The Possibilities of Transforming Learning: A Practitioner Research Study of a Pilot Alternative Learning Environment

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Abstract

In this study, I examine the pilot year of an alternative learning environment in which I, as a practitioner, explored the possibilities for transforming learning for a small class of Grade 11 and 12 students. Drawing on a pedagogy of care, a constructivist model of learning and a student-centered approach to learning, the students and I negotiated new curriculum, combining regular classroom courses with courses constructed by their own learning interests. In this case study, a rhizomatic analysis of student and practitioner data, collected both during and after students' graduation from high school, showed that students were highly engaged with learning when guided by their personal interests. In the study, I also found, however, that students struggled to fully embrace the potential of their own interests, held back by the ambiguity of self study and the clear metrics of the regular school system to which they were accustomed. As practitioner, I struggled to meet the demands of the prescribed curriculum and those of the curriculum that constantly evolved and changed according to students' interests. The study also speaks to the tensions in defining the role of a teacher in this alternative learning environment. In conclusion, I suggest we seek to make possible an alternative high school learning environment that more closely resembles free schooling (i.e., learn what you want, where and when you want) within a public school that would, combined with a traditional course of study, meet the provincial criteria for graduation accreditation.

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I thank my students for allowing me to encourage them out of their comfort zones, to seek and to find their own voices and becomings.

Most importantly, I thank my wife and four sons for encouraging me to keep going when I didn't want to, and for sacrificing our time together.

Dedication

To two lifelong learners with whom the dialogue has ended.

John Toews (1929-2011)

father-in-law, teacher and minister

Ron Peters (1942-2013)

like-minded friend, social worker, farmer, advocate for the marginalized

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Chapter 1

"It is critical that we become active researchers and developers of innovations and new directions" (Jacobs, 2010, p. 8).

In this study I take the perspective that schools and teachers need to rethink their traditional roles. As one teacher within one school, I set out to do things differently. The disengagement of many students who face an uncertain future in a rapidly changing world brought about by disruptive technologies, encouraged me to re-examine and change my practice.

Using the construct of inquiry as stance (Cochran-Smith & Lytle, 2009) as a lens for the study, I interrogate my practice as a practitioner-researcher as I imagine, enact, and assess my evolving practice during the pilot year of creating an alternative learning environment for a small class of Grade 11 and 12 students in a traditional rural high school. In addition, I examine the students' perceptions of the learning environment's impact on their learning experiences, using data collected during and after their experiences in the program. Using my professional context and practice as the site of inquiry, I consider in this research the opportunities and challenges in designing a meaningful learning environment for students, critically reflecting on the intersection of theory and practice (Cochran-Smith & Lytle, 2009).

At its foundation, inquiry as stance is a theory of action with a counterhegemonic notion that repositions the knowledge and expertise of practitioners at the center of educational transformation. Inquiry as stance is a "worldview, a critical habit of mind, a dynamic and fluid way of knowing and being in the world of educational practice" (Cochran-Smith & Lytle, 2011, p.20). It has four key dimensions:

- *knowledge* that is locally contextualized and practical;
- *practice* that involves inventing and reinventing frameworks for imagining, enacting and assessing daily work;
- *communities* in which practitioners question their own assumptions about teaching, learning and schooling; and
- *democratic purposes and social justice ends* for which practitioners work "both within and against the system, as they take an inside-outside perspective (Cochran-Smith and Lytle, 2011, p. 21).

I seek here to build local knowledge as I question common assumptions about schooling and learning, and as I critique the usefulness of research generated by others both inside and outside the context (Cochran-Smith, 2009) of creating an alternative learning environment for a diverse group of high school students. I use my experiences, research and student responses to investigate how the following factors contribute to a different learning environment:

1) the relationship between caring and learning;
2) the impact of a constructivist learning approach on student learning and engagement; and
3) the effects of giving students greater direction, choice, and control of their learning.

I explore these ideas under the headings of: a) a pedagogy of care, b) constructivist learning, and c) student-centered learning.

The terms "alternative program" and "alternative education" are used to distinguish the study context from a traditional classroom. These are both terms used

consistently by my school and division. I use Morley's (1991) definition that alternative education is a perspective based upon the belief that there are many ways to become educated, which includes the many environments and structures to support it. I limit the use of the term "alternative program" preferring "learning environment," as I reject the connotation that "program" is something that *is*, that is, that it is replicable or transferable or for that matter, even definable. The word "program" implies that there was some kind of pre-determined structure or linear path to be followed. There wasn't. The learning was chaotic and disruptive, and thus required a different framework. A learning "environment" is not limited to physical space but extends outwards, and draws in from multiple points such as home, community, and relationships. I will continue to use "program" in this paper where it best fits the context considering the multiple understandings made by readers.

As learning is a contextualized endeavor, an understanding of how individuals learn requires that we also attend to the environments in which they learn as well (Dumont & Istance, 2010). A "learning environment," rather than a physical space, is best understood as the dynamics and interactions between several dimensions (Dumont & Istance, 2010). Drawing from Sawyer (2008) and Dumont and Istance (2010), learning environments should:

- focus on the learner, being sensitive to individual differences and prior; knowledge; encourage active engagement, customize and adapt learning
- secure knowledge resources for content: virtual, physical and human (what/with whom/where) while promoting multi-disciplinary learning that extends to the community and the wider world;

- enable collaborative learning opportunities for social learning;
- ensure learning professionals understand the importance of the interplay of emotion, motivation and cognition for learning;
- create programmes that are challenging though not overwhelming;
- use formative feedback to support learning with clear expectations and assessment strategies consistent with expectations;
- assess for deep understanding, in context, with an authentic audience and purpose; and
- regularly review principles and practice.

Using the term "learning environment" thus began to alter my thinking about learning as something larger and broader than the classroom. While I find the term useful here, it is not sufficient to frame the learning experiences in the context of this study.

In creating a more fitting theoretical framework for this work, I will use Deleuze and Guattari's (1987) metaphor of the rhizome as a lens to think about learning. Using the metaphor of a rhizome, let me briefly show how there can be/was no "program." A rhizome is a stem of a plant that sends out roots and shoots as it spreads. Deleuze and Guattari (1987) outline six principles or traits of the rhizome: 1) *connection*: any point of a rhizome can be connected to another, and must be; ideas are connected at multiple points; 2) *heterogeneity*: ideas can be linked to each other in any way without homogeneity; 3) *multiplicity*: the rhizome cannot be reduced to one or to multiple; 4) *a signifying rupture*: a rhizome may be broken, but it will start up again on one of its old lines, or on new lines; 5) *cartography*: a rhizome allows entry from any point, though each re-entry or entry of each person is unique; a map may be drawn to understand the

links and parts of the rhizome; 6) *tracing*/*decalcomania*: a rhizome is not amenable to any structural or generative model as it is not static; it is a "map and not a tracing," as there is no creation in tracing. "Program" is reductionist and like the *system* of traditional schooling limits us from seeing learning differently. The rhizome is not a thing. A program is not a thing. To think rhizomatically is to "*replace* the discrete thing into its ecosystem, to recontextualize it, and to integrate what we learned through our extreme focus into our knowledge of the whole" (Hamon, 2011). In others words, it is to see both the forest and the tree, the multiplicity of connections.

So, the alternative education the students and I dynamically co-constructed and negotiated focused on creating a caring, student-centered environment for learning. It was not a learning program I created for students to follow. Three program perspectives contributed to the development of the learning environment (see Figure 1) intended to be more conducive to students' engagement with learning.

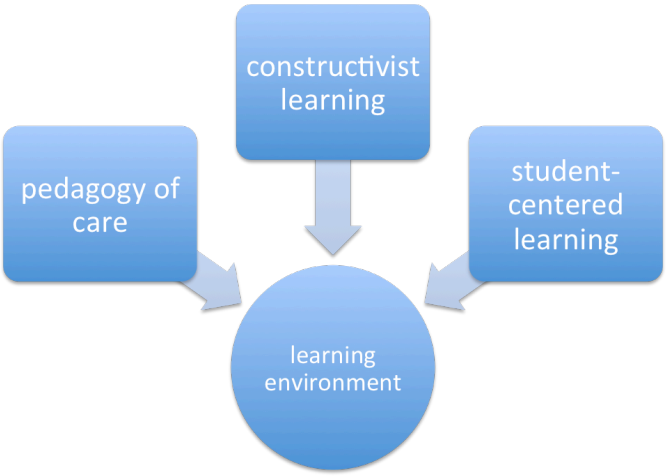

Figure 1. Perspectives on Generating the Learning Environment

A Pedagogy of Care

Positioning students' interests and passions before the standard curriculum was key in the development of care in the learning environment. Nel Noddings (2005b)

argues that caring relations are the foundation for pedagogical activity. First, a practitioner must listen and gain students' trust so that teaching may be viewed as "cooperative work proceeding from integrity of relation" (Noddings, 2005a). Second, in dialogue with students, we, as practitioners, need to learn about their needs, work habits, interests, and talents. Finally, the knowledge of students' needs helps us realize the inadequacy of the standard curriculum, and thus inspires us to increase our own competence.

