like inquiry?' 'How could I help more students get into that space where they feel challenge, or where they actually feel invested in, and where they knew where they were going even if they didn't know how to get there?' I'm just finally able to see it and be in a space where it was turned around. And even if I had to go into a school that didn't promote it, or it wasn't as strong I think I still had that experience and I think even this chance to vocalize it and it helps—I go out filled with confidence—and from hearing somebody talk about it and being able to talk about it as well. So no, I think it has flipped and rather than it trying to be this thing there is a whole bunch of things that contribute—or don't—that could be better. That is where I see it, and that is where I am. It wouldn't happen without being in an environment like this and it couldn't happen just from being in lectures and seminars at the university. (Sam)

In the preceding passage, Sam discussed peering into what he did during his eight-week field placement at Potamoi. A fitting descriptor for Sam, who remains critical of his practice, always analysing, questioning and reflecting, is the dragon because *drakôn* in Greek, means "to look intensely" (Tcho, 2007, p. 94). Sam clearly articulates that having opportunities to see inquiry in an environment such as Potamoi was critical in learning more deeply about it. At the same time, Sam referred to inquiry as *things* contributing to it or not, rather than it being lived. However, perhaps for Sam "this is the hermeneutic dance of part . . . and whole" (Jardine, 2008, p. 197) where Sam tries weaving together the parts with the whole. In that sense, Sam saw inquiry as parts of a puzzle where all pieces are needed (likely not the same pieces each and every time) in creating an image or landscape of the entire puzzle.

Sam also spoke of the importance of hearing someone discuss inquiry in learning to understand inquiry-based teaching-and-learning. Gadamer (2004) suggests, "The primacy of hearing is the basis of the hermeneutical phenomenon. There is nothing that is not available to hearing through the medium of language" (p. 458). For Sam, hearing was like *drukdra*, the Tibet word for thunder meaning, "the sound of dragons. Like thunder, the wisdom of the dragon wakes us up. It shatters conceptual mind and uproots our insecurity" (Rinpoche, 2005, para. 4). As well, through hearing, the hermeneutical phenomenon "encounters us and does so as if it addressed us and is concerned with us" (Gadamer, 2004, p. 457). With *drukdra* Sam became more confident; less insecure, and felt what he heard in relation to inquiry at Potamoi addressed him in ways that fostered a deeper understanding of inquiry.

Sam's confidence was an ongoing and important discussion point throughout our conversations. Initially, at Potamoi, Sam stated he lacked confidence. Over time though, he grew more comfortable and confident in his role. In Buddhism, confidence is a characteristic of the dragon. The dragon represents one of the Four Dignities of the Warrior's Path, a path deepening and furthering one's authentic presence in the world (Trungpa, 1984, p. 161). The dignity the dragon represents is the Warrior of Inscrutable.

Sam embodied the Warrior of Inscrutability in his willingness to resist nailing down a definition of inquiry because it requires a settling down or into one's confidence where one remains relaxed and at the same time grounded (Trungpa, 1984). As well, it does not concern itself with spelling everything out, such as defining every detail of inquiry because then it loses itself. As Trungpa (1984) further asserts, a main tenet of inscrutability lies in a non-committal and at the same time accurate approach (pp. 169–171). During his eight-week placement at Potamoi, Sam reflected a vision of inscrutability—cultivating opportunities, as well as

discovering and experiencing both positive and negative conditions (Trungpa, 1984, pp. 169–171).

Also highlighted in the passage at the outset of this section, Sam suggested he understood the *feeling* of inquiry—something that cannot always be languaged. "The body . . . is a site of learning, of experiencing, of becoming (Perry & Medina, 2011, p. 73). As Perry and Medina (2011) discuss, whether one acknowledges the body in teaching-and-learning or not, we all have bodies and therefore embodiment simply *is* (p. 63). Sam's body became a site for his learning and experiencing of inquiry as a feeling—something often discounted or discredited. For Whitehead (1929a), experience and learning are unfolding, organic, fluid, and are "felt and appreciated through the body of the learner" (Fidyk, 1997, p. 30). In the passage, Sam further described inquiry as a space or place. A sympathetic environment, in relation to inquiry, such as Potamoi appeared needed for Sam, to cultivate the Warrior of Inscrutability (Trungpa, 1984). The sympathetic environment nurtured Sam's confidence and ability to "feel." Jones and Woglom's (2013) study with student-teachers suggests the ways in which "bodies and places interact with one another . . . produce sense-making about people, places, and the purposes of education" (p. 1). Through the relationship of feeling, seeing, and hearing, Sam's sense-making translated into an embodied understanding of inquiry.

Ripples in the Water: Reflections on The Dragon and Inquiry

> *I had a chance to go and listen to Sharon Friesen at the teacher's convention and that was really cool . . . The best line she said was, 'Watch out for the tail of the dragon because it is pretty powerful as it is dying,' and she is talking about obviously the change, the changing paradigm and the whole openness and with the direction the school is going we do need to be careful a little bit . . . And the university needs to be changed, in my opinion, but it is going to be the last to change and that is the strongest part of the tail.*
>
> (Sam)

I return, at the end of the chapter, to the beginning and Sam's introduction of the dragon

and the dragon's tail. His "words echo[ing] down into rich 'implicate order' (Bohm, 1983) of

metaphors, mythologies," and folklore allowing entirely different connections and potentialities

to emerge (Jardine, 2008, p. 195). Hermes standing at the gateway of the lair always remains

ready for the new (student-teachers) to guide them and "help transform the world and make it

new" (Jardine, 2008, p. 202). Across North America a paradigm shift and transformation in

education has been called for—specifically in Alberta, the governing educational body, Alberta

Learning is calling for a transformation of the curriculum and the ways it is being taught. For

example, they are placing more focus on inquiry-based teaching-and-learning, as well as the

cultivation of competencies by students, rather than outcome-based. According to the research

literature, prospective teachers as inquirers are slated to have potential to play a crucial role in

the reform and transformation of both pre-service and public school education (Cochran-Smith,

1991, 1999; Cochran-Smith & Lytle, 1990, 1992, 1999; Kincheloe, 1991, 1993; Wells, 1994;

Mule, 2006).

> Now we can begin to see *our own dependency*. We can begin to see how our hope hangs
> upon the young and their ability to open up what has become closed, to re-new what has
> become no longer workable—to find the portals, the openings, the life in what we do.
> (Jardine, 2008, p. 204)

Perhaps in education, we are now at the point where the dragon has been slain, but the tail is

what we must now contend with. Meaning, the opportunities, the openings, and the space to re-

imagine education and the courage to enact this re-imagining might be now—when the dragon

has been slain. At the same time, the dragon's tail is still willing to take one last strike against

transformation, wanting to keep education simple, organized, standardized, and measurable. Sam

suggests the university exists as the strongest part of the tail and will be the last to change.

Renner (2009) recognizes the need for change within the university and our dependency on the

young. He also specifically suggests teacher education programs can be liberatory sites offering

hope and portals or openings of possibilities for change in education (Renner, 2009, p. 76).

While I am forever hopeful the tides are changing in education, embracing a more

organic, rich, and alive way of being, it would be naïve to suggest that a heroic, system-wide

transformation currently exists or remains possible in the near future. Instead, perhaps one might

look at the potentialities, the openings, the cracks, and the spaces allowing for *one* to

transform—like the dragons, known for their transformative nature and ability to fill the entire

sky or shrink into the size of silkworm depending on the needs it chooses to serve (Huxley,

1979).

> Underlying the potentially bloodless passing on of knowledge is a deeper, more bloody
> mystery wound up in the entrance of student-teachers into the community of education. It
> has to do with *ontological* transformations in who the student-teacher *is*, not simply
> *epistemological* transformations in what they *know*. Through the rites of passage and
> initiation, student-teachers not only can claim to know things they did not know before.
> They *are* something they were not before: they *are* "new blood" for the community of
> teaching. They *are* (becoming) teachers. (Jardine, 2008, p. 203)

As with the world, we are always becoming and therefore we are never finished.

Chapter 8

Freedom, Discipline, and Letting Go

Freedom: The Spring Runoff

> To educate as the practice of freedom is a way of teaching that anyone can learn. That learning process comes easiest to those of us who teach who also believe that there is an aspect of our vocation that is sacred; who believe that our work is not merely to share information but to share in the intellectual and spiritual growth of our students. To teach in a manner that respects and cares for the souls of our students is essential if we are to provide the necessary conditions where learning can most deeply and intimately begin.
>
> (hooks, 1994, p. 13)

Here [at Potamoi] I could teach whatever I wanted in any way that I wanted.

From the student-teacher's perspective I think I was given a little bit more freedom and flexibility with respect to lesson planning and the direction.

I think we all had freedom there [at Potamoi*] and were encouraged to go a little deeper with our own thoughts on what we should be doing in the class.* (Colleen)

Colleen is a 34-year-old art specialist. Similarly to Sam and Marty, Colleen came to teaching as a second career. Her initial career was as a boat builder in Eastern Canada. She built specialty rowing boats for competitive use, such as in the Olympics. Colleen's husband was also a teacher and perhaps provided insight into the teaching profession before she decided to journey into the profession. At times, Colleen came across as tentative during our conversations—her responses to questions were neither firm nor overly confident. However, I saw her tentativeness as a strength because of the openness, risk-taking, and exploratory attitude it conveyed throughout our discussions. Perhaps her openness in teaching-and-learning was cultivated through her experience with art as she often referred to pushing the boundaries of what and how art might be conceived, making the comparison to inquiry.

Colleen was also heartfelt. Her emotions were undisguised—in her voice and her eyes. I could sense she felt deeply for whatever topic we were discussing at the moment. Visual aids

were also key elements of our conversations. Colleen

was always bringing documents up on her laptop to refer

to, drawing to help explain her ideas or showing images

or examples of art work she had created to illustrate a

concept. Our conversations were rich, thought

provoking, and often filled with laughter.

        At the outset of the chapter, Colleen speaks of

the freedom to teach whatever she wanted in any way

she wanted. Colleen, more than the other student-

teachers spoke of her relationship with her mentor-

Figure 2. Student-Teacher Drawing of Comparison Between Art and Inquiry.

teacher, Lynn. Specifically, the thoughtful feedback and support Lynn offered during her time at

Potamoi. The underbelly of Colleen's statement is the relationship with Lynn was built through

teaching-and-learning and nurtured her feeling of being able to teach whatever she wanted in any

way she wanted.

> *She would give me quick little things. And then we stopped doing that and then she*
> *started either telling me throughout the lesson or after the lesson and she would ask,*
> *'What do you think of this? How did that go?' and building our relationship through*
> *teaching helped and I was able to ask questions if I was ever unsure about things, and I*
> *would ask her and she was always open and honest.*

> *I remember the one class I felt like I was—I joked with Lynn afterwards—I was a*
> *floundering fish out of water and I was pulling—I made it through the class—but I was*
> *pulling just trying to pull them into the idea and understand where I was coming from*
> *with why we were doing it.[36] . . . I was floundering . . . and actually it was the students*
> *that helped me get out of that situation by asking more questions and me asking them to*
> *go deeper with that thought, and they did and it helped not only me get through the class,*
> *but it helped other people understand or appreciate it a little more, and I think that was*
> *my more difficult. The Grade 8/9s with that project—it was challenging. But I think also I*
> *was way out of my comfort zone so it was good, but at the time . . . I looked at Lynn after*
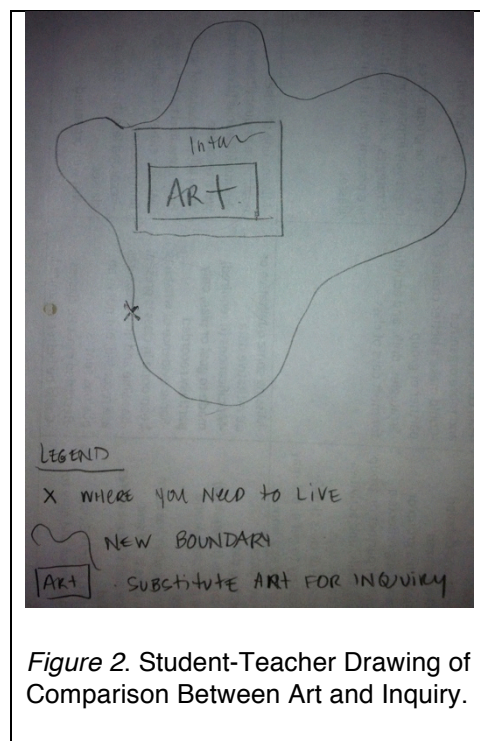
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[36] Colleen is referring to introducing the project on interactive art she worked on with Grade 8 and 9 students.

that class and I was, 'Ohhh . . .' and she was, 'You did well!' She said, 'I didn't know if
you were going to make it through it,' and it was hard, but it was good, definitely.
Definitely something I will do again now, but I think not having that experience to take
that risk myself which is exactly what this quote[37] is asking the kids to do, right? Asking
them to think differently and take risks—or this project was—I was doing it to myself too
and it was scary but it was fun in the end. (Colleen)

Both of Colleen's preceding passages describe her path in becoming experienced,

although not alone. Becoming experienced unfolds with a particular topic and with others –

including the universe. As discussed previously, Bohm's work articulates and describes the

"deeper order" of our universe where "an entirely different sort of basic connection of elements

is possible" (1980, p. xv). We are *always* informed by and informing the universe (almost always

unconsciously) and therefore are *never* alone in our journeying.

Erfahrung, arising again and ever present as Colleen ventured with others (her students

and Lynn) in becoming experienced through freedom. Colleen's freedom "to do whatever she

wants" might be somewhat illusionary. With freedom comes limitation and boundaries. Here,

Colleen's freedom remains informed in the classroom with pre-set structures such as the

timetable, resources, number of students, and materials available. However, as bell hooks (1994)

offers, even with boundaries and structures the classroom still "remains a location of possibility"

(p. 207).

> In that field of possibility we have the opportunity to labor [*sic*] for freedom, to demand
> of ourselves and our comrades, an openness of mind and heart that allows us to face
> reality even as we collectively imagine ways to move beyond boundaries, to transgress.
> This is education as the practice of freedom. (hooks, 1994, p. 207)

It is difficult and at times arduous work we as educators are asked, invited, and sometimes

compelled to do. Teaching-and-learning requires labouring. Labouring suggests something one

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[37] Colleen and Lynn decided to use a Nietzsche quotation to frame the interactive art project: *'What is great in the*
man [sic] is that he [sic] is a bridge and not an end. What can be loved in a man [sic] is that he [sic] is an overture
and a going under. I love those who do not know how to live except by going under, for they are those that
crossover. I love the great despisers because they are great adorers. The arrows of longing ford the other shore.'

continually works at, works for, and practices. It also exists as something that calls upon and acts

upon you. It—teaching-and-learning through a disposition of inquiry, does not simply happen.

> I think that students have *learned* that expecting anything other than what is simply laid
> out in front of them—given, present, consumable, repeatable, anonymous, disposable . . .
> is a waste of time. So that when they arrive at our doorsteps, they have rarely experienced
> in school how something might come to shine, to grow, to appear, to arrive, through their
> labours and not otherwise. It is true, however, that many of them would have had such an
> experience *outside* of school—how the ways of horses or skiing or hiking or playing
> music requires a labour that yields something not available without that labour. This
> knowledge is not a "stockpile of knowledge available for random use" but a territory you
> have to traverse and, shall we say, "work"—the issue of a tarrying or gathering or
> whiling . . . With matters such as these, no one expects that becoming experienced asks
> nothing of me. (Ross & Jardine, 2009, para. 13)

In the midst of Colleen's freedom *and* discipline or constraints, labouring with her students and

Lynn she was able to make something happen—allowing something to emerge within the

struggle.

In the situation described by Colleen, she was aware of floundering with the students and

yet she remained open to the way it was unfolding. All the while sensing the movement as

inherent to the larger enfolding of the universe and not something planned. Colleen was able and

willing to continue labouring in the moment with the students and the topic. Just as she was

asking her students to take risks in their work together, she also needed to risk and move beyond

her comfortable boundaries. She was pushed out of her comfort zone by the topic and the

students. If Colleen had resisted taking the risk, moving beyond her comfort, in opening up the

conversation with the students, the work and the lesson may have lost its life—cut off from its

connection and lost within the larger enfolding or deeper order of our universe. As well, if the

topic (interactive art and the quotation by Nietzsche) was not already full of life, the students

would not have had a way or an opening to connect with the topics, bringing them to life through

discussion. Within the topics, there was room for all to participate and further enliven the work.

"'When you dig a well, there's no sign of water until you reach it, only rocks and dirt to move out of the way. You have removed enough; soon the pure water will flow,' said Buddha" (Chopra, n.d.). Colleen had to labour for freedom, it was not simply a given. Asking questions and having the students ask questions led to something that began flowing organically in the ecosystem. Allowing for something to happen required freedom and also discipline, openness, risk-taking, and Colleen's willingness to push the boundaries of her comfort zone, along with patience and persistence through "no sign of water."

The freedom for Colleen to inquire into something she has curiosity or passion for, for example interactive art, as well as having the necessary skills, fostered her interest and excitement in teaching. It also stays true to Whitehead's (1929a) vision for education. It "should begin in research and end in research. An education, which does not begin by evoking initiative and end by encouraging it, must be wrong. For its whole aim is the production of active wisdom" (p. 37). During her field placement, Colleen researched opportunities of bringing in local community interactive artists, as well as quotations evoking student curiosity and depth of thought. Also, for their work, students researched interactive art and materials they might use to create their pieces. Wisdom, for Whitehead, actively uses the principles or knowledge a student (or student-teacher) has learned. Cultivating wisdom requires opportunities for students and student-teachers to engage in real world problems, situations or issues. Interactive art and the questioning of its value and whether or not it is considered art remains an ongoing issue in today's art world and one ripe for inquiry.

The Estuary: Freedom and Discipline

An estuary acts as the point where an ocean and river meet. Both sources of water need one another. At the same time there tension remains with the back and forth movement of the

current and tide as fresh water from the river meets and mixes with the salty seawater. Similarly,

freedom also needs discipline (and vice-versa). A tethering and a playful and sometimes even

violent tension exist as freedom and discipline move back and forth and between the other.

> I[38]: How do you reconcile [wanting to have step-by-step plans to follow] for yourself?
> Being someone who it sounds like likes structures, likes plans, likes things to, unfold in a
> certain way and yet you are talking about being in the moment . . .
>
> *I think it takes time and forcing yourself to be in the moment as much as you can and still
> [it] is uncomfortable some days and a little bit unnerving too . . . especially too, I have a
> much deeper understanding of math than I do of the science curriculum and so I found
> any time I was teaching science I was always a little more uncomfortable because I
> didn't have the depth of knowledge that I do in math, and so there were a lot of moments
> where in the moment I was feeling, 'I don't know how to answer this question.' But I
> think if you just—or I had to—force myself to be in it and the longer, the more time I
> spent in that state the more comfortable I became and the less stressful it was to
> acknowledge that you might end up in a place where you don't know everything, or you
> might end up in a place where you don't know everything which is a place you want to
> be. When your students are able to throw ideas out there that you have to wrap your head
> around I think that is what makes learning meaningful and I think that is what makes
> inquiry meaningful and more interesting for everyone. But yeah, at the time it wasn't
> from day one feeling, 'Oh, this is great!'*
>
> *I think you have to deal with being uncomfortable and the longer you deal with it the
> more comfortable it becomes.* (Julie)

In the preceding passage from my conversation with Julie, one notes a strong presence of

discipline in her willingness to stay with the uncomfortable. Harkening back to Chapter 3,

freedom and discipline constitute Whitehead's (1929a) Rhythm of Education, having a natural to

and fro developmental sway, like the ocean's tides. Also, he claims freedom and discipline are

essential qualities for education. Whitehead suggested, "no part of education can you do without

discipline or can you do without freedom" (p. 33).[39] The movement or rhythm exists when one

characteristic or phase has a stronger presence than the other. Within the nexus of discipline

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[38] The "I" denotes me as the "interviewer" in the conversation.

[39] A reminder here to note the tensionality between freedom and discipline and the movement or interaction
between or amongst both is an active one.

itself, it implies self-discipline where one, in her own individual processes, are true to the stream

which is her life—and the life force for all learning (Fidyk, personal communication, December

15, 2012). For Whitehead, self-discipline, in and of itself remains critical, but only developed if

one has freedom.

> To be glib, [in this "real world"] little requires human application, so little cultivates it. Long alienated from abiding in inquiry as a form of life and way of being, a restless humanity defers to models, systems, operations, procedures, the ready-made strategic plan, and first and last to reified concepts, long impervious to deconstruction. (Ross 2006, p. 111, cited in Jardine, 2013, p. 7)

Unlike in the quotation from Ross (2006), Julie's

work with her Grade 4 students and her mentor-teacher

Dianne required cultivation. The work required Julie to

cultivate composure with/in the uncomfortable moments. As

Ross (2006) articulates and was discussed in Chapter 6,

inquiry exists as a way of being *and* becoming, "a form of

life." However not as a model, a system or set of procedures

the teacher applies in the classroom and at the end of the

day leaves at her desk until returning in the morning to pick

it up where she and the students left off. Rather, it *is* Life

itself and the way one might meet and live in the world.

Monday, February 3, 2014:

I posted this on my Twitter feed this morning:

I'm using the word uncomfortableness but spell check says it is not a word. Discomfort is not the same. Every word matters. #writing #phdchat

For me, disrupting the reader's rhythm is at times important. I want them to pay attention to particular words and phrases.

Uncomfortableness.

For some, reading that word may cause uncomfortableness and sometimes, that is a good thing.

In reading Julie's account of forcing herself to be in the moments filled with the

uncomfortableness, her suffering remains "real and palatable" (Jardine, 2013, p. 6). For Gadamer

(2004) there is "learning in the suffering (*pathei mathos*)" (p. 351). Julie does not allow herself

to detach from the uncomfortable moments, allowing and opening herself up to dwell and while

in the uncomfortableness. It is in and through experiences such as Julie's that "is characteristic of

every phase of the process of experience that the experienced person acquires a new openness to

new experiences" (Gadamer, 2004, p. 351). However, the experiences are not experiences

accumulated and stacked one on top of another to compare with others, seeing who has the most,

rather experience and being experienced lives with/in the person as she meets, with greater

openness, the next moment (Gadamer, 2004).

There exists a fullness and a weight to each of the moments—as if each matters and Julie

coaxes forward the openings and the freedom in them for both herself and her students. A

freedom cultivating deep and rich learning where students "throw out their ideas" and where

Julie may not know the answers. A place where the work she and her students do needs

"attention and devotion" (Berry, 1986, p. 32) and at the same time teeming with richness,

delight, and vitality.

Whitehead's (1929a) learning theory urges romance in one's work, inviting interest and

wonder. Within romance freedom also exists, requiring discipline. Freedom is and must be

emphasised throughout the phase of romance, "to allow the child to see for itself and act for

itself" (Whitehead, 1929a, p. 33). Otherwise, "at the best you get is inert knowledge without

initiative, and at the worst you get contempt of ideas—without knowledge" (Whitehead, 1929a,

p. 33), which can often be the case in many universities, schools and classrooms today. Inert

knowledge, when the facts are memorized and regurgitated without context or real

understanding, often creates boredom and even resentment by the student, as well as the teacher.

Unfortunately, much of the learning in schools today remains disconnected from the interests and

lives of students and teachers. For example, student-teachers are often asked to create lesson

plans for faceless students in imaginary contexts.

When discussing "traditional" learning, most emphasis is placed on precision and

discipline where information exists to be consumed and accumulated, often at the expense of curiosity and wonder. According to Whitehead, the cycle of precision acts as "the time for pushing on, for knowing the subject exactly, and for retaining in the memory its salient features" (p. 34). Differing from traditional learning, within Whitehead's cycle of precision, romance, curiosity and wonder are ever present. Though, rather than at the forefront, romance resides "in the background" (Whitehead, 1929a, p. 34). Similarly with romance, the omnipresence of freedom exists in the phase of discipline. When discipline must be centre stage, freedom still remains backstage. It seems the concurrent phases of precision and discipline are the trickiest to hold in tension with romance and freedom.

Whitehead writes, "the real point is to discover in practice the exact balance between freedom and discipline which will give the greatest rate of progress over the things to be known" (pp. 34–35). He brings up a similar point later in his writing by offering the "secret of success," which "is pace, and the secret of pace is concentration. But, in respect to precise knowledge, the watchword is pace, pace, pace. Get your knowledge quickly, and then use it. If you can use it, you will retain it" (p. 36). Whitehead suggests in the phase of precision, the key remains to get in, get what is needed, get out, and apply the skill(s) in a concrete situation. In other words, do not amass facts or data for students to memorize—one can always loop back and gather the skills, information or knowledge when needed. By concrete, Whitehead means a process where something becomes fully actual in relation to one's particular life and interests—it lives authentically (Cobb, 2008). It is the curiosity and wonder in the concrete experience—the context of a fecund encounter—nurturing one's learning and process of becoming in the world. For example, taking students in an environmental and outdoor education elective into a natural ecosystem and discovering—seeing and experiencing the ways dying trees allow for new

growth. A more common occurrence might be the teacher illustrating the decomposition and

regrowth process in a textbook or a website with images of natural examples.

Continuing with our lesson plan example, it remains helpful for student-teachers to

understand the components of a lesson plan—the objectives, outcomes, materials required,

resources, etc. At the same time, rigidly completing lesson plan after lesson plan at the university

for professors without opportunities to live out the plan with "real" students sucks the wonder

and life out of the process. Rather, with/in generalisation, the student-teachers have specific

knowledge and rules of lesson planning needed to actively use and engage them in real life

situations and problems—i.e. with students in the classroom, art room, gymnasium. Also, as the

student-teacher uses the newfound rules, details, and laws, they become conscious habits without

the need to deliberately reflect upon them (Whitehead, 1929a). It takes practice, work, and

experience—labouring to embody an understanding allowing the conscious habits to entrain.

During the stage of generalisation, the freedom of meaningful opportunities remains critical for

student-teachers.