Students learn when they know they are cared for. I use Nel Noddings' work (2002; 2005a; 2005b; Smith, 2004) on the ethics of care and care theory to describe the importance of caring for student learning. Noddings differentiates "caring-about" from "caring-for," viewing the former as a result of the latter (2002). To care *for* others comes from a sense of justice. To care *about* comes from our experience of being cared for (Smith, 2004). It is necessary that care be received and reflected upon. Noddings (2002) identifies three elements of a caring encounter:

1. A cares for B – that is A's consciousness is characterized by attention and motivational displacement – and
2. A performs some act in accordance with (1), and
3. B recognizes that A cares for B (p.19).

Noddings views education as a site for caring encounters, which is central to the cultivation of caring in society. Care, like learning, must be intentionally constructed.

Constructivism

To care for and about students requires listening to their learning interests. Thus for me, a traditional, transmission-based model of learning, where a set body of

knowledge is transferred from the teacher to the student, was not an acceptable design for learning, as it has little interest in how students use or repurpose knowledge. The focus is on learning the knowledge others have decided is most important, rather than the students' learning per se. Instead, I turned to a constructivist theory of learning as an active, contextualized process of constructing knowledge as a model for building a new learning environment. As a practitioner within this new environment, I was also learning as I developed the learning environment with the students. As Freire (1986) described, "The teacher is no longer merely the-one-who-teaches, but one who is himself taught in dialogue with the students, who in turn while being taught also teach" (p. 67).

In constructivism, learning is "an interpretive, recursive, nonlinear building process by active learners interacting with their surroundings—the physical and social world" (Fosnot & Perry, 2005, p. 34). Learners draw on their existing knowledge, beliefs, and skills and make connections as they interpret and extend their understanding. As I was building a new environment for learning as a practitioner, I was also building my own understanding. While I'm conscious that in this thesis I'm writing in linear form, I recognize that the process of learning from practice is complex and continuous, informed by critical reflection, revision, and re-calibration. As student learning is constructive, I also draw in this study on the students' perspectives of their experiences within the learning environment we co-constructed.

Student-Centered Learning

A caring and active learning environment places students at the center. I define a student-centered approach as personalizing both the "what" to learn and "how" to learn, facilitated by learning technologies. In the alternative context, students were still required

to meet the required learning outcomes for credit courses. But the learning environment was designed to meet the individual needs of particular students, drawing on students' interests to construct an interdisciplinary curriculum. This struggle of meeting prescribed curriculum and personalized curriculum is explored in Chapters 4 and 5. In the process of personalizing students' learning, I aimed to foster deep learning and interdisciplinary connections, focusing on a manageable selection of learning outcomes. While the term "student-centered learning" is broad and has different connotations, I use Lea, Stephenson, and Troy's (2003) summary of some of the literature on student-centered learning to include the following characteristics:

> A reliance on active rather than passive learning, an emphasis on deep learning and understanding, increased responsibility and accountability on the part of the student, an increased sense of autonomy in the learner, an interdependence between teacher and learner, mutual respect within the learner teacher relationship, and a reflexive approach to the teaching and learning process on the part of both teacher and learner (p. 322).

Theoretically and pedagogically, I drew on these frameworks to try to design with the students a student-centered learning environment, characterized by caring relations and a constructivist approach to understanding learning.

Context of the Study

For the school division, funding a new program was seen as an opportunity to address the needs of students who were "disengaged" with traditional programming or at risk of dropping out of school altogether. This included students who struggled academically, socially and emotionally, as well as those who wished to pursue their own

interests and passions outside the regular curriculum. Due to its small size, the school site in which the program under study took place offers few optional courses. Each year, a small group of grade 10 students transfer to the division's regional school to take vocational courses. Creating a program that would allow students to personalize their learning was also seen as way of enticing more students to stay in the local community, given broadened learning opportunities beyond the regular classrooms.

As a practitioner-researcher in this school, I considered the invitation to create an alternative program as a unique opportunity to learn more about learning—for students and myself. I applaud the scene in *School of Rock* (Rudin et al., 2004) where Jack Black's character, impersonating his roommate as a substitute teacher, rips the rewards and punishments sticker poster from a classroom wall and tears it into pieces, denouncing behaviourist education. Goodbye threats, coercion, and compliance. He then draws out the individual interests and skills of the students and harnesses them to collectively create a performance for a rock band contest—including musical artists, costume designers, lighting, sound, and stage technicians. This is the learning by doing experience that John Dewey (1938) advocated, and that I wanted to enact as well.

Set within the traditional, rural high school where I had taught for 22 years, the alternative program was created within the school and open to any student. Many proponents of alternative education programs seek to reduce the dropout rate of discontented and disengaged youth (De La Rosa, 1998). While the term "alternative" thus often has the connotation of being for "at-risk" or special needs students, program design in this context was an alternative to regular classes in the school. The goal was to create alternative ways of approaching learning with a long-term goal of using the positive

elements of the learning design in other classrooms in the school. I took the stance that it is often the school structures that disengage students. Hence, while the interest here was on setting up an alternative learning environment, the underlying concern was a transformation of education—a "re-tooling" of school structures—to better meet the needs of all students.

As the teacher largely responsible for designing and implementing a different approach to learning, one of the biggest questions I confronted was how to construct something flexible enough to meet the individual needs and interests of the students, yet standardized enough to fit the constraints of the required curriculum and percentage grade reporting. As a practitioner-researcher, I actively questioned the fundamental goals of teaching, learning and schooling (Cochran-Smith & Lytle, 2009). Some of the essential questions that framed my thought processes included the following: What is learning? What does it mean to learn? Who must learn what and for whom? What is a learned person? Must all learning be visible and assessable? What is school for? How well does it work for students and teachers?

To move forward in this chapter, I will begin with my own context of learning, schooling and teaching history. This will provide some context for the decisions I made along the way. These are some of my entry points to the rhizome. I will then explain the genesis and context of the alternative environment elements and my initial role in these. I will then specifically outline the rationale and purpose of the study, including the research questions, generalizability and limitations of the study.

Personal Biography and Teaching Context

My personal biography reveals the seeds of the program elements of a pedagogy of care, a constructivist view of learning, and a centering on student learning. I have always loved learning. As an avid reader, I have relied on reading as a primary means to gain knowledge and understanding. I don't remember a time when I wasn't reading book after book. In grade 6, I remember reading all of the SRA (Silent Reading Activity) readings, and having nothing else to read in class. I also remember thinking, "Six more years. Aah!" Although I was a reader, I never really liked school. I found it often meaningless, and remember badgering my teachers with an unending series of questions that all began with the word "Why?". If given an answer, it was usually about feeding the system: "It's on the test." "You need it to graduate." My frustrations with organized schooling continued in university. When questioning one professor as to why our group presentation received a C, considering the quality of the other presentations, our mark was quickly changed to an A. The criteria for assessment remained hidden. I remember only one professor who specifically taught how to write, and who ensured that students improved by requiring rewriting according to the feedback provided. For me, schooling and institutional education were a means to an end, and not a place for personal interest, passions, and learning.

My desire to be a teacher was motivated by a desire to be a different kind of educator, to care about individual students and to be responsive to their interests and concerns. I was determined to have an answer for what I was asking students to do. And yet, apart from the emphasis I put on building student relationships, I began my career teaching much as I was taught. Over my teaching career, however, I gradually moved to

providing students with a great deal of choice and control over how they achieved the learning outcomes in the curriculum.

I have taught many different subject courses from grades 4-12 over the past 22 years. The greater part of my career has been in the humanities, teaching English Language Arts (ELA) to students in Grades 10-12. I have worked diligently in my career to keep up with new curricula and current instructional and assessment strategies. I willingly embrace change and actively seek it out. I have been criticized for making my students "think too much," which I learned is not necessarily appreciated in a conservative community. I enjoy talking about pedagogy with colleagues who are also interested in improving their practices and outcomes for their students. At one time, I did not understand well enough how my enthusiasm for professional development was poorly communicated, and I was asked to keep quiet and give others a chance to learn at their own pace. This greatly stifled collaboration. Thankfully, my current professional climate is collaborative and supportive of educational reform. Colleagues were interested in what I was doing and supported the program's conception and development through dialogue and learning materials.

Using emerging technology has always played a significant role in my teaching. I was the crazy guy who spent almost $3000 on my first Mac computer and was the second teacher in my division to have a website using dialup and text-only interface. I certainly feel more like a digital native than an immigrant. I see technology as an effective tool for students to access, create and share information.

I took a sabbatical to begin work on my Master's degree as a way to immerse myself in gaining a deeper understanding of how to become a better educator. When

asked to create and pilot an alternative program, I seized the opportunity to put research into practice, to explore my own teaching and learning, to deeply consider students and their learning, and to better understand the culture and practices that nurture that learning.

In this study then, I explore my role as a learner, teacher and researcher as I seek to understand my own learning, question my assumptions, and bring together theory and practice. I ask, "What knowledge, skills and dispositions are required to create a learning environment that transforms the ways students engage in school and with learning?" I seek to challenge and rethink the purpose of schooling, and my role as teacher practitioner as an agent of change for the larger goal of giving students a bigger picture of who they are as individuals, as members of communities, and a larger society (Cochran-Smith & Little, 2009). As much as students would be asked to unlearn traditional schooling, I too would need to unpack the constructs of the school system's structure. It is in looking back on the path of this journey that I will construct an understanding of myself as a knower, learner and researcher evolving with 21st century literacy demands. In this journey, I wish to make my tacit knowledge explicit.

Being aware that almost a century of education reform has left the basic structure of school looking much like it began, I desired to heed the call from educators like Sir Ken Robinson (2006) and DeLorenzo (2009) to revolutionize the system. Wagner and Kegan (2006) use the metaphor of rebuilding an airplane while flying it to describe the difficulty and risks of change in the educational system. Teachers trained to pilot within the system are now asked to become designers, engineers and mechanical experts. They are asked to redesign the plane while in flight—to effectively re-think and re-tool without crash landing. Why change the plane? The old design is no longer viable: the passengers

have changed and the post-modern world with its uncertainties and constantly shifting social, political, and economic patterns has created a different set of flying conditions.

As a learner and teacher, I have embraced change, continuously reading literature, educational research, and online articles in a broad range of subjects in and beyond traditional notions of schooling. Change requires giving up current practices and taking on something new. I have found that when trying new strategies that initially fail, it is easier and more comforting to return to what I know. Dyson (2010), writing of teacher education, looks to Bauman's (2001) concept of tertiary learning, which suggests that a willingness to break down habits and create new patterns are potential ways to guide learners to adaptability and flexibility. According to Bauman: "The life success (and so the rationality) of postmodern men and women depends on the speed with which they can manage to get rid of old habits, rather than of the quick acquisition of new ones" (2010, p. 6). Life preparation

> …comes best through tertiary learning which cultivates the ability to live with uncertainty, without clear-cut goals and with a multiplicity of viewpoints. To embrace this process of tertiary learning…the work of all teachers, becomes one whereby the end point is not known, cannot ever be fixed, and remains an open-ended formative process and a journey, which is more important than any specific end product. (Bauman as cited in Dyson, 2010, p. 6-7)

It is within this conceptual context of uncertainty and a venturing forth into the unknown that my journey began. As I searched for a better understanding of how to transform and adapt my teaching as I created an alternative learning program, I reached out to other practitioners and theorists for guidance. Transformation is "an adaptive

problem, one for which the necessary knowledge to solve the problem must be created in the act of working on it" (Wagner & Kegan, 2006, p. 63). Creating something new forced me to construct the knowledge required to begin and sustain such an ambitious undertaking.

Personal Statement of Interest

So why would I say yes to designing and running a program with broad, generalized external goals and little direction? I wanted to make a difference in the lives of the students who find school a mostly useless exercise to fill time. I wanted to know if I could create a different way for students to learn to follow their own interests and engage in new ideas. Creating a new learning environment was an opportunity to explore innovations with some of the institutional restrictions lessened (e.g., flexible timetables, multi-disciplinary learning, off-site learning, internships).

If the goal was simply to make classrooms "work," to keep students engaged in tasks in which one can measure improvement, I had experienced good success over the years. As an English teacher, I engaged my students in creating large portfolios demonstrating their planning, researching, and revising that included their final products and personal reflections. Portfolios were sent home to parents who offered their observations. Students provided evidence of their level of achievement (e.g., via self, peer, parent, and teacher assessments) against the 56 learning outcomes of the Manitoba ELA curriculum. On the surface, the learning appeared visible and measurable. Students had learned how to effectively respond to texts, fiction, and non-fiction. After a few years, however, I was left with boxes of unclaimed portfolios. What was I missing? Despite broad student choice for products and the intense effort many students put into

their portfolios, there was a lack of personal ownership. I came to the conclusion that I was still "doing school." We had made sure that we documented our planning, gathering, sorting, and organizing for inquiry; we assessed according to learning outcomes as guided by assessment gurus (e.g. Stiggins, 2008, 1997; Davies, 2011; O'Connor, 2002). But was the heart of "learning" lost in the work of tracking, and measuring? I questioned whether I was left with the grammar of schooling (Tyack & Tobin, 1994), and not the meaning.

I began to question how I could get out of the way of students' learning—if there was a way to provide them with the scaffolding of knowledge and skills that they would need to effectively learn, and then gradually release responsibility to them (Pearson & Gallagher, 1983). I also believe that people learn what they want, when they want, for their own purposes (Holt, 1983). After 15 years of doing personal inquiry projects in ELA with students, I saw how students quickly became motivated and excited about their learning as "prosumers" (producers/consumers), and just as quickly became disengaged as they as they were asked to be mostly "consumers" of out-of-context knowledge with traditional assignments (Applebee, 1996).

Creating an alternative learning environment fit better with my own learning interests and thinking, which often put me at odds with traditional structures. David Perkins (1992), founding member of Project Zero at the Harvard Graduate School of Education, explained, "Learning is a consequence of thinking…knowledge comes on the coattails of thinking…Knowledge does not just sit there. It functions richly in people's lives so they can learn about and deal with the world (p. 8). I was excited about creating a learning environment that could enrich students' lives, and my teaching practice.

Site Context

The site of the study is a rural school with approximately 220 students from grades 7-12. Graduating classes typically range from 30-38. Its small size means the school is unable to offer a broad range of courses. If students wish to pursue vocational courses, they have to attend a regional school, a 45-minute bus ride each way. Students may not switch schools unless they are taking a specialized major. For those who do try to make the switch, school records indicate that almost one third of transferring students have been unable to successfully make the change. Ten percent return to our school, and the remainder drops out of school.

The school division approved funding in late May 2010 for an alternative program to be developed independently in two of the division's high schools with a broad goal of providing learning opportunities for students whose perceived needs were not being met by the traditional classroom. The impending provincial law requiring all students to attend school until age 18 was also a factor for creating an alternative program that would encourage "at-risk" students to stay in school. The division indicated that our school programs would be for the students who "fall through the cracks" and would differ from each other depending on local school needs. Each school was given the freedom to build a program to meet the particular, local needs of the students, school, and community, without directives or restrictions from the division. The schooling structure outlined in *The Big Picture: Education is Everyone's Business* (Littky & Grabel, 2004) was offered as inspiration for developing a program. (The Big Picture Learning model is outlined in Chapter 2). The schools are called MET schools, named after the first publically funded school, The Metropolitan Regional Career and Technical Center, in Rhode Island,

Massachusetts. The division arranged a meeting with the principal of the MET school in Winnipeg, the only MET school in Canada, to tour classrooms, discuss their vision, and learn from the experience gained in their first year as a school. Those who attended the meeting included the assistant superintendent, the assistant superintendent of student services, the two school principals, a divisional social worker, a school guidance counselor, and three teachers, including myself. Two teachers were assigned to the program; however, it was funded as one teaching position. The position was divided in quarters: I was hired at .75 of a full position, and another teacher, at .25 of a full position. We were given five days in August to plan for the coming year.

The purpose of this program was to find ways to engage students with learning, which would be increasingly student-initiated, self-directed and interdisciplinary. My goal was to develop a means for a small group of students to explore their individual interests and carve out their own curriculum while meeting the required provincial course outcomes for credit.

Framing the Program

As the directive to establish a program came from the division rather than from a request from students, teachers, local administration or parents, I approached the task not as trying to solve a problem per se, but rather as an opportunity to try something different. If students were "falling through the cracks," then the cracks of the system required change, not the students. This was not a reaction against new ideas in education, but rather an opportunity to build a new program by putting them in practice. We often talk about life-long learning in education and yet we continue to practice school learning.