Free Rein: The Mountain Stream

> *Maybe I wouldn't have been ready for this school at my last practicum, to be honest, to grab the reins like I did for this one. It is a nice place to have our final placement at to have free rein, to take hold of whatever projects we are going to do.*
>
> *For me the best way to learn is to do it and try it out, and if you realize that it is not the best way that you are teaching the kids then you can always stop a lesson and tell them— say to the kids, 'I took a risk and I tried this and I realize that it is not working. Let's do this instead,' and you can pull back if it is not going the way that is best for the kids, you can change it.* (Colleen)

What might it mean to "be ready" for a placement at the Potamoi School? Colleen

discussed in our focus group discussion and our one-on-one conversations that her confidence in

her initial field placement was not as strong as it was coming into Potamoi. She described her

initial placement and the constraints placed on her by her mentor-teacher concerning work she

was able and allowed to do with the students. For example, her mentor-teacher had the outcome

of a particular project set up in advance (students will create a painting), but Colleen had the

freedom to teach the students in whatever way she wanted. Perhaps during her previous

placement the tenuous balance between freedom and discipline; romance and precision was met,

facilitating Colleen's confidence and growth as a teacher. With growing confidence, Colleen

placed greater emphasis on freedom and generalisation throughout her practicum at Potamoi. At

Potamoi she felt any type or form of artwork she wanted could be created with the students.

However, I urge the reader here to avoid thinking I am suggesting Whitehead's phases or

stages in his Rhythm of Education are or have been linear in Colleen's work as a student-teacher.

Let me be clear, *all* of the phases—romance, precision, generalisation, as well as freedom and

discipline—continue pulsing in and out, to the foreground and to the background, throughout

Colleen's experiences as a student-teacher. I am, however, suggesting that in her final placement,

generalisation and freedom emerged more often in the foreground of her experiences, engaging

her in grabbing the reins and in doing so, Colleen took risks.

> When education is the practice of freedom, students are not the only ones who are asked
> to share, to confess. Engaged pedagogy does not seek simply to empower students. Any
> classroom that employs a holistic model of learning will also be a place where teachers
> grow, and are empowered by the process. That empowerment cannot happen if we refuse
> to be vulnerable while encouraging students to take risks. But most professors must
> practice being vulnerable in the classroom, being wholly present in mind, body, and
> spirit. (hooks, 1994, p. 21)

As teachers we often ask and encourage our students to take risks in their learning and yet, as

hooks urges, teachers must also take risks by practicing being vulnerable. Colleen discussed her

willingness to take risks in her own teaching—and to be vulnerable by telling students when she

was taking a risk, especially if the lesson was not working. Knowing, feeling, and understanding

when something is not working in the classroom requires the teacher to be fully present (an

embodied way of being) and willingness to pull back and make changes when needed.

Understanding involves adventure and journeying with the students—both of which involve risk

and the potentiality for one to emerge enriched through the experiences (Gadamer, 1983; Jardine,

2012b).

"Taking the reins," "having free rein" and "pulling back" were emerging phrases from

the student-teachers, referencing the freedom they felt and discipline needed at Potamoi.

Figuratively, the phrases grabbed hold of me (and I them) as I listened to, read, and re-read the

transcripts. Etymologically, the word "rein" traces back to the 1400s and was used to

communicate a "means of controlling; control, check, restraint" or to "hold back," (n.d.). The

etymology of rein urged me to return to the word discipline (n.d.), leading to *discipulus* and a

reference for further inquiry to "see disciple (n.d.)." Here, disciple (n.d.) meaning, "to take, to

take hold of" caught my attention. Taking the reins or having free rein, discussed by Colleen,

requires discipline, practice, and labouring on the part of the student-teacher to be ready to grab

or take hold of experiences and become experienced.

Understanding and becoming experienced requires something of oneself—availability to

the world. It is not simply openness in the classroom; it is openness and availability to the world.

One cannot become experienced if approaching the world thinking one knows everything already

concerning a particular concept, such as inquiry.

> That is why a person who is called experienced has become so not only *through*
> experiences but is also open *to* new experiences. The consummation of his [*sic*]
> experience, the perfection that we call "being experienced," does not consist in the fact
> that someone already knows everything and knows better than anyone else. Rather, the
> experienced person proves to be, on the contrary, someone who is radically undogmatic;
> who, because of the many experiences he [*sic*] has had and the knowledge he [*sic*] has
> drawn from them, is particularly well equipped to have new experiences and to learn
> from them. The dialectic of experience has its proper fulfillment not in definitive

knowledge but in the openness to experience that is made possible by experience itself. (Gadamer, 2004, p. 350)

The "radically undogmatic" openly and continually inquire into experiences, not to find a static, absolute, never-changing "truth," to pile onto other truths, but drawing on previous experiences in informing emerging ones. Moving through the world with openness allows the life world to address us, cultivating our ability to experience or become experienced.

Colleen, in our first one-on-one conversation, made connections to inquiry and art and talked of inquiry, what it is or means and the ways she grabbed hold of it.

> *I am comparing it [inquiry] to art, and what art is and what inquiry is, and I think it is how you interpret and what your whole concept of teaching is, and what your philosophy of teaching is. I think inquiry has a place in everybody's kind of teaching methods, but it is whether you really grab hold of it and are embracing inquiry, or if you are using aspects of it, or maybe you are just still developing yourself and your whole thoughts on inquiry. I compare it to, 'What is art?' and how everyone has a different thought on what that is and it doesn't fit into a little neat and tidy box, and I think the same is true for inquiry, it is not an easily defined thing.*

> The crux of the dilemma for our ideal teacher "who practices whiling in the presence of children" is perhaps that, in recognizing success is so tied to the concrete here and now of real-time confluences of subject-matter, this-student-now, and this-teacher-now, given this, teaching is work, is labor [*sic*]. The teacher prepares, then, precisely by being prepared for anything! But not by preparing ahead of time for any eventuality she can envision so much as by going into the classroom prepared to engage the unique, flourishing differences . . . perhaps what the teacher needs more than anything is the courage of the adventurer. I don't doubt that many good teachers discover this. Teaching as quest. Question as quest. Quest as *habitus*. (Ross & Jardine, 2009, para. 34)

From Latin *habitus* (n.d.) "condition, demeanor" originally past participle of *habere* "to have, to hold, possess," from PIE root *ghabh-* "to seize, take, hold, have," (cf. Sanskrit *gabhasti-* "hand, forearm;" Old Irish *gaibim* "I take, hold, I have," *gabal* "act of taking." Within this section, the etymology of reins, disciple, and habitus have been traced. The kinship or familial intertwining each has with the other is the word "hold." For reins it means "hold back," disciple it means "to take hold of," and *habitus* means "to hold." The ways in which one holds oneself and holds a

topic changes it, like cupping water. If Colleen had simply dismissed any merit in inquiry-based

teaching-and-learning, she may have dismissed opportunities to explore its potentialities during

her field placement. If "to hold," means to control in the name of models, systems or procedures

(Ross, 2006), this act or action flattens things out, forcefully squeezing and killing whatever she

was holding. Treating inquiry as a method or instructional tool changes the potentiality of

inquiry to create spaces of rich, organic, lively work.

Being ready for Potamoi and inquiry requires one to be prepared for anything (even

though one can never be fully prepared)—to be open to and embody the experience, willing to

journey, to labour, to take risks. In other words, having the "courage of the adventurer" (Ross &

Jardine, 2009, para. 34).

> Tightly held by rocks
> Through winter, the ice today
> Begins to come undone:
> A way-seeker also is the water,
> Melting, murmuring from the moss
> (Saigyō, n.d.).

The Current: Letting Go

It's like the water of a river. It naturally flows down the gradient, it never flows against it; that's its nature. If a person were to go and stand on a river bank and, seeing the water flowing swiftly down its course, foolishly want it to flow back up the gradient, he would suffer. Whatever he was doing his wrong thinking would allow him no peace of mind. He would be unhappy because of his wrong view, thinking against the stream. If he had right view he would see that the water must inevitably flow down the gradient, and until he realized and accepted that fact, the person would be agitated and upset.

Don't go wishing it was otherwise, it's not something you have the power to remedy. The Buddha told us to see the way things are and then let go of our clinging to them. Take this feeling of letting go as your refuge.

(Chah, 2013, para. 9–10)

I was really trying to get this assignment nailed down and try to teach it to the class—to those students—and Dirk [said], 'That is not how it works. That is more this. This is what you seem to be focusing on,' and you need to let that go and then he brought me back to say, 'In inquiry we need a question that is going to guide them and your job is going to be

the safety and the logistics—you will never get away from that—but you need this guiding question. [40] *From there you can't force them unless it is a safety issue, you just let them go and see where it goes.*

I: So what makes inquiry, inquiry, and what makes it not inquiry do you think?

R: *I guess, being able to let go, because it is so up to your audience to go where they want to go.*

We had to let go and I know, more so from talking to Derek and Samantha, [41] *that was their biggest issue, they had to let go.* (Marty)

Contrary to holding, discussed in the previous section, trying to "nail down" something evokes an image of a coffin being nailed shut—illustrating finality and containing or holding the lifeless body of the dead, awaiting Hermes' arrival. Hermes escorts the souls of the dead across the river *Lethe*, the river of forgetting, into the next life. I bring up *Lethe* because it exists as the root of *Aletheia*—opening up what was closed, remembering what was been forgotten, and enlivening what was dead (Moules, 2002). Nailing down an assignment or project, trying to render it under one's control not only "deadens" the work one does, but acts contrary to the organic, interconnected, and enlivened nature of the universe.

At the same time, inquiry does not exists as a free-for-all where the work students are doing is guided solely by what they want and the way(s) they want to go about it. Rather, inquiry offers a framed gap. In other words, in the physical education inquiry Marty discussed, there was a question guiding the work of students, student-teachers, and teachers. Whilst there was certainly freedom for students in choosing a particular sport and a skill within the sport to focus the training, there were still boundaries and self-discipline required on the part of the student. For

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[40] The guiding question Marty, Dirk and the other physical education student-teacher settled on was "To what extent does training affect performance?"

[41] Samantha was Marty's mentor-teacher and Derek was the other student-teacher's mentor-teacher, however they often worked together as a group.

example, the students had to record their training and progress during each of the class periods to

provide evidence in answering the question, "to what extent does training affect performance?"

"Freedom is letting yourself go so that you fully experience your existence as a human

being. . . . Letting go is completely conquering the idea that discipline is a punishment for a

mistake of bad deed" (Trungpa, 1984, p. 78). Trungpa's (1984) quotation echoes Whitehead's

(1929a) Rhythm of Education with a slightly different emphasis—that discipline not be seen as

punishment for doing something wrong. Rather, freedom and letting go is not only embracing

risk to fully experience one's life, but also discipline. Self-discipline is only cultivated through

freedom and is essential in teaching-and-learning (Whitehead, 1929a). Through freedom,

student-teachers make choices and decisions concerning a myriad of issues and events. For

example, allowing students greater discussion time with an issue because they are engaged,

insightful, and creative rather than shutting it down because the class period is over. If little or no

freedom existed for student-teachers to change, for example, the time initially allotted for

discussion, how might they learn to navigate the unfolding energy, engagement or

understanding? If student-teachers are simply following "the plan" without the freedom to

change directions or stay with a topic longer, they become experienced in following a plan rather

than cultivating experience in journeying through uneven terrain. The students in Marty's classes

needed self-discipline to track their training and also had immense freedom in choosing almost

any sport and skill they were interested in. Marty, as well as Brian, needed self-discipline to not

"nail things down," but rather let go. At the same time, student-teachers with greater freedom in

their placement became experienced in letting go because throughout their eight-weeks letting go

became intertwined with their experience.

Marty's reference to Samantha and Derek having the greatest challenge in letting go is not surprising. As Singleton (2007) argues, physical educators have largely failed to engage in practices informed by inquiry-based teaching-and-learning. Rather, physical education teachers continue to perpetuate performance-based approaches where activities are teacher-directed, focusing on game-specific skills mastered through tactical drills for the sole purpose of competitive game play (Singleton, 2007).

Recall in Chapter 3, student-teachers and teachers tend to replicate the ways in which they were taught, which may help explain the difficulty Samantha and Derek experienced in letting go and allowing the student-teachers to teach through inquiry. Returning to Gadamer (2004), "The dialectic of experience has its proper fulfillment not in definitive knowledge but in the openness to experience that is made possible by experience itself" (p. 350). Whereby what one comes to know and what unfolds is always infused in an interconnected and participatory way with the universe (Fidyk, 2011). Perhaps Samantha's (previously a competitive curler) and Derek's (previously an internationally competitive wrestler) prior experiences with/in sport and physical education were not focused with/in inquiry-based teaching-and-learning. Being or becoming experienced with/in inquiry does not "just happen" and thus, it may have been difficult trying to mentor in and through inquiry. It was admirable, though, that while they may not have been experienced, they were open in allowing and facilitating opportunities for Marty and the other student-teacher, with Dirk the school's Professional Learning Coach, to experience inquiry. Inquiry in physical education at Potamoi School was a different approach to teaching-and-learning.

It would be remiss of me to suggest that the physical education program at Potamoi simply organized itself solely around game-specific skills and drills. In fact, the physical

education team purposefully brings in experts and/or uses technology, as well as field

experiences in the community to enhance the opportunities for students to engage in a variety of

activities. Some of the activities include: yoga, Inuit games, Dragon-boating, canoeing,

kickboxing, ice-skating, bowling, and Pilates. The activities and sports offer something quite

different from a traditional physical education program, although perhaps not consistently

inquiry-based.