I believe that has to change, and I saw this new learning program as a way to build change.

Gatto (2009) argues that schooling, rather than education, may be one of the greatest barriers to student learning. In *Weapons of Mass Instruction*, Gatto (2009) makes a strong case against compulsory schooling as a means of social engineering, arguing that the categorization and separation of students into races, age groups, and various ability levels strips away unique individual identities. The students selected for our program did not necessarily conform well to traditional classroom culture for a variety of reasons. One of the most common complaints was that they simply were not very interested in what they were being told that they had to learn. Why did they have to take compulsory courses, in which they found little interest and purpose? When the purpose is "because you need that course to graduate," the motivation at best is to endure school as some kind of life test that makes one eligible for the world of work or specialized higher education. I imagined a new framework to include the following: 1) place students first; 2) embrace cultural change and practices; 3) realign assessment; and 4) and take on a revolutionary mindset.

Place Students First

I conceptualized an environment to meet the individual needs of students, where the students and their interests would be placed before the curriculum. Maiers and Sandvold (2011), authors of *The Passion-Driven Classroom: A Framework for Teaching and Learning*, advocate for reaching out to the disenfranchised, and for showing relevance to life outside of school. How, and where *do* some students learn best?

How students discover, explore and learn outside of class can bear little resemblance to learning in the classroom. Beach and O'Brien (2008) suggest the growing disconnect between in and out of school literacies increases students' disengagement with a mostly print curricula. They show that disengaged students in school used many literacies in their personal lives (Beach & O'Brien, 2008). While 21st century technologies have provided youth with new media with which to create and consume ideas, schools appear slow to change old practices (Beach & O'Brien, 2008).

The most traditional practice is the forcing of a compulsory curriculum on all students. In this model, students become subservient to the compulsory curriculum. Freire (1986) calls this the banking model of learning, which begins with the idea that students are simply repositories in which knowledge can be deposited for later retrieval. This notion encourages passive behaviour and a feeling of inadequacy. Ayers (1993) explains:

> What is basically wrong is this: The curriculum is considered to be 'things,' and these things amount to the stuff that some people have and other people need. Knowledge, thought, judgment, and wisdom are assumed to be the specific property of some expert, policy maker, or scholar who has predetermined and prepackaged it all for each consumption…Since knowledge is infinite, and knowing intersubjective and multidimensional, anyone who tries to bracket thinking in any definitive sense is, in essence, killing learning. Teachers can expose, offer, encourage, and stimulate—they should not dictate. (p. 90)

Freire (1986) opposed banking education, arguing instead that knowledge-building be understood as a dialogical process requiring the active participation and contributions of both teacher and learner.

Embrace Cultural Change and Practices

Digital and social media have had a significant impact on how students interact with each other and the world around them. The technologies available to students and the ways in which they use them have created a different context for learning from even ten years ago. Students access, create and share information online. Rather than being restricted to the available resources in the classroom and school library, online resources can be accessed almost anywhere and anytime. Over half of our high school students have a smart phone, able to browse the Internet and access basic tools such as a dictionary, calculator and maps. Carr (2008) even suggests that new technologies are changing the way students' brains are wired and how they think. I see the cultural shift influenced heavily by technology, requiring changing practices that adapt to different ways of engaging with, acquiring, and producing knowledge. As learning is best approached from what students already know and can do (Dochy, Siegers & Buehl, 1999; Vygotsky, 1978, 1986), we can draw on students' cultural practices to personalize their curriculum.

Refocus Assessment

Personalizing the curriculum to meet students' learning interests also necessitates a shift in assessment. Traditionally, teachers prepare the content and decide on the mode of delivery and assessment. Students, then, are positioned as mostly passive receivers. As I contemplated how to construct curriculum and assessment that would meet the individual needs of these students, it quickly became apparent in conversations with them that many of their peers were also disengaged in classrooms which relied on transmission and translation (Bogdan & Straw, 1990). In these classrooms, traditional assessments

focused mostly on assessment *of* learning, which is a summative look at what students can or cannot do with respect to learning outcomes. That makes sense in a system that places the prescribed curriculum first and understands the role of the teacher as the conduit of that curriculum. Assessment *of* learning in this sense was used for determining if students "got" what was being given to them. This is deeply embedded in schooling. While our school had made a clear shift to creating authentic projects and using more authentic assessments, students still wanted to know, "What's my mark?"

I wanted the students' focus to be on learning as an active and ongoing process. For the program, the assessment focus was therefore assessment *as* learning, "a process of developing and supporting metacognition for students" which "focuses on the role of the student as the critical connector between assessment and learning. When students are active, engaged, and critical assessors, they make sense of information, relate it to prior knowledge, and use it for new learning" (Manitoba Education, 2006, pp. 13-14). The role of the teacher is to "help students develop, practise, and become comfortable with reflection, and with a critical analysis of their own learning" (Manitoba Education, 2006, pp. 13-14). This focus was best suited for a constructivist, student-centered approach to learning.

Take on a Revolutionary Mindset

Ultimately, I knew that creating a new learning environment would require more radical alternatives. The Canadian Education Association argues that, "Disengagement from learning even exists for students who know how to 'do school' but may not be good thinkers or problem solvers" ("A Case for Transformation," 2011). I did not want a program where the students simply ended up doing what the teacher told them to do. In

his Ted Talk "Bring on the Revolution" (2010), Sir Ken Robinson calls for a revolution in education, which begins by challenging what we take for granted. Questioning the system is also the stance advocated by Cochran-Smith and Lytle (2009) that I've adopted in my teaching and research. I agree with Robinson's position that life is organic, not linear, and therefore the job of educators is to create the conditions that will allow students to flourish.

With an emphasis on placing students first, embracing cultural change, refocusing assessment, and taking on a revolutionary mindset, the pilot learning environment was framed with the following components:

- an inquiry learning model;
- an inter-disciplinary, student-teacher developed curriculum;
- a multi-grade classroom; and
- an internship program for learning outside the classroom.

The goals of year one of the program were the following:

- to establish a culture of care through caring relations;
- to construct relevant curriculum and learning experiences with the students; and
- to use student interests and passions to guide their learning and increase engagement with learning.

I prepared myself for developing a learning environment organically with the students' interests helping to direct the way. As such students' home lives, their background knowledge and experiences, and their learning dispositions were integral to what the students brought to the program.

Getting the program started: student and parent application interviews

For a week at the beginning of September, parents and students who were interested in joining the program were scheduled for one-hour appointments. The goal was to determine the students' interests and passions and to outline a general learning plan with the help of the parents who I believe know their children the best. Some students declared few interests while others had a fairly clear sense of what they wished to learn and do. An interview for a student who initially expressed a limited range of interests and learning goals would go much like the following:

Teacher: So what are you interested in? What do you like to do? What would you like to learn more about?

Student: I dunno.

Teacher: I've noticed you like to doodle.

Student: Yeah.

Teacher: Do you draw?

Student: I like to draw ideas for tattoos. I think tattoos are cool.

Teacher: Do you know people with tattoos?

Student: Yeah.

Teacher: Do you know why people get tattoos?

Student: Sort of.

Teacher: Would you like to learn about who gets tattoos, why they get tattoos, what kinds of tattoos, and what they are communicating with their tattoos?

Student: Sure.

Teacher: You could also look at how certain groups, like athletes or musicians express themselves with tattoos. You could also look at how other cultures or older cultures used tattoos.

Student: That might be interesting.

Teacher: You could look at the chemistry of ink and how tattooing works.

Student: Yeah. I'd like to be a tattoo artist and open up my own shop.

Parent: Really?

Teacher: Well, we could develop a business plan, as well. See what it takes to run a tattoo parlour.

Parent: How is he going to earn credits and get marks for learning about tattooing?

Teacher: We will be matching the work that he does with the learning outcomes in the Manitoba curriculum.

Parent: Can he pass with learning about tattooing? Will the universities accept his work?

Teacher: Your child will receive credits and marks like the regular students. This is just one project where we will start. We can tie tattooing into some history, English and math.

Parent: Well, okay. You want to do this?

Student: Better than sitting in a boring class. I'll try it.

If both the student and the parents agreed, the student was accepted into the program. Obviously, this way of designing curriculum was far different from traditional notions of

curriculum, teaching, and learning. Though great in concept, it raised a lot of issues in practice. Thus, the study.

Purpose for the Study

Using inquiry as stance, I sought to understand my own learning, the learning of others and my role in maximizing both (Leavitt, 2010). The purpose for the study was to map how a pedagogy of care, a constructivist approach to learning, and a student-centered focus impacted students' learning experiences in an alternative education environment. This study provided a way to analyze my reflections about decisions I made as a practitioner in daily interactions with students as I constructed a program, and continued to research effective ways for students to learn. It also provided a way to hear from the students about their understandings of their learning experiences and to begin to trace the rhizomatic lines that emerge.

This study was a journey of constructing meaning in praxis through reflection and action (Freire, 1986). In constructing a pilot learning environment, it was necessary to act from immediate knowledge and experience while reflecting and researching what else needed to be done as the year progressed. Cochran-Smith & Lytle (1999) refer to this practical teaching knowledge gained through experiences as *knowledge-in-practice*. The daily praxis was a struggle of putting the knowledge to work as action. The purpose of this study was to better understand the ongoing dialogue between theory and practice and thus to identify and make more visible the tacit knowledge required to inform my ongoing work as a practitioner.

Research Questions

The study focused on transforming learning and used the following questions to guide the research.

1) How did a focus on a pedagogy of care create a learning culture from the perspective of practitioner and student?
2) What happened when I implemented a constructivist approach to teaching and student learning?
3) To what extent did giving students greater self-direction, choice, and control of their curriculum impact their learning experiences?

As I evaluated how a pedagogy of care, a constructivist approach to learning and a student-centered focus impacted learning, I built my capacity, and deepened my understanding of how to effectively guide students in meaningful learning. For "the norms and values that go with ambitious conceptions of learning and improvement grow out of practice, not vice versa" (Elmore, 2002, p. 32).

Research Design

In this qualitative case study, I used my research questions to guide a rhizomatic analysis of my personal journals, research notes, a year-end divisional report, and my responses to student reflections for recurring themes. I also considered students' experiences: the study includes an analysis of student-learning reflections written during the 2010-2011 year, and transcripts from a focus group of seven students held in January 2013. These data are mapped to the research literature to explore the connections of learning culture and practices considering a pedagogy of care, a constructivist view of learning, and a student-centered focus.

Significance of the Study

The study is important because I believe it is imperative that educators take risks in constructing adaptive environments that support student learning. This may mean changing current practices. There is also a lack of research on how particular schools successfully make changes to their practice as part of larger educational reform movements (Fullan, 1999).

I theorize that for students, part of the issue with engaging in school is the lack of connection between their learning experiences in and out of school. This study is also about seeing what happens when we attempt to break the barrier between in- and out-of-school literacies by using students' interests and experiences to help guide the curriculum. The focus is not about getting students trained in school-based literacy, but rather, as educators, how we might better acknowledge and appropriate "the creative and complex literacy practices that youth bring into schools" (Warschauer & Ware, 2008, p. 234). Through the study, I wanted to gain a clearer understanding of what is required of me as an educator in order to create effective, adaptable structures for continuous change. I wanted to know how the use of new media and technologies had enhanced student learning. I was interested in examining the mechanisms we co-constructed for improving and adapting learning strategies so that I (and others) could continue to revise them in the classroom with future students. For we know that in order for innovations to last, they must adapt and evolve (Century, 2009). Practitioners must be "adaptive experts" (Darling-Hammond & Bransford, 2005).

Cochran-Smith & Lytle (2009) position "practitioners' collective knowledge at the center of educational transformation" (p. 124). The goal of practitioners is to improve

students' learning and enhance their life chances. It is my hope that the sharing of my praxis will encourage other educators to begin their own transformative learning journeys. I agree with Sarason (as cited in Goldenberg, 2004) that "You cannot create *and* sustain a context of productive learning for others unless that kind of context exists for you" (p. 23).

Scope of the Study

While the study is limited to a specific school context using the interpreted perceptions of the experiences of one teacher and a group of specific students, others may make connections to their own practice, and thus, to build on their own knowledge. To define "knowledge" here, I use Stephen Downes' (2006) definition that "Knowledge is a network phenomenon, to 'know' something is to be organized in a certain way, to exhibit patterns of connectivity" (n.p.). Of the myriad of possible connections, this study draws but a few, and attempts to make the context of those connections transparent. These connections are constantly changing and self-organizing (see Downes, 2006 for a fuller discussion of connective knowledge). The reader can at best approximate what is being said in words here as she/he makes their own connections derived from her/his worldviews and previous experiences. Rhizomatically, knowledge is viewed as negotiated and a moving target (Cormier, 2008).

For educators exploring educational research, articles, blogs and other media offering up ways to improve practice and student learning, I provide one practitioner's interpreted experiences of the phenomenon of adapting practice to a context that was simultaneously being created. I do not offer an explanation of how to change one's practice or how to establish a new learning environment. I present my reflexive research

grounded in my specific context, my wonderings and purpose, my exploration of pertinent literature, my research design, and the implications for my practice.

Using the metaphor of learning as a rhizome (Deleuze and Guattari, 1987), I intend to map a selection of some nodes and roots of learning and discovery for my students and me. A rhizome can create a map, but it is not a model and cannot be traced. There are other ways I could have written about this case study. Connections that readers make will depend on their own context. It is not possible to attempt to strip my learning here away from the particular context, package it up and transfer it to another. Like a rhizome, connections are constantly being made and being broken, with new roots and shoots taking on lives of their own. As Cormier (2011) argues, learning is unpredictable, ongoing, and full of surprise and change.

My learning journey into a new and foreign territory helped me to create a map, parts of which I used in my second year of the program. I hope that others can further explore other possibilities of what worked and what did not within their own contexts. I believe we can learn as we connect with the experiences of others. My goal is to meet the criteria Shulman (as cited in Cochran-Smith & Lytle, 2009) set out: "to become useful and credible to others, the scholarship of teaching must be accessible—transformed, essentially, into community property—which makes possible both peer scrutiny and generativity" (p. 45).

Other educators may use the results of this study as they step into the stream of change, which is uncertain. Wheatley & Kellner-Rogers (1996) argue that change is the organizing force:

> All living systems have the capacity to *self-organize*, to sustain themselves and move toward greater complexity and order as needed. They can respond intelligently to the need for change. They organize (and then reorganize) themselves into adaptive patterns and structures without any externally imposed plan or direction. (n.p.)

In this study then I provide an analysis of ongoing change in a specific context, which readers may map to their own contexts.

Chapter 2 Review of the Literature

> *Antonio: We shall not have a new education, unless we have an education which is constantly being renewed…This new education should be regarded as a process, as a process of self-transformation, as a process which must itself be in a constant state of change. It should not cling to preconceived ideas or models…The new education must not be afraid of this process, because life is a process, as is struggle, power, and indeed education itself. It must not be afraid of being changed, because such change should be the driving force behind any transformation of society. (Freire & Faundez, 1989, p.77)*

In this chapter, I present my research journey through the literature on alternative education and alternative schooling, and examine how this body of work informed the design of the learning environment. I outline the theoretical and pedagogical frames of a pedagogy of care, constructivist learning, and student-centered learning, and look at how they were conceptualized, how they shaped the learning environment, and how they provide a framework for reflexive inquiry into the effectiveness of the learning environment (addressed in Chapters 4 and 5).

From an inquiry stance, I sought to design an alternative learning environment for a particular context that pursued "the best interests of the learning and life chances" of students (Cochran-Lytle & Smith, 2009, p. 123). As I began my search for literature that would help me to design a learning environment for ten Grade 11 and 12 students, I concentrated on learning in both formal and informal settings. I looked at alternative

education programs and alternative schools. The research inquiry was grounded in a search for suitable program elements for our specific school context.

I began with the search terms "alternative program," "alternative education," and "literature review." The term "alternative education" is broad and potentially ambiguous. Most of the literature is on "at-risk alternatives" for students either failing or dropping out because of truancy, low academic achievement, substance abuse or socio-emotional issues. Much of this literature is focused on programs for students who fail to meet the requirements of traditional education and its structures. In many cases, the goal is to intervene to meet a need, and then return students to a regular school setting (Aron & Urban Institute, 2003).

The word "alternative" privileges mainstream traditional education; hence, taking an inquiry stance, I asked questions such as those raised by Cochran-Smith and Lytle (2009): "How do school structures, assessment regimes, and classroom practices challenge or sustain the status quo? What are the consequences for students' learning and their life chances? What part do practitioners play in broader social and intellectual movements?" (p. 9). As a practitioner-researcher, I have placed caring relationships at the forefront of my practice. For me, this also meant challenging the students to think critically, to adopt their own positions, to accept complexity, and to embrace uncertainty.

Aron and Urban Institute (2003) provide working definitions for alternative education, alternative school and alternative program. *Alternative education* is the practice of implementing alternative schools or programs. Alternative schools and programs focus on what they can offer the student, not on what problems the student has had in the past. An *alternative school* is an established environment apart from the

regular school; students attend by choice. An *alternative program* is an established class or environment within or apart from the regular school for specific student needs.