Tidal Pools: Reflections on Freedom, Discipline, Letting Go, and Inquiry

The ocean was the best place, of course. That was what she loved most. It was a feeling of
freedom like no other, and yet a feeling of communion with all the other places and creatures the
water touched. (Brashares, n.d.)

Brashares (n.d) suggests, with a feeling of freedom, there unity also exists with/in the

world and its unfolding and enfolding order (Bohm, 1980). As previously articulated, the

unfolding or explicate order is described by Bohm as the physical world and the enfolding or

implicate order as the ability for entirely different forms of connection to emerge from "the

deeper order" (p. xv). That "deeper order" Brashares describes lives as the communion with

places and creatures. Also, the enfolding order remains an interesting approach, imagining an

embodied way of being and becoming in the world, where relationships and entirely different

connections are possible. For example, through Julie's willingness to be (read: embodied)

uncomfortable and her discipline of whiling, moments of freedom emerged for her and her students in the classroom.

Inquiry as a way of being and becoming in the world, demands freedom *and* discipline. Both are needed in differing ways at different times throughout our lives and in teaching-and-learning. As well, neither can be determined *a priori*. A willingness and openness for both student-teachers and mentor-teachers to "let go" is imperative for inquiry to have Life. While I have offered several important requirements of inquiry, it does *not* indicate a recipe or method for/of inquiry. Yet, recall Chapter 3, where inquiry was differentiated and varying interpretations outlined. Cultivating and nurturing inquiry necessitates one awaiting and living in each moment as it arises and unfolds to know when freedom, discipline, and/or letting go are needed.

Monday, January 20, 2014:

I did not grow up near the ocean. In fact, where I grew up in rural Alberta was the prairie desert. When I moved to Victoria, British Columbia to complete my Bachelor of Education, and later my Master's, the ocean fully became me and I it. My first experience with tidal pools was with my cousin and his family, who lived on Vancouver Island. They drove me to the West Coast of the Island for a day trip. Each pool I came upon was different than the next, in depth, colour, type, and abundance of aquatic species and vegetation in the pool, but every one was teeming with life. Inquiry is a bit like that—*never* the same, but *always* alive.

Bridging the Waters: A Return Home

In my beginning is my end . . .

Dawn points, and another day
Prepares for heat and silence. Out at sea the dawn wind
Wrinkles and slides. I am here
Or there, or elsewhere. In my beginning.

You say I am repeating
Something I have said before. I shall say it again.
Shall I say it again? In order to arrive there,
To arrive where you are, to get from where you are not,
You must go by a way wherein there is no ecstasy.
In order to arrive at what you do not know
You must go by a way which is the way of ignorance.
In order to possess what you do not possess
You must go by the way of dispossession.
In order to arrive at what you are not
You must go through the way in which you are not.
And what you do not know is the only thing you know
And what you own is what you do not own
And where you are is where you are not.

In my end is my beginning.

(Eliot, *East Coker*, n.d.)

It remains of import to remind the reader here that throughout the past four chapters, I have offered my interpretations of they ways student-teachers understand inquiry through texts, as well as after a field placement at an inquiry-based school. However, in hermeneutics one cannot answer or explain definitively—there is always hesitation and an incompleteness one must embrace. To say something remains true in hermeneutics is to open up something, to choose to turn towards something, which also means turning away from something else. Hermeneutics claims that what I am offering must be true of something (Gadamer, 2004). While I am offering a version of something true, hermeneutics does not offer *the* truth. Life is complex and messy and when we try to control,

Tuesday, February 25, 2014:

The final section in Chapter 9 has been eluding me for days now. I catch glimpses of connections, but as I try to language them and write them into existence, the ideas slip away. Is it the pressure and excitement of being so very close to finishing this study (as a formal act) that I am "overwhelmed by the enormity of the task" (Romanyshyn, 2007, p. 311)? I also sense, as Romanyshyn (2007) articulates, "I was losing touch with the feel of the work, with its rhythm, and tempo, and pace" (p. 311). I have had too many distractions with teaching and a school retreat, which pulled me away from my writing for days. Yet, the more I willfully try to get the work to submit to me, the more it refuses (Romanyshyn, 2007). So, I practice letting go and returning to the romance of the work. I also return to question: "what is the work really about?" and "what is it I am trying to say concerning the work?"

manage, and flatten it out, it loses its Life and foolishly these actions deny the already unearthed

enfolding dimension. Therefore, the interpretations in this dissertation also remain complex and

"un-flattened." Recognizing this complexity, the interpretations may not "ring true for all who

read them . . . it is my hope that for most . . . they are true of something" (Laing, 2013, p. 133).

Journeying, the dragon, freedom, discipline, and letting go. In each of the chapters,

Hermes was present—in varying degrees. In the presence of the mythic figure Hermes, he

bridges something from beyond human understanding to intelligibility and understanding

(Romanyshyn, 2007). Hermes also acts as a bridge between the gods and mortals and between

the earth and the underworld. The pedagogic lives in the gap, the in-between or "the middle

place between our personal and public lives—our ontological and epistemological positions and

our teaching and curricular activities" (Fidyk, 2010, p. 13). In-between freedom and discipline,

where things are not fixed is also where the teaching-and-learning remains alive and living.

With/in these in-between spaces the student-teachers live and articulate inquiry in their practices

and in their daily lives.

Other threads woven with/in, across, and through the chapters are embodiment and

experience. "Embodied knowing relies on the fact that we are coupled to our world through our

bodies and that much of our knowing resides within—distributed throughout our being" (Smits,

Towers, Panayotidis & Lund, 2008, p. 59). I extend Smits et al.'s quotation further—indeed "we

are coupled to our world through our bodies," and the world is coupled with us, but also within

and throughout the universe, our bodies, and the animate world.

Experience and understanding of inquiry require practice in living with it to become

knowledgeable. Journeying, attunement, and wayfinding are critical in student-teachers'

understanding and becoming experienced with/in inquiry-based teaching-and-learning. As well,

Erfahrung emerges again, in its translation of venturing with others or not alone and as experience. The student-teachers' whose experience with/in inquiry arose during our conversations discussed the importance of venturing with others—the students they were teaching, their mentor-teachers, other student-teachers in their cohort, as well as their university supervisor.

The way one interacts with and "holds" the dragon, psychologically, emotionally, and mindfully, like inquiry, can change its nature. For example, wanting to be the hero who slays the dragon for the maiden or to secure the treasure will never know the wisdom and generosity of the dragon in keeping it alive. Similarly, inquiry arising from modernity as a method, a procedure or a recipe that can be controlled, fixed, and handed out by teachers to the students, is thinned out. Student-teachers, journeying with others, must be courageous and willing to enter the dark, cavernous lair because the scary, challenging, adverse conditions of teaching-and-learning allow one to become experienced with/in inquiry. Colleen, Sam, and Julie described the difficult and uncomfortable moments requiring discipline as some of the most meaningful in their field placement. However, one does not want to forget Whitehead's (1929a) work here because along with discipline, freedom and romance are essential—cultivating joy, adventure, and teaching-and-learning teeming with life.

To close, Romanyshyn (2007) says it thus, "A work is finished before it is done, and indeed it is never done. And this makes research as a vocation a journey of homecoming, a journey that is never completed" (p. 123).

Chapter 9

Reflections on the Practice: Navigating the Stream of Inquiry

Rise up nimbly and go on your strange journey
to the ocean of meanings.
The stream knows it can't stay on the mountain.
Leave and don't look away from the sun as you go,
in whose light you're sometimes crescent, sometimes full.

(Rumi, *Strange Journeys*, n.d.)

As Eliot (n.d.) writes in his poem *East Coker*, the end is the beginning and the beginning is the end. I return to Rumi's poem from Chapter 1, starting our journeying together. The research, writing, editing, and entire process of the PhD has indeed been a "strange journey." I always looked to and for the sun, although at times it was difficult in the depths of the darkness and arising challenges, uncertainty, and frustrations along the way. As well, my conversations with the student-teachers welled up oceans of meanings to wade through. Allowing the meanings to surface when and where they needed required me to let go, as well at times, dig more deeply into their meanings and the imaginal realm. My attunement to the arising meanings and interpretations was an arduous and incomplete process. With hermeneutics, there no finality of an interpretation exists, only a brief and fleeting resting point. Concerning teacher education, Falkenberg and Smits (2011) write, "research does not generate reproducible findings—thus, the findings are not generalizable—because the findings are always tentative and contextual, since the context in which we and our graduates teach are not at all 'fixed and stable'" (p. 4). Thus, the interpretations from this research are "tentative and contextual."

As we drift into this closing chapter, a listing of implications or recommendations as an independent outcome of my study will not arise. Rather, the chapter reflects and reflects upon the research with the student-teachers as they navigated the stream of inquiry in an inquiry-based

field placement. I turn to Ross and Jardine (2009) to help clarify the conditions of the final

chapter.

> I keep thinking of that phrase at the beginning of *T&M* regarding "amassing verified knowledge." Even though the members of this committee understood its hermeneutic character, some of them seemed to want the *outcome* of her study to be presentable independently of the devotion, dedication and time that the candidate took whiling over such matters. It was as if the self-formation (*Bildung*) that was required in order for the topic to show itself, all that work she had to do on herself and in this field, had nothing to do with *what* she found in her study. However, as is the necessity in such work, she was asked, in her defense, about "implications," again *as if* these could simply be listed for a reader to amass independently of that reader's own self-formation. (Ross & Jardine, 2009, para. 6)

As an ongoing and endless process, I reflected and continue to reflect on and in my work

throughout the entire dissertation and PhD. *Not* reflection

in an objective sense, such that what I am reflecting on

exists before me and I before it, suggesting separation.

Rather, reflection as internal *and* external, unfolding *and*

enfolding (Bohm, 1980), and inner *and* outer processes

both with/in the universe as a collective and myself. As

part of the process, in the spirit of inquiry, I am always

questioning my thoughts, bodily feelings, the literature, as

well as interactions and assessments with and of student-

teachers, mentor-teachers, administrators, government

policy-makers, and university instructors. All of whom are with/in the stream of teacher

education and implicated in its Life.

Tuesday, March 25, 2014:

Chapter 9 is proving tricky—I feel Hermes' presence, the trickster peering over my shoulder, continuing to question my language and the way I explore the framing of the chapter. I refuse to lay out the "outcomes" and "implications" of the study in a linear and sequential fashion and yet, I fear the organization of the chapter may appear as if that is exactly what I have done. My worrying and fear concerning the chapter's layout sits in a ball of tension in the pit of my stomach, distracting me from my writing and forward movement . . .
Enough.
The writing and the work will unfold as it must and require something of the reader . . .their "own self-formation" (Ross & Jardine, 2009, para. 6).

Rivers are magnets for the
imagination, for conscious pondering
and subconscious dreams, thrills,
fears. People stare into the moving
water, captivated, as they are when
gazing into a fire. What is it that draws
and holds us? The rivers' reflections
of our lives and experiences are
endless. (Palmer, 1994)

The Ecology of the Stream

Helping frame the chapter, I take up the

metaphor of the ecology of the stream, hopefully

curtailing potential for one to misread the chapter as a laundry list of outcomes and implications.

Oftentimes in our educational language we refer to an individual or group connected with an

idea, value or program as a "stakeholder." The term stakeholder has strong connections within

the business and corporate world, as well as more recently within educational decision-making

and policy. Connected with business, the term stakeholder implies investing in something or

someone, generally for financial gain. Stakeholder, as a compound word, implies one holding a

stake—a sharp and pointed metal or wooden stick or post, which could be used as a weapon or a

way to create and secure a boundary. As well, historically, a person was tied to a stake and

burned alive as a form of punishment. Each of the interpretations of stakeholder suggests a form

of violence, either outright or subversive. However, languaging education in ways implying

violence is not something I want to consciously do.

Reminding us of the historical roots still firmly planted in education and contributing to

the challenges today persist the bedfellow Fredrick Winslow Taylor, a businessman who, in the

late 1800s—helped education become more efficient. The legacy of Taylor's thinking,

imagining, and languaging of education endures, supporting and promoting the teacher as

technician with "quick fixes," that educators are still struggling to navigate and overcome today.

> The worth while time of abiding in inquiry and coming to experience the gifts that can
> then arrive requires long, difficult, repeated, *practice*, and this requirement cannot be
> bypassed with Taylor-like false promises. The entire Teachers' Convention quick-and-
> easy inquiry-in-our-classroom handouts simply induce its inevitable failure, this, in part,
> because of the profound power that the industrial model of empty time still holds over
> our imagination. (Jardine, 2013, p. 19)

As Colleen astutely notes, "*we are still going back to what we have done for a hundred years for*

education." My hope, through this work, is to disrupt some of the common-sense notions,

understandings, and ways of being currently espoused in teaching-and-learning today.