Mary Anne Raywid (1994) characterizes alternative schools and programs with three distinguishing characteristics. *Type 1* schools are schools of choice, and offer students greater innovation and individualization to earn the credits needed for graduation. The programs exist within schools and at separate sites. *Type 2* schools are for disruptive students who are sent by school administration for a period of time with the intent of reintegrating them to the regular system. *Type 3* programs are also short term and aimed at students with social and emotional problems. Students can choose not to participate.

The review of the literature sought to answer a number of questions: What effective elements of alternative programs and alternative schools could be used in my context? How did such programs and schools understand students and learning? What could I learn about designing a learning environment characterized by a pedagogy of care, constructivism and student-centered learning? How could I in turn, use this framework to evaluate the effectiveness of the program?

Alternative Programs

I begin with a brief look at alternative programs. While our program was targeted for "disengaged" students, the program would also include some students who could, perhaps, be understood as fitting the characteristics identified in the literature on alternative education. Many alternative education programs seek to reduce the dropout rate of discontented and disengaged youth (De La Rosa, 1998). School-related issues are a key factor in students' perceptions of themselves and their lives according to Barth:

> … the major factor in students' lives that leads to depression, dropping out, drugs, jail, and suicide appears to be the *school experience*: ability groups, grade retention, college pressures, working alone, denial of strengths and focus on weaknesses, learning that is information-rich and experience poor, and an irrelevant curriculum that students must endure and frequently ignore. (Barth, as cited in De La Rosa, 1998, p. 269)

The attraction of alternative programs for disheartened or at-risk students is flexibility and choice (De La Rosa, 1998).

Successful program and curriculum elements for alternative education programs include a small teacher/pupil ratio, which allows for closer interaction and relationship development with individual students, a caring environment, and flexible, multidisciplinary structures that focus on the positive (see Table 1). However, according to Flower, McDaniel and Jolivette (2011), these elements are not as common as might be expected in alternative education (AE) programs: "Overall, it appears that these specific effective practices are not included in interventions for students in AE settings as often as they should be. In fact the inclusion of these practices was remarkably limited" (p. 503). Why they are not included is not made clear.

Table 1

Alternative Programs and Curriculum Elements

Powell (2003)	Lange and Sletten*	Tobin and Sprague**
• low teacher/pupil ratio and small program size • qualified staff with core competencies in youth development models and special education strategies • professional development opportunities are continuous and address program goals. • hands on, project-based learning strategies are evident • curriculum is both developmentally and culturally appropriate • IEP goals are integrated into the functional curriculum • multidisciplinary planning is reflected across the curriculum • assessment addresses continuous progress; progress is multifaceted and connected to the instructional program • social-emotional curricula including evidence-based strategies support positive youth development	• low teacher/pupil ratio and program size • the availability of one-on-one interaction between staff and students • a climate that supports learning • opportunities for relevant experiences that are consistent with the students' future goals • the opportunity for students to develop and exercise self-control in decision making • a flexible structure that accommodates the students' academic and social-emotional needs • a caring environment that builds and fosters resilience • training and support for teachers in working with both typically functioning and special needs students • integration of research into practice in areas such as assessment, curriculum, teacher competencies, and integration of special education services (Guerin & Denti, 1999) • research and evaluation of the impact of the program on the student population • clearly identified enrollment criteria and program goals (Gregg, 1999) • interagency linkages to ensure that a full-service continuum is available for students with special education needs	• low student to teacher ratio • highly structured classroom with behavioral classroom management • positive methods to increase appropriate behavior • school-based adult mentor • functional behavioral assessment (FBA) • social skills instruction • effective academic instruction • parent involvement • positive behavioral interventions and supports (PBIS)

*As cited in Powell, 2003, p. 68
**For students with greater behavioural issues (as cited in Flower, McDaniel and Jolivette, 2011)

What is clear is that alternative programs highlight a change in educational approach rather than insisting that the individual must change first. The participants drive the programming, so a focus on student learning requires a change in practice. To make this change, Weimer (2003) suggests: 1) giving students more control; 2) providing leadership and design learning experiences where students build knowledge for themselves; 3) creating situations where students take more responsibility for their own learning; 4) building student's abilities to learn how to learn, to develop the necessary skills and dispositions; 5) and developing evaluation and self assessment tools that promote learning, not the pursuit of grades.

Aron and Urban Institute (2003, 2006) offer up a typology of alternative education programs in an attempt to create a common understanding of the various types of programs that exist with common characteristics. The typology includes type of alternative program, target population, focus/purpose, operational setting-proximity to K-12, operational setting/location of activity, educational focus, sponsor or administrative entity, credentials offered, and funding sources (and mix). Rix and Twining (2007) add time of day, length of attendance and title of program (considering strategies, beliefs and services) to Aron's (2003) list. Key foci include the type of program, the operator, instructional content, educational purpose or focus, and funding. Aron (2003) calls for better data and analysis of programs to assess their effectiveness.

Alternative Schools

My greatest desire was to create an environment focused on learning. I knew that would require a change in educational practice, so I sought out schools where the mainstream practice was an alternative to traditional schooling. There are many ways to be educated, so it makes sense that we should provide a variety of structures and environments to meet those differences. Alternative education is best viewed then as a perspective (Morley, 1991).

Creating an "alternative" program sets it apart from the mainstream, and so it raises an important question: what is school for (see Miller, 1997)? Alternative schools are initiated for a variety of reasons. Alternative schools exist because a one-size-fits-all model does not meet the needs of individual students. Alternative schools approach learning and schooling in fundamentally different ways. Martin (2002) identifies specific types of schools that are philosophically alternative, delineating issues and features they use to identify themselves:

1. *flexible* – people come before procedures, rules, or technology
2. *philosophically grounded* – rooted in philosophies about life and learning that are fundamentally different from mainstream schooling (see, for example, Parker (1886, 1896), Dewey (1916, 1938), Montessori (1949), Illich (1971), Freire (1986), and Freire and Faundez (1989)
3. *embrace diversity* – maintain unique methods and approaches to learning and teaching; even schools within the same philosophical framework are individually unique
4. *more integrated curricula* – what is studied matters far less than how it is learned

and how it becomes relevant in students' lives.

My teaching experiences drew me to the philosophies of alternative schools rather than alternative programs, which in many cases were programs where students worked through workbooks and modules in order to complete a set content required for credit. I was determined to create something different. Some of the most well-known school alternatives are the democratic and free schools (e.g., Summerhill and Sudbury), Montessori, Waldorf, and Big Picture schools. (Sudbury and Big Picture schools are discussed later in this chapter.)

Democratic and Free Schools

Many schools have been created using approaches similar to A.S. Neill who started Summerhill in England in 1921 based on the idea that the school should fit the child and not the other way around. In most democratic schools, staff and students have an equal voice and allow votes on most matters, including financial and staffing. Students are expected to follow their own interests to learn and are not compelled or coerced towards any particular learning. In March 1999, the Office for Standards in Education (Ofsted) wrote a damning report demanding changes to the Summerhill philosophy charging that students were allowed to "mistake idleness for the exercise of personal liberty" (Wells, 2000, n.p.). A year later, after winning a legal battle against the Department for Education and Employment, inspectors were required to respect the unique values and philosophy of independent schools. With a change in expectations, the 2011-12 Ofsted report (2013) rated Summerhill "good for teaching and outstanding in everything-else…Outstanding for all its pastoral areas and for its "pupils' spiritual, moral,

social and cultural development and outstanding promotion of pupils' welfare health and safety, including effective safeguarding procedures" ("Main text of submission," #1).

Montessori Schools

Montessori (1972) considered two factors necessary for children to develop. One factor is a prepared environment that looks after a child's physical health as well as spiritual life. The second factor is the child's ability to move freely in his/her environment where constructive activities can be found for the child's development. The child can then learn and enjoy more fully in several identified areas: movement in education, sensory education and music, and intellectual education. An adult guides the child with his/her work, taking into account the child's needs. Emphasis is placed on the child as learner: "Society must recognize the importance of the child as the builder of humanity and come to have profound appreciation of the psychic roots determining whether the mature adult will seek positive or negative goals" (Montessori, 1972, p. 42). Orem (1965) summarizes the Montessori Method as "a spontaneous, expansive educational system designed to afford the child liberty to move and act in a prepared environment encouraging self development" (p. 13). However, in Montessori, the teacher follows highly prescribed steps to prepare the environment (ex. activities, materials) for the child to learn in.