Thursday, May 1, 2014:

Hermeneutic inquiry. One of the most revealing and surprising moments throughout this research process arose during a conversation with my supervisor on an outdoor patio at a coffee house on one of the rare sunny Spring afternoons. As our conversation unfolded, the wind lightly picking up, the clouds blowing by, and the air chilling slightly, Alex finishes a sentence with hermeneutic inquiry. "That's it!" I say. Although Alex thinks I am joking, I feel as though I have been hit with a brick. Throughout the research process I have been trying to talk of, through, with, in the service of inquiry while at the same time trying to disrupt its common-sense notion. Initially, as you may recall, I framed my understanding as authentic inquiry—but it did not sit well with/in me. Hermeneutic inquiry. It is alive, rich, creative, deep, thoughtful, and organic. It is informed by a post-postmodern paradigm where I, my brothers, and sisters, the trees, the birds, the rivers and the collective unconscious inform it. The concern I had initially and discussed with Alex was approaching others with the term. They will likely look at me sideways with confusion and I worried that people will just walk away. At the same time, currently, everyone in education knows everything with inquiry and everyone is doing it. In other words, there are no conversations to be had—they are shut down even before they begin. Whereas hermeneutic inquiry comes from a place of not knowing—opening the dialogue and conversation.

In this closing chapter, I endeavour thinking, imagining, and languaging education as an

ecological entity of a river, readily cultivating and nurturing the rich, diverse, organic, and

interdependent connections needed for growth and sustainability. As Watts (n.d.) describes,

"You are a function of what the whole universe is doing in the same way that a wave is a

function of what the whole ocean is doing." Whether one recognizes or sees the interconnections,

each and every individual and group with/in teacher education, including the collective

unconscious, contributes to its nature.

In the coming pages, I look most closely at the interconnectivity between and amongst the student-teachers and their relationships with their mentor-teachers, university supervisors, the culture of Potamoi (including its students, teachers and administrators), Alberta Education and its Program of Studies, and the University's concurrent undergraduate education program. Each and every individual and group informed and shaped student-teachers' understanding and enactment of inquiry-based teaching-and-learning in particular ways. It is my charge to bring the particularities to the surface as a way to more deeply understand student-teachers' experiences of inquiry-based teaching-and-learning after an inquiry-based field placement.

The healthy ecology of a river, like teaching-and-learning, requires continuous delicate and dynamic balancing of flexibility and interdependence. It also requires a willingness of each and every flora and fauna species and geological layer to be responsive and responsible for meaningfully contributing to the complexity of the ecosystem. If any one of the dynamics changes, it affects and influences each and every other entity. However, the stream does not remain static, it *does change*—there are floods or draughts; the water temperatures change through environmental influences, such as acidity and toxicity; streams meander, creating new courses; banks erode; trees and other debris change the water content and flow; beavers build dams; the river invites recreational use (fishing, camping and ATVs); and so on and so forth. Similarly, the stream of teacher education must cultivate a willingness to be responsive and responsible for meaningfully contributing to the wellbeing of its ecology.

Wading into the stream requires something of the reader—remembering and fostering an ecological understanding (described above) of teacher education participants and the insights arising from the study. Whereby, each group or participant is seen as critical and informing the nature of teacher education as a whole. My hope is not to lead the reader into the stream with the

false assumption that each group or participant exists separately, isolated or disconnected from

the other.

<div align="center">

The Raging River

The river rages through the land
Cutting the earth with its mighty hand
Digging the canyons across the face of time
Revealing a land that is intertwined
The river brings life as it moves along
The animals drink from it and makes them strong
The river is a roadway, where great boats do ride
The river is mighty and has great pride
The river takes and gives what it sees fit
Many a great tribe stands in awe of it
Even the great river takes time to rest
Knowing it has done it's [sic] very best
There is a raging river flowing through you and me
It cuts through our soul, setting the spirit free
Let the river flow, do not dam it up
Feel the never ending energy, drink from it's [sic] cup
Let your river flow outward and keep in mind
As it cuts through each one, we are all intertwined

</div>

(Padgett, 2011)

Alberta Education and the Program of Studies

As a contributor to the ecosystem of education, the Ministry of Education sets the

curriculum and Program of Studies, which teachers in the province are required to teach. So, the

tone or the stream's current remains influenced by what teachers are required to teach, as well as

the way they teach the Program of Studies, although to a lesser extent. The curriculum and the

outcomes in the Program of Studies must be taught and some ideas and suggestions are offered

in the document as to the way teachers might approach teaching some of the outcomes, although

inquiry-based ideas and approaches are not often mentioned or included. For the most part,

though, the ways of addressing the outcomes are left to the teacher to navigate.

Using project-based learning and inquiry interchangeably, Alberta Education engages and

perpetuates issues in learning to understand inquiry. Websites from Alberta Education such as,

http://www.education.alberta.ca/teachers/aisi/themes/inquiry.aspx, provide examples of research

literature and other resources, indicating project-based learning and inquiry might be used

interchangeably. As well, it points to the "model" of inquiry created by Alberta Education

(2004), *Focus on Inquiry: A Teacher's Guide to Implementing Inquiry-based Learning*.

Furthering my point, in the more recent Alberta Education document *Inspiring Education*,

inquiry and discovery are used synonymously. If, as a legitimate resource, student-teachers new

to inquiry access and engage with the Alberta Education documents, it is likely their

understanding of inquiry-based teaching-and-learning might be framed in a similar fashion,

where inquiry, project-based, and discovery learning are synonymous with one another.

As I carefully and lightly tread the waters of inquiry, I am reminded by Jardine and Field

(1996) that as teachers we are always "having to face the intractable difficulty" (p. 256).

> . . . [and it] will not be remedied if we read the right books, believe the right things, or
> practice the right techniques. Rather, this unfinishedness, contingency, and difficulty
> signify that the living character of education is a deeply human enterprise that is not
> surpassable and encompassable by simply having the right theory or framework of
> method in hand. (p. 256)

Inquiry, as a way of living in the world, acts quite differently than as a method. However, the

way it is discussed and taken up within provincial documents, it leads one to assume that it exists

as a method for teaching-and-learning. So, if the Ministry of Education in Alberta communicates

inquiry as a method, in what ways are other entities of the ecosystem perpetuating, disagreeing,

combating or indifferent with this particular understanding of inquiry? As well, in what ways

might the educational ecosystem come together to understand inquiry in particular ways, while

still nurturing its organic, creative, enlivenedness?

The University

Recall in Chapter 5, the textual interpretation of documents and websites from the

University's undergraduate education program and the ways student-teachers may have been

invited to understand inquiry-based teaching-and-learning. While dimensions of inquiry frame

the education program, there was limited evidence within the course outlines of discussion,

readings, coursework or inquiry in action. Rather, most outlines followed a pattern of lecture

topics, specified readings, and examinations based on the lectures and readings. However, it is

important to note that as a non-observer or participant in the courses, I am unable to assess

whether or not the course outlines reflected what unfolded with/in that particular ecosystem. At

the same time, my conversations with the student-teachers suggest that inquiry was discussed

and a great deal of importance was placed on it as a way to teach, but very little time and

attention was given to what that might look, sound or feel like in a classroom.

> *The way we learned there, [at the university] we learned traditionally to teach . . . I feel like there is a disconnect in that. As fantastic as this [Potamoi] has been, what really needs to be improved is this kind of environment, but in the university setting, so when you are preparing teachers they actually understand what inquiry means. You need to live and breathe how you are . . . I think that is what is needed, and I think there is such a big disconnect. I wrote a paper and I said something about it [inquiry] and I rambled on about how inquiry is so important, and . . .at the time I wrote that, it was just another buzz word that I was using that I heard and I regurgitated it. And I didn't really understand what it was.* (Colleen)

In our conversation, Colleen raised several critical points. A disconnect seemingly arises if one

learns to teach in a "traditional" way, meaning stand-and-deliver, yet inquiry is touted in the

university as framing the program. As Colleen further discussed, *that disconnect of, 'Do this.*

Don't do what I do, do this.' Disconnect in this way highlights the theory-practice gap.

Falkenberg (2010) describes the theory-practice divide as "the divide between learning

experiences in university-based coursework and those in the school-based field experiences" (p.

4). Widespread criticism exists concerning the continued lack or inability of university programs to cultivate connections between coursework at the university and the practical issues arising during student field placements (Volante, 2006). There seem to be several contributing factors to this on-going issue. Oftentimes faculty or sessional instructors teaching education courses may not have taught in a school context for many years. As well, there are scholars who have never taught in public schools, other than during their own field placements. Not to mention, the numerous politicians, policy-makers, and heads of corporations regularly making decisions without a context or deep understanding of education. The theory-practice divide is perpetuated when contemporary issues within methodology courses at the university are not being brought forth and taken up by student-teachers or faculty. Even faculty members who have experience in teaching in public schools, rarely have opportunities to support and mentor their students during their field placements as this role generally falls to co-operating or in-service teachers, as well as sessional instructors and graduate students.

Conversely, few mentor-teachers have strong understandings of theoretical concepts in education, of which to tether the field and university experiences (MacDonald, 2010). Another contributing factor MacDonald unearths from the findings in his study *Bridging the Theory-Practice Divide* is what he describes as a "time-lag between when university coursework is conducted and pre-service teacher practicum is experienced" (p. 273). MacDonald asserts that the time span may not realistically allow students to put the theory from their coursework into action during their practicum. In addition, the pressure student-teachers might feel to conform to the specific school culture may be overwhelming with student-teachers pushing theories to the wayside that may have meaningfully supported their learning and teaching practices. As a response to narrowing the theory-practice divide, Darling-Hammond (2006) suggests creating

opportunities to learn "*about* practice *in* practice, in settings that . . . create strong connections

between theory and practice" (p. 287). However, what this might look like needs to be taken up

by individual teacher education programs where they can be attentive to the particular context in

which theory and practice live.

As well, the notion that inquiry has become susceptible to being "just another buzz word"

within the educational landscape is highlighted.

> As educators, we all understand how susceptible our profession is to latching on to terms
> and ideas whose "shelf life" often seems to be inevitably fleeting. The great irony, here,
> is that the term "inquiry has been recently proffered in educational theory and practice as
> a way to name a form of deep, rich, articulate, engaging, rigorous and pleasurable form of
> classroom work, a type of work that is precisely not fleeting, not "new and improved,"
> not a passing fad or fancy. (Jardine & Seidel, 2012, *Course Outline*, p. 1)

It appears that any "new" idea, concept or term our profession latches on to eventually manages

a buzz kill. However, at what point, where, and with whom is a student-teacher to learn or find

their way with/in inquiry-based teaching-and-learning, as "a form of deep, rich, articulate,

engaging, rigorous and pleasurable form of classroom work . . . that is precisely not fleeting, not

'new and improved,' not a passing fad or fancy?"

Some teacher educators and researchers such as Luera and Otto (2005) are facilitating

change through program reform, specifically in the discipline of science education. Recognizing

that if they want student-teachers to graduate from their education program with abilities to

understand and enact inquiry-based pedagogy, Luera and Otto (2005) knew they needed to "walk

the walk" and infuse inquiry through the teacher education science curriculum. The research

suggested student-teacher understanding of science content knowledge was enriched through

inquiry-based learning.

Of course, student-teachers must be responsible for being and becoming active, engaged,

thoughtful students of teaching-and-learning. At the same time, as an interconnected part of the

educational ecosystem, instructors, professors, chairs, and deans must also share the

responsibility and work of cultivating potentialities for deep learning of and through inquiry.

> *I always thought it was fake at the [university] because we didn't get to actually experience it [inquiry], practice it, succeed or fail, it was just, 'Write what you think about it.' Well okay, I have a perfect classroom scenario and so here is what I did, all the students got it, here is my paper. It was fake.* (Marty)

Marty, as Colleen did, pointed to the theory-practice gap at the university. Writing, theorizing,

researching, and reflecting are critical skills for student-teachers to cultivate throughout (and

beyond) their undergraduate program. At the same time, insights from within the classroom

contexts can inform and shape one's understanding of teaching-and-learning. I wonder in what

ways might the university program perpetuate the theory-practice gap if their program stands

framed in and through inquiry, yet professors and instructors as a whole, do not necessarily live

inquiry with/in their own classrooms?

> *I am curious how university professors—my university professors—would describe it [inquiry]. Maybe that is why it was always just a thing that they said, but it was this word that floated around a lot, but nobody ever really spoke to it, and maybe that is because it is a magical ooze . . . it is hard to define and there isn't a script for it.* (Colleen)

Again, we enter troubled waters and come upon the dragon in its mountain stream lair.

The current assessments of inquiry seem to be dichotomous, like the dragon. The two

perspectives most offered within the educational literature are, inquiry as a method and inquiry

as a disposition or way of being in the world. Similarly, we have a Western image of the

dragon—portraying it as a mythical creature of evil, ferocious, fire-breathing and treasure

hoarding. Whereas the Eastern image of the dragon exists as benevolent, kind, generous,

grateful, as well as wise and life-giving. However, as articulated in Chapter 7, bridging the

dichotomous nature of the dragon is its connection with water. With inquiry, the body seems a

rich place for bridging our understanding between method and as a disposition. Macintyre Latta

and Buck (2008) frame their vision of teacher education through the work of Satina and

Hultrgren (2001).

> Satina & Hultgren (2001) write of a 'pedagogy of embodiment' bringing 'the body in
> from the educational margins' (p. 531). Though specifically written to focus on the
> absent body of girls in learning contexts, Satina and Hultgren foreground the body as
> being overlooked in education, and, as too often compartmentalized into specific subject
> areas such as physical education and health. It seems to us that teacher education is
> means to this aim and that perhaps a 'pedagogy of embodiment' ought to be central
> within the education of all teachers. The gap persistently wrestled with between theory
> and practice is embraced through embodied knowledge. (p. 323).

I move for us to take inquiry and our understanding of it to an even deeper level, at the same

time noting that defining inquiry once-and-for-all may not be helpful. Once inquiry closes down,

hardens, and no longer remains open for interpretation, it has lost its Life. In what ways might

teacher education understand, embrace and enact "pedagogy of embodiment?" I suggest a

movement into embodiment urgently and desperately requires a paradigm shift in education—a

shift into post-postmodernity.

Recall from Chapter 2 that post-postmodernity's cosmology sees the nature of the

universe as organic, dynamic, inclusive, creative, and alive. Ontologically, post-postmodernity

remains critical of thinking things exist in isolation, for example the mind-body dualism,

informed through modernity. Rather, entities in the world are organized by the ways they relate

to other entities—emerging or co-arising as each informs and constitutes the other. As well, the

worldview of post-postmodernity takes in the history and assimilates within it the previous

traditional, modern, and post-modern periods. Epistemologically, knowledge is not fixed or

permanent, but remains fluid, organic, emerging, and part of one's being. (Fidyk, 2013;

Leicester, 2000).

> *I really feel until I came here [Potamoi] I don't think I totally understood what inquiry*
> *was or what it would look like, and that research now that we spent—that I spent—two*

years reading now completely informs my understanding of it, and I don't necessarily think that if I hadn't had that . . . I would have got[ten] as much now. (Julie)

However, Julie was the only student-teacher I spoke with whom specifically named and discussed her professor, Dr. Watson, as having a deep connection with inquiry and understanding the nature of inquiry-based teaching-and-learning with mathematics. As a program framing itself through dimensions of inquiry, I find it unsettling and confusing that *only one* student-teacher brought forth research articles and her work in the discipline of mathematics as evidence of inquiry-based teaching-and-learning resources. Although Marty also brought one research article from his undergraduate program concerning inquiry, it was not something he referred to or "took up" in his enactment or understanding of inquiry.

Marty raised the issue of grades as a contributing factor of the university not fully embracing inquiry-based teaching-and-learning. *I think the university has a long way to go, but I think that is just because everyone needs a grade, everyone needs a mark.* At first breath, Marty's statement perhaps seems accurate and quite straightforward. Once we dive into the topic of grades, though, things begin to feel like quicksand. There are a myriad of issues related to and with grades. The University program prior to its most recent changes was not grade-based, yet with the shift in program and a new Dean, grades were reinstated. While the issue of to grade or not goes beyond the scope of this research, I suggest deeper investigation into the topic remains warranted. Perhaps go-to answers for resisting a grade-less program, such as "this is how it has always been done" and "how will students be able to win awards if there are no grades?" or "how will students apply for and be admitted to graduate programs?" needs further consideration questioning, and deliberation.

During one conversations with Sam, he suggested helping bridge the theory-practice gap, might be to connect with one's partner-teacher at the beginning of the year.

> *If we could have had the on-campus content with the benefit of coming here [Potamoi] for the start of the year to meet the partner-teacher we are going to be with, meet the students a little bit, and then go away but still have contact—if I could have had contact with Jeff [my mentor teacher] through those university courses—'Hey, this is the lesson plan I am doing,' and actually plan for our students here so we would have that real-life feedback.*

Having a contact and a context for student-teachers to work with/in, while thinking through lesson planning, as well as other course assignments might infuse the work they are doing with Life. Whitehead (1929a) was adamant in seeing teachers and students as alive and teeming with life. With that, he was unwavering in his appeal for the work one engages with/in to be alive. Cultivating formal relationships between and amongst teacher educators at the university and teachers and administrators in schools is imperative. These relationships help support and nurture the wellbeing of the educational ecosystem.

A key concern regarding the university, as well as schools remains that, "asserting that a program is inquiry based does not reveal anything about what students experience as learners, or how we ourselves, as teachers in the program, are enacting inquiry-based teaching" (Smits, Towers, Panayotidis & Lund, 2008, p. 46). Further to Smits et al.'s quotation, "asserting that a program is inquiry" also does not reveal how well student-teachers are able or willing to enact inquiry within their field placements and beyond. Although my research speaks to the ways student-teachers understand and enact inquiry-based teaching-and-learning, an important future direction for research might be working with teachers in education programs to more deeply understand their experiences of enacting inquiry-based teaching. As well, following student-teachers throughout their journeying of teaching-and-learning—from the beginning of their education program, through their courses and practicum placements, might also be an incredibly rich and valuable research direction.

Potamoi School

As outlined and discussed in Chapter 5, Potamoi School asserts itself as inquiry-based. Its vision, mission, goals and teaching and learning frameworks embrace inquiry-based teaching-and-learning. However, I return to Smits et al.'s (2008) powerful assertion that simply because a program labels itself as inquiry-based, does not suggest or reveal anything concerning the experiences and enactments of the participants with/in the program.

My research with student-teachers after their eight-week field placement illustrates Smits et al.'s (2008) statement as it unearthed wide-ranging experiences with/in inquiry-based teaching-and-learning. There were student-teachers who, through our conversations, admitted limited knowledge, understanding, experience or enactment within the realm of inquiry. So, what was at play with/in the culture(s) of Potamoi, dam(n)ming the waters of inquiry from each and every student-teacher fully embracing, enacting, and living it throughout their field placement? While inquiry announces itself with/in the language of the school's documents, do teachers at Potamoi use inquiry as a method and as a project-based understanding, rather than as a disposition?

Conversations with teachers and administrators concerning inquiry during the numerous (16) professional development days each year have been and continue to be negligible. As well, there is seemingly no accountability at the school for teachers to teach through inquiry. For example, in the seven years I taught at Potamoi I have only once had an administrator in my classroom to evaluate, assess, and discuss my teaching-and-learning practices.

So, might mentor-teachers' experiences and understandings at Potamoi of inquiry-based teaching-and-learning shape student-teachers' experiences and understandings during their field placement? I discuss in greater depth and detail the role and influence of mentor-teachers later in

the chapter. For now, I turn to Bastock, et al. (2006) who submit, "transforming learning

environments requires a community of learners and is a collaborative effort that takes careful

preparation. Allowing for ongoing conversations among administrators, teachers, students,

parents and mentors is key" (para. 12). As well, I would add ongoing conversations with and

amongst teacher educators are also critical in transforming our learning environments into being

and becoming inquiry-based. Luft (2001) argues that with the complexity of learning and

enacting inquiry, professional development programs are essential in addressing science

teachers' practices and beliefs. Luft (2001) also asserts a key to the success of professional

development programs remains the consistency in the way inquiry is represented. As well,

providing time and space for "purposeful conversations specifically attending to the development

of teachers' beliefs and practices" remains necessary (Luft, 2001, p. 521). If inquiry-based

teaching-and-learning is the Life of Potamoi, deep, rich, rigorous, and ongoing conversations

engaging all administrators, teachers, and students concerned are critical.

University Supervisors

University supervisors are, generally speaking, the sole link or connection the student-

teacher has with the university during their field placements.

> *We had a field advisor who comes in and they can tell if you are a good teacher if you have good rapport with the kids, and if you know what you are doing, but really, music teachers go so unchecked as to how good they are at what they are actually doing. No one knows. No one knows and it is ridiculous actually! And one of the field advisors for someone else is a music professor, who is also a teacher, and so a couple of music kids had her and they were, 'Whoa, it was crazy having her as our field advisor because she actually knew what was going on and could give meaningful feedback,' and then, of course, someone else was, 'She has no business looking at a chemistry classroom because she doesn't know chemistry,' and I don't think that is true, but . . . I guess the point is, if you had a music advisor they could show you a lot more than someone who is not, so it is definitely its own world, for sure.* (Brian)

My conversation with Brian unearthed several ideas, questions, and concerns regarding field advisors or university supervisors and their role(s). In addition to a sprinkling of faculty members, the majority of university supervisors tend to come from a pool of retired teachers and/or administrators, as well as graduate students (Power & Perry, 2002). In what ways might university supervisors be conversant and experienced with inquiry-based teaching-and-learning? Although Brian points to the differences and asset in having a university supervisor within the music discipline, I think accuracy exists in suggesting that it is not necessary they are from or in the same discipline as the student-teacher.

However, I wonder if music teaching-and-learning presents itself with unique issues or concerns, as Brian suggests when he stated, "*music teachers go so unchecked as to how good they are at what they are actually doing.*" What is it concerning the music discipline and music teachers that allow it to go "unchecked?" Might the location of the music room—often in a more remote part of the school to reduce noise levels and subsequent disruption to other classes, contribute? Perhaps the unfamiliarity of the discipline by other teachers and administrators, as well as university supervisors, allows music teachers to simply "do their thing?" Regardless, there exists a requirement and obligation university supervisors consistently observe student-teachers during their field placements and provide feedback. Is the feedback provided ineffective or inaccurate? As well, the role of the supervisor also remains to provide discipline-based feedback. As part of the educational ecosystem informing and supporting student-teachers in their field placement at Potamoi, the importance of the university supervisor cannot be understated. On-going visits, conversations, and feedback concerning student-teachers' practices can be a meaningful and important part of the process of learning to teach. Of concern, as well, is few university supervisors are seemingly conversant or have a deep understanding of inquiry-

based teaching-and-learning. In what ways might university supervisors support student-teachers within an inquiry-based field placement if they have little to no understanding *or* differing interpretations of what inquiry is?

In my informal conversations with Sarah, the university supervisor for the student-teachers at Potamoi, she acknowledged that inquiry-based teaching-and-learning was not something she was well-versed in or had much experience enacting. At the same time, Sarah appeared to be an active participant with the student-teachers. She was in the school at least once each week observing and evaluating the student-teachers and also connected with them weekly during their Wednesday lunch hour seminar. Sam commented specifically on Sarah's support during a particularly challenging lesson. Sam described her as, *a phenomenal resource on that [lesson] and she [said], 'I am so glad you did this! Don't be upset! Never teach for anyone but who you are in front of.'* Perhaps the relationship with Sarah was most meaningful for Sam because he allowed himself to be vulnerable with her *and* Sarah was encouraging and supportive of his vulnerability and Sam's willingness to take risks.

As an educational ecosystem, each individual or group, such as the university supervisor, contributes to understandings of teaching-and-learning in different ways. It is not something that can be replicated in each and every situation with student-teacher—because each educational ecosystem a student-teacher lives with/in during their field placement must be informed by the organic, unfolding, tentative nature of the situation. At the same time, some of my experiences with supervision of student-teachers can be spotty, at best. As a mentor-teacher, weeks have passed before one of my student-teachers saw their university supervisor. As well, with a current cohort of student-teachers at Potamoi, they have yet to have their university supervisor observe

them after over one month in the school. Although a framework and guidelines are in place at the

University concerning university supervision, it seems inconsistently practiced.

As Power and Perry (2002) offer in the following quotation, for university supervisors to

engage meaningfully with student teachers they "need to know the teachers, the students, their

histories, and the ways the lessons and the activities fit into a greater whole" (p. 408). In other

words, university supervisors need to spend time whiling and wayfinding with/in a student-

teachers' field placement, just as the student-teachers must. As well, Power and Perry discuss

their experiences as university supervisors.

> Some people believe that learning is all about constructing and delivering discrete,
> technically flawless lessons. We don't. We simply can't make judgments about the quality
> of any classroom based on one observation or even a series of weekly observations over a
> few months. (p. 408)

Power and Perry's research offers an ambitious and influential way of connecting university

supervisors with schools—specifically the student-teachers, mentor-teachers and students. "We

quickly saw that releasing mentor teachers during the day to work with us while preservice [*sic*]

interns covered their classes was a powerful new way of linking the school and the university"

(Power & Perry, 2002, p. 410). However, it is of import to note that Power and Perry's work was

with/in a year-long field placement at a Professional Development School.[42] Currently the

longest field placement at the university remains eight-weeks, creating different challenges in

connecting Potamoi and the university. At the same time, the way Power and Perry cultivated

connections and relationships may not be the most important part of their message. What is;

perhaps, is the ongoing relationship building between and amongst student-teachers, mentor-

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[42] Professional Development Schools (PDS) were created in the United states to facilitate educational change and
professional development. Darling-Hammond and McLaughlin (1995) described PDS as schools where student-
teacher and mentor-teacher learning is experimental, collaborative, grounded in questions, directly connected with
the work of their students, as well as ongoing, intensive, and connected with other aspects of school change.

teachers, administrators, students, and university supervisors. To attend to the uniqueness of the

educational ecology and what will most readily and meaningfully nurture it, the way the

relationships look, sound, and feel might be different for each university and school.

Other than Sam, the student-teachers at Potamoi did not mention their work with Sarah,

except briefly referring to their weekly seminars. In what ways might university supervisors

become more consistently, actively, and meaningfully embedded with/in the educational ecology

of the student-teacher field placement?