Waldorf (or Steiner) Schools

The first Waldorf School opened its doors in September 1919 in Stuttgart, Germany. Waldorf schools are based on the anthroposophical teachings of Rudolf Steiner. Most are small, private schools which focus on the development needs of students—physical, emotional and spiritual. While in this way similar to Montessori,

Waldorf schools follow Steiner's own spiritual philosophy of human wisdom: "music, dance, and theater, writing, literature, legends and myths are not simply subjects to be read about, ingested and tested. They are experienced" (Mitchell, n.d.). Waldorf and Montessori schools have their own teacher credentialing programs.

I draw from both at-risk alternative programs and alternative schools to focus on three distinctions used to develop our alternative program. I will separately discuss: 1) a pedagogy of care; 2) constructivism, and; 3) student-centered learning. For each, I will examine: a) how the approach informed the design of the program; b) how it shaped the practices of the program, and; c) how it suggested questions for reflexive inquiry about the effectiveness of the program for students (which will be addressed through the analysis of the data, discussed in Chapters 4 and 5 of the thesis).

Pedagogy of Care

Informing the Design

The creation of a separate alternative program rose from the concern for the needs and interests of individual students. Slogans such as "teachers care" are trivialized when systems and structures are placed before students. If a teacher's notion of caring is to push a student to complete the given assignments while ignoring the person, then the care is for the system, not the student. Caring teachers help students achieve their goals, not those of a pre-established curriculum (Noddings, 2005b). Noddings (2005b) questioned "the morality of forcing material on people" (p. 61). She argued that she "would first have to be convinced that there is something wrong with their own interests or that the material under consideration is so vital that everyone must know it" (p. 61).

Implementation of a caring program requires a different approach to curriculum and instruction.

Creating a caring environment requires both trust and permission from the students. It means continuously asking what matters. Students are not simply empty vessels that need to be filled up with facts. Freire (1986) soundly criticized the banking concept of schooling that suggests that students receive, file, and deposit information; according to Freire, such a model develops passivity rather than critical consciousness. Further, the model positions teachers as the holders of knowledge, giving it to those who know nothing. This projection of ignorance onto others is "a characteristic of the ideology of oppression, (which) negates education and knowledge as processes of inquiry" (p. 58). Education, for Freire (1986), is about working with others:

> Through dialogue, the teacher-of-the-students and the students-of-the-teacher cease to exist and a new term emerges: teacher-student with students-teachers. The teacher is no longer merely the-one-who-teaches, but one who is himself taught in dialogue with the students, who in turn while being taught also teach. (p. 67)

Such a dialogue cannot exist unless a relationship is established. Veteran educator Bill Ayers (1993) argued that school must be done differently: "We must find a better way, a way that builds on strengths, experiences, skills, and abilities; a way that engages the whole person and guides that person to greater fulfillment and power" (p. 32). A "better way" begins with a good relationship between teacher and student, as education is about more than the mind, it is about personality and the "development of human potentialities" (Montessori, 1949, p. 2).

Caring relations are the foundation for pedagogical activity (Noddings, 2005b). For Noddings (2005b), a "*caring relation* is, in its most basic form, a connection or encounter between two human beings—a carer and a recipient of care, or cared-for. In order for the relation to be properly called caring, both parties must contribute to it in characteristic ways" (p. 15). That means that the student must receive the care from the care-giver. Caring relations are encounters where "mature relationships are characterized my mutuality" (p. 17) so that both members may be carers and cared-fors, depending on the encounter. Caring relations are a starting point for continuity and a framework of support. Noddings believes that teachers in caring relations are continually pressed to gain greater competence.

Viewing in Practice

Using qualitative interviews with six educators both in and outside a school division, Dubois-Vandale (2011) examined the contextual, interpersonal, structural and professional dimensions of alternative education programs and identified caring as one of the four themes that would help students be successful. Hattie (2009) also identifies a positive correlation between teacher-student relations and learning. Caring relations become a foundation for everything teacher and student do together. Teachers work to bring topics of interest that have meaning for their students and help students to make connections between school and broader concerns. Noddings identifies four key components of the care perspective for education: modeling, dialogue, practice and confirmation.

Modeling. We show our students how to care by creating caring relations with them. “The capacity to care may be dependent on adequate experience in being cared for” (Noddings, 2005b, p. 22).

Dialogue. Like Freire (1986), Noddings sees dialogue as open-ended, where neither party knows the outcome or final decisions. In a quest to discover something undetermined, learners are free to question “why” as they seek adequate information on which to make decisions. Through dialogue, knowledge of the other is built up and may serve to guide teacher responses.

Practice. Students require opportunities to gain skills in caregiving. As experiences contribute to ways of thinking and acting, the goal is for students to develop caring characteristics through the experience of caregiving.

Confirmation. Confirmation is an act of affirming and encouraging the best in others (see also Buber & Smith, 1965). It is not formulaic and must be grounded in a relation of trust and continuity. Continuity is needed for the carer to know the cared-for well enough to be able to understand their motives.

To care for a student, and to build a relationship with that student, also means seeking involvement with the parents or care providers. Noddings calls for an elimination of the language separating teachers from other educators in the community, especially parents. This also means that adults in the community should take interest in and become more active in educational matters. Visitors and parents should be welcomed in the school. Second, school structures should be represented by models that look more like circles or chains than hierarchical figures (e.g., triangles). This breakdown of hierarchy is perhaps clearer in Holt’s (1976) definition of “t-eaching” and “T-eaching.” The former is

viewed as “t-eachers” who help do-ers do what they have freely decided they want to do, while “T-eachers” try to make others learn what others have decided they ought to learn. A caring t-eacher focuses on the student as an individual.

But what to do if the student does not wish to receive the caring? That is, despite the caring teacher’s actions, the student remains distant, defensive, even aggressive, and does not engage in a relation. Why does the student not engage, and how does the teacher overcome it? Here I look to Neufeld’s (2007) work on attachment theory to address the issue of development. Attachment is necessary for maturation. Neufeld (2007) defines attachment as

> the pursuit and preservation of proximity (Latin for ‘nearness’) in every possible way it could be conceived: physically, emotionally, behaviourally, and psychologically. It is about closeness and connectedness, love and belonging, value and significance, emotional intimacy, and psychological intimacy. Attachment is the basic theme of all that we hold dear: family and friendship, countries and culture, stories and songs, legend and literature, religion and philosophy. (p. 36)

Those who are unable to attach are what he calls “stuck.”

Neufeld (2007) argues that there are three distinct maturation processes: the emergent, the adaptive and the integrative (p. 7). An *emergent* person is able to venture forth independently, and is not occupied with attachment needs. The *adaptive* process enables humans to develop resilience and resourcefulness through experience. Key to adaptation is one’s ability to register futility both cognitively and emotionally, and then to

stop what is not. The *integrative* process brings forth emotional and social maturity. Being able to hold mixed feelings is a sign of maturity.

When defenses get stuck, one enters a condition of being "defended against vulnerability" (p. 27). Vulnerability is a state of being able to be hurt or wounded. This usually requires help in getting unstuck. A sense of vulnerability is increased depending on sensitivity, stress, and spoiling. To defend against vulnerability three lines of defense are used: emotional (numbing out), perceptual (tuning out), and motivational (reverse the instincts that set the stage for vulnerability). For Neufeld, attachment is the "womb" of maturation as it "both creates and shields vulnerability" (p. 56).

To develop the attachment necessary for development, Neufeld (2007) recommends the following:

- cultivate a relationship as a context to work within;
- exploit existing attachments for teaching purposes;
- employ structure and routine for stuck kids to attach to;
- establish an attachment home base within the school setting;
- exploit attachment-rooted learning process for teaching purposes;
- harness attachment motivation;
- use attachments rather than roles as a context for working with the stuck one; and
- facilitate 'sibling' and 'mentor' type relationships among students instead of peer relationships (p. 76).

Developing a pedagogy of care means establishing caring relations and attachments, which require continuity, proximity, and patience. A student who is defended and

vulnerable will not enter into a caring relationship and is not prepared to learn. Therefore, the primary task of the practitioner is the development of a caring relationship.

Questions for Reflexive Inquiry

To evaluate the effectiveness of a pedagogy of care, I will address a number of questions in Chapter 4:

- To what extent did students enter into a care relation, and form attachments?
- Did the curriculum and instruction meet the students' interests?
- Did the care relations and attachments make a difference for the vulnerable, stuck and defended students?
- How well did I create a curriculum for the individual student?
- How involved were parents in the students' school interests?