Mentor-Teachers

> As with music or painting, or reading, or writing, or getting good at listening to others tell
> of their worries over the linger of a story, or becoming deft, as a teacher, at taking care of
> these responses and gathering them in to our collective care and attention, these matters
> take tough and repeated practice to get good at. They take thoughtful, rigorous, scholarly
> work, and the seeking out those who have been in these territories before. They take
> imitation and emulation and complex conversations held in the refuge of others dedicated
> to such work. (Jardine, 2013, p. 19–20)

Jardine reveals some of the necessities needed "to get good at" teaching—most important are

opportunities to work, imitate, emulate, and engage in "complex conversations" with others who

are experienced and dedicated to teaching-and-learning. The mentor-teacher—student-teacher

relationship is of critical importance. In a way, as the first contact with/in the school, outside of

being a K–12 student, the mentor-teacher invites the student-teacher into the site of the

profession.

Through my conversations with the student-teachers, some were fully engaged in on-

going, complex, and rigorous conversations with their mentor-teachers and others were

ostensibly not. Some of the student-teachers rarely mentioned their mentor-teachers, let alone

deep, reflective conversations with them concerning the profession in general and inquiry

specifically. Julie embodied inquiry. In tracing the conversations, it is revealing to note she also

consistently referred to and discussed her deep and rigorous conversations with her mentor-teacher, Dianne.

As well, student-teachers, such as Marty and Brian only occasionally and only briefly mentioning their mentor-teachers, struggled to communicate or enact a deep understanding of inquiry-based teaching-and-learning. Bastock, et al. (2006) contend, "Working with teacher mentors who have cultivated an understanding of inquiry is also a critical aspect of comprehending inquiry-based teaching and learning" (para. 12). If on-going conversations concerning inquiry-based teaching-and-learning are not happening, might the waters of inquiry be dam(n)med, ceasing the flow of the stream? At the same time, research purporting the enactment of inquiry with/in the disciplines of music and physical education remains limited, which may help explain the disparities in conversations in these particular disciplines compared with science or social studies.

Harkening back to Chapter 3, I outlined and discussed some of the challenges concerning mentor-teachers during student-teachers' field placements. For example, Mintrop (2004) suggests student-teachers in his study were willing to simply follow the lead of their mentor teacher, "often unconsciously" (p. 152). The student-teachers were willing to forego their own beliefs or philosophies, which were formed or reinforced by the constructivist education program and instead defaulted to their mentor teachers' practices who they deemed as experts or master teachers (Mintrop, 2004). Marty's work in physical education with his mentor-teacher Samantha and her teaching-partner, Derek, reflected Mintrop's (2004) assertions. Although Marty was willing to take a risk by working with Dirk and the other student-teacher in creating a physical education inquiry, after the two-week unit was completed, Marty felt he needed to follow-through with the way his mentor-teacher had previously planned and organized the units.

Highlighting Marty's student-teaching experience in physical education, Crawford's (2007) research findings with high school science student-teachers indicated that the mentor teachers influenced the practices of student-teachers. The role of a mentor teacher to help guide, support, and work with the student-teacher, so it is natural the mentor will influence the teaching-and-learning practices of the student-teacher. What one hopes though, is the influence the mentor teacher has supports risk-taking, as well as innovative, and inquiry-based teaching-and-learning. Unfortunately, oftentimes, as emphasized in Crawford's (2007) study, the degree of openness the mentor teacher has affects their willingness of student-teachers enacting innovative practices. For example, Crawford (2007) noted, "the mentor teachers' beliefs and preferred pedagogical approaches appeared to deter at least some of the prospective teachers" from diverging from the already well-established classroom culture and practices (p. 623).

In conjunction with some student-teachers feeling as though they did not want "to step on any toes" when it came to trying different practices than their mentor teachers, there was also a level of fear (Crawford, 2007, p. 623). Creating and enacting inquiry-based science lessons, involved student-teachers taking a risk. Unsure of the ways an inquiry lesson might unfold, the student-teachers became fearful and rather than attempt the lesson, they defaulted to the practices of their mentor teacher (Crawford, 2007). With Marty, in particular, my sense from our conversations was that he had been given two-weeks to "try out inquiry" and he was satisfied with that opportunity. As well, he commented that the classes he was teaching were not his and he wanted to ensure he was teaching things the way Samantha had wanted and had done in past years. However, rather than fear, Marty's intentions seemed steeped in respect and gratitude for the opportunities he had been given to take a risk in teaching through inquiry, as well as respect for his mentor-teacher, Samantha.

Lastly, tension subsists, according to Foster et al. (2010), in the absence of a clear and cohesive supervisory model. Currently, in and amongst many teacher education field experience programs, there continues to be issues guiding the mentorship process with a coherent and clear framework (Foster et al., 2010; Goodlad, 1994; Janssen, Landolt & Grunfield, 2003; Ralph, Walker & Wimmer, 2008). While I suggest a loose framework or vision may be helpful in supporting and guiding mentor-teachers in their work with student-teachers, a strict guideline or list of procedures will likely not. Creating inflexible procedures invariably constrain the potentialities of all participants with/in the educational ecosystem in navigating the particularities of a situation.

The mentor-teacher, according to Caires and Almeida (2007), lies at the core of the educational matrix. While I agree, to some degree, the importance also lies in understanding that with/in the educational ecosystem there may be shifts in who or what remains at the core. In other words, it persists in a responsive, unfolding, and organic way with the student-teacher and the environment in which they find themselves—similar to Whitehead's (1929a) Rhythm of Education. Romance, precision, and generalisation fluidly move into the foreground or background depending on what the need at a particular moment.

Caires and Almeida (2007) argue student-teachers "find adequate conditions for the exploration, expression and integration of the multiple rehearsals and experiments involved in the first contact with the teaching profession" (p. 525).

> It is also here that the apprentice teacher should find the necessary support to cope with the risks involved in the essay of new ways of thinking, feeling and acting, towards increasing levels of complexity and adequacy in terms of their personal and professional development (Alarcao & Tavares, 2003; Altet, 2004; Soares, 1995). (p. 525)

Herein lies the crux or part of the dam(n)ming nature existing today of the mentorship waters. If a teacher has been teaching for two years, they are able to sign up to mentor a student-teacher. In

other words, professionally, *anyone* can sign up. The *only* condition a mentor-teacher must meet entails two years of teaching experience. I am reminded here by a quip made by Jardine during a course of his I attended—"one does not simply become experienced by breathing." In other words, experience *of* something is practiced, whiled over, and it is nurtured, questioned, and contemplated. After 30 years, little own two years of teaching, one is not necessarily experienced and/or able to mentor a student-teacher in the ways the profession needs and especially with/in inquiry-based teaching-and-learning.

Caires and Almeida (2007) argue the necessity for student-teachers to have support in taking risks, as well as exploring and navigating the complexities of the teaching profession. Returning to the beginning of the section, Jardine (2013) revealed the importance of opportunities to work, imitate, emulate, and engage in "complex conversations" with others who are experienced and dedicated to teaching-and-learning if one wants to "get good at" teaching. Bastock, et al. (2006) contend, "Working with teacher mentors who have cultivated an understanding of inquiry is also a critical aspect of comprehending inquiry-based teaching and learning" (para. 12). If mentor-teachers are of critical importance in student-teachers learning to teach, in what ways are mentor-teachers supported in cultivating and nurturing the opportunities outlined above? The answer remains that, in most cases, they are not. At Potamoi, mentor-teachers did not regularly meet with one another, the university supervisor, administrators or even the Communication and Collaboration Leader to discuss the mentorship process, challenges, insights, experiences or understandings.

Just as student-teachers require support in journeying into the teaching profession, I passionately argue mentor-teachers in journeying into mentorship also need guidance and support. With/in our educational ecosystem, the stream must cut a new path and a new course

with respect to the ways student-teacher mentoring has been previously conducted. Seeing and

regarding the mentoring of student-teachers as a privilege requiring experience and a deep,

rigorous, attuned, and embodied understanding of teaching-and-learning might be helpful for

both mentor and student-teachers. Specifically, mentor-teachers experienced in inquiry-based

teaching-and-learning, *especially* when a school, such as Potamoi espouses they are inquiry-

based may facilitate a more meaningful understanding.

However, through my conversations with the student-teachers after their eight-week field

placement at Potamoi, inconsistencies emerged concerning opportunities for enacting and

understanding inquiry-based teaching-and-learning. While it may seem I am "calling out" the

practices of the mentor-teachers at Potamoi, of import to note—the mentor-teachers are not an

isolated island with/in the stream of the educational ecosystem. The mentor-teachers, as I

suggested in the preceding paragraphs are informed by and informing the entire stream. If the

mentor-teachers at Potamoi are not embodying or enacting a deep and rigorous understanding of

inquiry-based teaching-and-learning and not able or willingly encouraging the same with their

student-teachers, all other participants in the educational ecosystem are affected. For example,

the culture(s) with/in Potamoi in some ways cultivated, nurtured, and/or simply allowed mentor-

teachers who had varying interpretations and/or self-admittedly rarely enacted inquiry-based

teaching-and-learning to become mentors for student-teachers. As well, the University stands

implicated because they require a large pool of mentor-teachers to sustain their education

program and a rigorous application becoming a mentor currently does not exist as part of their

process.

What if teachers at Potamoi had to apply to become mentor-teachers and through this

process illustrate their understanding, enactment, and embodiment of inquiry-based teaching-

and-learning? I suspect engaging in this reflective process might open up conversations and also

help cultivate a deeper understanding of inquiry. As well, it could elucidate some of the gaps

where teachers might require additional or different support or resources in more deeply

understanding and enacting inquiry. The process offers the potentialities for interesting,

engaging, and meaningful professional development for all participants, as well as nurturing the

ecosystem so student-teachers are more fully supported in learning in and through inquiry-based

teaching-and-learning.

Student-Teachers

When you actually sit down and talk about it, it [teaching] is truly a very deep
profession. (Julie)

Julie was a student-teacher who, through our conversations, illustrated her embodied

understanding and enactment of inquiry-based teaching-and-learning. However, inquiry for Julie

did not simply appear.

> Abiding in inquiry thus requires practice, requires engagement. Temporally put, "to be
> present means to participate" (Gadamer 1989, p. 124). Full-filled time thus links coming
> to know a living field of work and its gatherings to the transformation of the one coming
> to know into someone who "know[s] one's way around" (Gadamer 1989, p. 260): "this
> means that one knows one's way around in it" (p. 260), in the gatherings of and in the
> dependently co-arising gathering presence of mind regarding, a living field of work.
> (Jardine, 2013, p. 22)

Julie's embodied understanding and enactment, as Jardine (2013) alludes to, was also informed

by and through her work with others with/in the educational ecosystem—through her research,

readings, and coursework (especially, as she noted, with Dr. Watson), as well as her intense,

complex, and organic work with her mentor-teacher, Dianne. While I point to only two specific

examples of Julie's journeying towards and into an embodied understanding of inquiry, to

clarify, *each and every* experience of Julie's life shaped and informed her. Julie's student-teacher

colleagues in her cohort were also informed of inquiry-based teaching-and-learning in particular

ways—which for some, such as Marty and Ben, was limited. For Marty and Ben, continuity and support in learning with/in inquiry was for the most part seemingly absent—absent via the teaching profession, the mentor teachers, the school, and the university supervisor. When something remains alive, such as inquiry, it needs to be nurtured and tended to by each and every part of the ecosystem.

Crawford (2007) indicated each student-teacher in her research held a different view from the other concerning inquiry as well as a "varying level of understanding of what it means to teach science as inquiry" (Crawford, 2007, p. 623). Varying understandings are not alarming considering each student-teacher brings with them a myriad of experiences prior to entering an education program and journey through the coursework and field experiences in particular ways. However, I suggest having little or limited understanding, ability or willingness to enact inquiry at the completion of an education degree and a final field placement (both of which, according to their documents, are inquiry-based) surprises and disappoints me. Julie, Sam, and Colleen knew their way around inquiry, understood it, and enacted inquiry throughout their field placement. However Marty's experience with inquiry was limited to a two-week unit and Brian's work with/in inquiry appeared negligible.

There are several researchers (McGinnis, Parker, & Graeber, 2004; Melville, Fazio, Bartley & Jones, 2008; Newman, Abell, Hubbard, McDonald, Otaala, & Martini, 2004) questioning whether or not prospective or beginning teachers have the ability or understanding to navigate the demands and the complexity of inquiry-based teaching. While some researchers question the feasibility, there are those who have proven its appropriateness for student-teachers to enact inquiry-based teaching-and learning in science and also its possibility (Crawford, 1999;

Melville, Fazio, Bartley & Jones, 2008; Towers, 2010; 2013). Through my research, support for

some student-teachers enacting inquiry-based teaching-and-learning exists.

During their entire undergraduate program, not only do student-teachers need

opportunities to reflect on their experiences, they also need on-going conversations to critically

and meaningfully reflect on their challenging experiences—helping cultivate openness and a

positive attitude toward inquiry (Bell et al. 2003; Mellville et al. 2008; Van Zee and Roberts

2001; Windschitl 2002; Zembal-Saul et al. 2002). Consistently deep, rigorous, and complex

conversations, as well as ones of wonder, curiosity and imagining, concerning inquiry, and

support for risk-taking at the university and Potamoi are called for. With these unfolding, I

suspect student-teachers, such as Brian and Marty with less or limited opportunities in enacting

inquiry, might have cultivated a deeper understanding.

Exploring the beliefs student-teachers have entering an educational program, has the

potential to play an important role.

> [Research] suggest[s] that educational beliefs of preservice [*sic*] teachers play a pivotal
> role in their acquisition and interpretation of knowledge and subsequent teaching
> behavior and that unexplored entering beliefs may be responsible for the perpetuation of
> antiquated and ineffectual teaching practices. (Pajares, 1992, p. 328)

Another important characteristic of beliefs abides that change in beliefs tends to follow changes

in one's behaviour, rather than preceding it (Guskey, 1986); precisely Towers' (2010)

assertion—student-teachers must *experience* inquiry. So while my conversations with the

student-teachers, as well as their conversations with others they were journeying with throughout

their program informed their understandings of inquiry-based teaching-and-learning, the most

meaningful process was experiencing inquiry. To clarify, I am *not* in any way suggesting that the

field experience (or practice) trumps course work (or theory) because student-teachers, such as

Julie did experience inquiry-based teaching-and-learning throughout her coursework in the

discipline of mathematics. I am however, asserting student-teachers see, feel, experience, and enact inquiry throughout *all* aspects of their program. Each and every facet of the educational ecosystem remains responsible for supporting student-teachers throughout their journeying with/in the stream of inquiry-based teaching-and-learning.

Inquiring With/In The Stream

I continue to have deep and rich questions that bear down upon me. The questions I offer are not rhetorical in nature, but meant to enliven rich, deep, insightful, and rigorous conversation amongst and between all individuals and groups implicated with/in the ecological stream of teacher education and inquiry-based teaching-and-learning. I suggest it fitting to leave our journeying together with these questions. After all, I want to honour the spirit of inquiry.

In what ways might the organization and placement of student-teachers with mentor-teachers in schools unfold in meaningful ways? In what ways might the mentorship process be transformed to more readily support mentor-teachers working with student-teachers? What might a reciprocal role between university and schools and schools and universities look like at Potamoi? How might the fears of the student-teachers be mitigated or at the very least supported in ways so they are willing to take risks in teaching-and-learning? Whose interpretation of inquiry frames our journeyings? In what ways might a particular interpretation of inquiry be discussed without it becoming bastardized as another method? Inquiry is just good teaching, but who decides what good teaching is and when does one know when it is good teaching? In what ways might we, as part of the educational ecosystem, influence a paradigm shift where embodied post-postmodernity lives and becomes embraced?

I feel Greene's (1995) heartfelt and deep insights can help us along our way,

All we can do is speak with others as passionately and eloquently as we can; all we can do is to look into each other's eyes and urge each other on to new beginnings. Our

classrooms ought to be nurturing and thoughtful and just all at once; they ought to pulsate with multiple conceptions of what it is to be human and alive. They ought to resound with the voices of articulate young people in dialogues always incomplete because there is always more to be discovered and more to be said. We must want our students to achieve friendship as each one stirs to wide-awakeness, to imaginative action, and to renewed consciousness of possibility. (p. 43)

I urge each and every one connected and implicated with/in the ecology of the teacher education

stream to be willing to make a "new beginning."

> For last year's words belong to last year's language
> And next year's words await another voice.
> And to make an end is to make a beginning.
>
> (Eliot, *Little Gidding*, n.d.)

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Appendices

Appendix A: Galileo Educational Network Inquiry Rubric

1

Discipline-Based Inquiry Rubric

	Beginning	Developing	Accomplished
Authenticity	The scope of the inquiry study is determined mainly by the mandated curriculum.	Students' interests and concerns influence the scope of the inquiry study.	The inquiry study emanates from a question, problem, issue or exploration that is significant to the disciplines, builds connections outside of the school and is mapped to the mandated curriculum. Students have significant influence and input in determining the scope of the study.
	The assignments or activities or tasks students do within the study would not likely be tackled outside a school setting.	Other adults outside the school are intrigued by the assignments or activities or tasks students are asked to do and can find ways to contribute to it.	An adult working within the discipline or in the community might actually tackle the question, problem or exploration posed by the assignments or activities or tasks.
	The inquiry study originates with and only meets programs of study expectations.	The inquiry study originates with the program of studies but provides some opportunities to extend beyond curriculum expectations.	The inquiry study originates with an issue, problem, question or exploration that provides opportunities to create or produce something that contributes to knowledge.
	The assignments or activities or tasks within the study contain few roles that reflect a single perspective.	The assignments or activities or tasks within the study contain some separate roles that reflect few perspectives.	The assignments or activities or tasks within the study require a complex array of roles and diverse perspectives.

	Beginning	Developing	Accomplished
Academic Rigor	The inquiry study provides for the acquisition of factual known information.	The inquiry study facilitates the acquisition and application of a broader understanding.	The inquiry study leads students to build deep knowledge that leads to deep understanding.
	Students are required to follow clearly defined approaches to teacher-generated criteria.	Students are offered a menu of approaches organized around the problem, issue or question under study in order to meet specific learning outcomes.	Students are offered a menu of approaches organized around the problem, issue or question under study that use methods of inquiry central to the disciplines that underpin the problem, issue or question.
	The inquiry study encourages students to memorize and repeat facts.	The inquiry study encourages students to find relationships between and among concepts in more than one subject area.	The inquiry study encourages students to develop habits of mind that encourage them to ask questions of: • evidence (how do we know what we know?) • viewpoint (who is speaking?) • pattern and connection (what causes what?) • supposition (how might things have been different?) • why it matters (who cares?)

2

	Beginning	Developing	Accomplished
Assessment	All assessment is done at the end of the study.	On-going assessment is conducted on an informal basis and evaluation is conducted at logical mid points in the process. Assessment is used in a limited way in guiding teacher's instructional planning.	On-going assessment is woven into the design of the inquiry study providing timely, descriptive feedback and utilizes a range of methods, including peer and self-evaluation. Assessment guides student learning and teacher's instructional planning.
	The study provides no opportunities for students to reflect on their learning. There are few criteria to guide the students' learning. There is little or no evidence of goal setting.	The study provides opportunities for students to reflect on their learning using clear criteria established by the teacher. Teachers help students set learning goals, establish next steps and develop effective learning strategies.	The study provides opportunities for students to reflect on their learning using clear criteria that they have helped to set. The students use these reflections to set learning goals, establish next steps and develop effective learning strategies.
	Teacher is the only adult who assesses the work.	Teacher and student self-assessment are used.	Teachers, peers, adults from outside the classroom and the student are involved in the assessment of the work.

	Beginning	Developing	Accomplished
Beyond the School	The study involves a teacher-structured problem framed directly from stated curriculum outcomes.	Students help develop or contribute to defining a relevant question, exploration, problem or issue for study that relates to the world outside the school.	The inquiry requires students to address a question, exploration, issue or problem, relevant to curriculum outcomes, but grounded in the life and work beyond the school.
	All parameters of the inquiry (e.g. outcomes, due dates, & expectations) are established by the teacher prior to commencement of the inquiry.	Parameters & desired outcomes of the inquiry are set by the teacher. Milestones and organizational strategies are provided for student self-monitoring.	The study requires students to develop organizational and self management skills in order to complete the study.
	The inquiry requires mainly individual effort, with little on-going feedback on performance; the expectation for completion is handing it in.	Teacher presents the study and students choose group members and topics from a menu of choices. The task could be completed independently, but this is not encouraged.	The study leads students to acquire and use competencies expected in high performance work organizations (e.g.. Team work, problem solving, communications, decision making, project management).

3

	Beginning	Developing	Accomplished
Appropriate Use of Technology	Technology is used for the sake of using technology, not because it will enhance the inquiry. The technology is not needed to accomplish the task.	Technology has some relevance to the inquiry. The technology is somewhat needed to accomplish the task.	Technology is used in a purposeful manner that demonstrates an appreciation of new ways of thinking and doing. The technology is essential in accomplishing the task.
	Teacher decides which technologies will be used.	Students and teachers collaboratively decide which technologies will be used.	The study requires students to determine which technologies are most appropriate to the task.
	Major focus is on developing skill and fluency with software applications.	The study requires students to conduct research, share information, make decisions, solve problems, create meaning, and communicate, mainly inside the classroom.	The study requires students to conduct research, share information, make decisions, solve problems, create meaning and communicate with various audiences inside and outside the classroom.
	The ongoing inquiry study is not available online.	Students have ongoing, online access to the study as it develops.	Students, parents and the larger community have ongoing, online access to the study as it develops.
	The study requires use of word processing or simple presentation software.	The study permits the use of a wider variety of technology choices.	The study requires sophisticated use of multimedia/hypermedia software, video, videoconferencing, simulation, dynamic geometry, databases and/or programming.

	Beginning	Developing	Accomplished
Active Exploration	The study can be completed in a limited amount of time, in a few areas, with teacher-generated tasks.	The study requires increased time and variety of tasks spent on exploration.	The inquiry requires students to spend significant amounts of time doing field work, labs, interviews, studio work, construction, etc.
	The study requires students to complete a series of teacher-constructed activities using limited resources.	The study requires students to engage in a basic investigation using a variety of sources.	The study requires students to engage in real (authentic) investigations using a variety of media, methods and sources.
	The study requires students to communicate what they are learning with a presentation to teacher audience (i.e. handing in as an assignment).	The study requires students to communicate what they are learning in a presentation to classroom audience.	The study requires students to communicate what they are learning with a variety of audiences through presentation or exhibition.

4

	Beginning	Developing	Accomplished
Connecting with Expertise	Students hear or read about relevant information only from the teacher, or resources provided by the teacher.	The study involves speakers or interviews with experts outside the classroom.	The study requires students to observe and interact with adults with relevant expertise and experience in a variety of situations.
	Students have limited, or no access to experts.	Guest speakers, other teachers, older students or other adults are available in a limited, perhaps one-shot way.	The study requires students to work closely with and get to know at least one adult other than their teacher.
	The teacher designs the task in isolation (without input from external expertise).	The teacher designs the task in consultation with expertise, either directly or indirectly regarding the topic for inquiry.	The teacher designs the task in collaboration with expertise, either directly or indirectly. The inquiry requires adults to collaborate with one another and with students on the design and assessment of the inquiry work.

	Beginning	Developing	Accomplished
Elaborated Communication	Students have little or no opportunity to discuss their work with others.	The task provides opportunities for students to share their ideas with each other. Opportunities to respond to each others' idea may be limited.	Students have extended opportunities to support, challenge and respond to each others' ideas as they negotiate a collective understanding of relevant concepts. Students have opportunities to negotiate the flow of conversation within small and large group discussions.
	The task dictates the form of expressions that students may use. Students have little opportunity to reflect on how the selected medium enhances their message.	Students have limited opportunities to choose forms of expression and to reflect on what media would best communicate their message.	Students have opportunities to choose forms of expression appropriate to the task (e.g. PowerPoint, iMovie, tableau, mime, puppet show, readers theatre, drum solo, interpretative dance, debate, etc.) and to reflect on the impact of their choices.
	The inquiry requires students to communicate what they are learning to a teacher audience (e.g. handing it in as an assignment).	The inquiry requires students to communicate what they are learning with a classroom audience.	The inquiry provides opportunities for students to communicate what they are learning with a variety of audiences.

Appendix B: Letter of Intent

February 12, 2013

Dear Student–Teacher:

I am a teacher at the Potamoi School currently working on my doctorate at the University of Alberta and I am conducting an interpretive research study at the school. The reason you are receiving this letter is twofold: firstly, it is to inform you about the doctoral research project that will be taking place over the next several weeks and secondly, to invite you to participate in the project.

The title of this University of Alberta research project is: *With/In the Stream: Student-Teachers Navigating the Waters of Inquiry*. The study is interested in the ways in which student-teachers understand inquiry-based teaching-and-learning during a field placement at an inquiry school.

The interpretive research is most interested in having rich conversations that are focused on teaching-and-learning. Your time is valuable and I seek to understand your experiences that will make meaning for you as a student-teacher who is working through your final field placement. Therefore, your only role as a participant would be to engage in a maximum of three conversations with me. The conversations may be individual and/or in small groups depending on the number of students who are willing to participate. The conversations will last for approximately 1–1.5 hours/each and will be digitally recorded.

It is important to note that, if you choose to participate, *in no way* will it impact or influence your field experience evaluation or course grading. In addition, I commit that you and your participation in the study will remain anonymous. Anything said *will not* be shared with any colleagues, the principal, or your mentor teacher or university supervisor. You will have complete confidentiality and the digital recordings will be destroyed according to the University of Alberta ethics guidelines.

If you have any questions or concerns, please feel free to contact me in the following ways:
Phone: (403) 993-8797
E-mail: tstogre@ualberta.ca

In addition, if you would prefer to communicate directly with my doctoral supervisor, Dr. Alexandra Fidyk about the study you can contact her via:
Phone: 780-492-3666
E-mail: Fidyk@ualberta.ca

Thank you.
Warmest wishes,

Tanya D. Stogre

If you are interested in this study, please indicate your response below, fill out the contact information details and return this portion to:

The school's Professional Development Coordinator.

☐ Please sign me up.

☐ I am interested, however, I want to know more.

Contact information:

Name: _____

Phone: _____

E-mail: _____

Appendix C: Sample Participant Questions

1. Tell me about your field placement so far.

2. Have you been trying to teach through inquiry?

3. What does inquiry-based teaching-and-learning mean to you?

4. What does inquiry-based teaching-and-learning look like in your classroom?

5. What have you seen or taught so far that has caught your interest or excited you during your field placement?

6. What are some of the challenges you have noticed in inquiry-based teaching-and-learning?