Constructivist learning

Informing the Design

To care about students requires respect for their physical, mental, emotional, and spiritual development. It means allowing and encouraging students to learn in their own unique and diverse ways as they construct meaning and understanding. However, this does not fit well with traditional schooling. The traditional model of schooling is a constructed one, though being the dominant model, it may be viewed falsely as natural. It is not inevitable though. Students who struggle with school or who are "disengaged" may have come to see *themselves* as being at fault rather than the *structures* of their schooling. In this study, I take the position that the structures of the system disengage the students; therefore, I was in search of different structures for student learning. Some of the students accepted into the pilot program lacked the confidence to try to learn new things because

of the failures experienced in traditional classrooms. A constructivist paradigm was chosen as a theory of learning for the alternative program because it focused on learning and the learner.

Constructivism is a broad theory that views learning as constructed, active, reflective, and inquiry-based (Dewey, 1938; Piaget, 1953; Vygotsky, 1978). Learning is constantly evolving. I believe constructivism can be used as an ethical framework for education—for both teacher and student. Actively constructing new ways to organize schools and learning can be seen as a process of evolution rather than a prescription. The goal is to provide a basis and methodology of change by examining the *what* and *how* of change (Fullan, 2007). Among the greatest educational challenges of the 21st century are understanding how to personalize learning and how to differentiate instruction for diverse classrooms (Trilling & Fadel, 2009). Drawing on the work of Jean Piaget (1953), Lev Vygotsky (1986), Jerome Bruner (1960), Howard Gardner (1991), and Nelson Goodman (1984), Fosnot and Perry (2005) defined constructivism as

> …fundamentally non positivist and as such it stands on completely new ground, often in direct opposition to both behaviorism and maturationism. Rather than behaviours or skills as the goal of instruction, *cognitive development* and *deep understanding* are the foci; rather than stages being the result of maturation, they are understood as *constructions of active learner reorganization*. Rather than viewing learning as a linear process, it is understood to be *complex* and fundamentally *nonlinear* in nature. (pp. 10-11, italics in original)

While a constructivist model has been criticized as being time-consuming and providing unpredictable outcomes (Airasian & Walsh, 1997), it encourages diversity

rather than conformity. For students not conforming or fitting in to a traditional classroom, a constructivist approach is appropriate.

As constructivism is a theory of learning rather than a teaching strategy, "implementing constructivism calls for a 'learn as you go' approach for both students and teachers; it involves many decisions and much trial and error" (Airasian & Walsh, 1997, p. 448). Constructivist learning is a reciprocal process (Vygotsky, 1978) where knowledge "arises from actions and the agent's reflections on them" (Fosnot & Perry, 2005, p. 5). Not only do we want to guide students in how to learn, we also want to foster a desire to learn. We can learn by watching and listening to others, by copying or imitating what they do. This is the social aspect of learning. "Learning how to learn is not just a matter of cognitive ability, but also the *self confidence* to face the challenge of knowing something new, and the *belief* in learning as an incremental process" (Seltzer & Bentley, 2001). Learning is the result of the process of constructing meaning and structuring reality, directed by an individual's meaningful choices and actions through experiences. One may think of learning as simply a by-product of meaningful experiences (Smith, 1995). However, considerable time is needed for teachers and pupils to learn and practice new ways of thinking, acting, organizing, evaluating, and responding in a constructivist classroom.

Constructivism is a meaning-making theory that offers an explanation of the nature of knowledge and how we learn. According to this explanation of learning, "individuals create or construct their own new understandings or knowledge through the interaction of what they already know and believe and the ideas, events, and activities with which they come in contact" (Richardson, 1997). A learner is believed to construct,

through reflection, a personal understanding of relevant structures of meaning derived from his or her action in the world. For Dewey (1938), this meant active, experiential learning, which suggests that the learner occupy the centre of classroom activity rather than the teacher.

Viewing in Practice

A constructivist learning strategy used in the learning program for this study was inquiry-based learning. Darling-Hammond and Barron's (2008) review of the research on inquiry-based learning, which includes the terms project-based learning, problem-based learning, and learning by design, shows many benefits over traditional strategies: Project-based learning shows equal or better knowledge acquisition for students, but much better reasoning and critical thinking skills. Problem-solving is comparable though not always superior to traditional instruction for factual learning. Students, however, are better able to generate accurate hypotheses and coherent explanations and to support their claims with well-reasoned arguments; they also show better gains in conceptual understanding. While limited studies have used control-group designs for learning-by-design models, naturalistic studies have shown strong evidence of progress in both high- and low-achieving students: learning targeted concepts, applying concepts in design work, increased motivation, and sense of ownership (Darling-Hammond & Barron, 2008).

The implementation challenges of these approaches are significant, either keeping many teachers from trying inquiry or problem-based learning, or resulting in failed attempts. Inquiry-based learning is dependent on the skills and knowledge of the teachers. Being responsible for modeling, scaffolding, feedback, assessment, and opportunities for revision while balancing direct instruction with individual and group inquiry is a complex

undertaking. As Warschauer & Ware (2008) point out, "Creating matches in project-based work is more challenging than simply teaching from the mandated textbooks" (p. 233). Careful planning and development of strategies for collaboration, classroom interaction, and assessment requires careful planning. Warschauer and Ware (2008) also note that autonomy in project-based learning is more rare than in conventional classrooms. The complexity of these approaches has led to a number of strategies to assist teachers (see Glazewski & Ertmer, 2010; Ertmer & Glazewski, n.d., Burke, 2010).

Rather than viewing inquiry-based learning as a series of concrete steps, I use inquiry as a "stance." As I view learning as an organic and constructive process, the use of a strictly linear model would have been incongruent. Inquiry as stance suggests taking on a frame of mind that is constantly seeking connections. Models of inquiry learning provide an excellent scaffold from which students could personalize their learning process. In the program, for example, students were first challenged with creating questions for inquiry. They were asked questions such as: What do you want to discover? How will you do that? Where will you get information? How will you keep track of your learning? How will you know when you are successful? Graphic organizer tools such as http://bubbl.us were used to map out and connect ideas. Student-developed learning goals and curriculum outcomes were used for planning and assessment. Students were asked to reflect both orally and in writing on their weekly progress in meeting their goals. Students also made use of simplified versions of the tools and methods of professionals in the subject area. Such approaches align with research that suggests that students who actively construct their own knowledge have superior generalization skills and are more likely to be able to transfer learning to novel contexts (Cobb, 1999).

Questions for Reflexive Inquiry

Active learning is a process of meaning-making which requires learners to reflect and evaluate their progress. New learning involves connecting to prior learning. It involves questioning what went wrong, and understanding what went right. I will use the following questions in Chapter 4 to interrogate this understanding:

- Were students able to articulate their own learning processes?
- To what extent were students able to transition to a constructivist mode of learning?
- To what extent were students willing and/or able to construct their own knowledge?
- To what extent did the teacher and students resolve the tensions between student interest and the requirements of prepared content? (And why must "that" be learned?)
- To what extent were students willing to learn by trial and error? Were there perhaps more efficient and effective processes?

Student-Centered Learning

Informing the Design

The alternative program was envisioned as a way to attend to the needs of a small group of students using an alternative approach. John Dewey (1948) emphasized that teachers had to start with the experience and interests of students, and then make connections between that experience and the prescribed subject matter. Smith (1995) agreed with Dewey when he said that learning is a by-product of experience, and we

should aim for experience where learning follows naturally and inevitably. The best way to do this is to center the learning on the student.

To center learning on the student means to personalize and customize it—to begin with what the student knows and is interested in. As curriculum is value-laden, decisions informing the selection of the "essentials" for everyone are difficult. Viewing learning as something personal suggests the curriculum must connect in a meaningful way to the world in which students live. We are living in a world of increasing customization and consumer choice (Pink, 2005) made easier by technology. Rather than the industrial production line model used for education in the past century, where students are given the same content and then "standardized" through testing to ensure the same end "product," it has been argued that learning needs to become more customized (Gatto, 2009; Robinson, 2006). In *The Long Tail: Why the Future of Business is Selling Less with More*, Anderson (2006) shows that a larger portion of a population exists in the statistical long tail, where fewer seek from wider options. With the tail getting longer, Anderson sees customized learning following learner choices: instructional delivery as self-paced, self-directed, project-based, and group oriented, using mentors and online resources. Learners choose when instruction takes place. He suggests we rethink what we take for granted, as "the process of transferring the new ideas for instruction and learning into actual practice with students is the critical and most difficult part of shifting schools to new approaches to education" (p. 67). Even in the space of the classroom, the availability of free, web-based instruction and resources increases the opportunities to personalize learning.

Lea et al. (2003, 322) summarizes some of the literature on student–centered learning to include the followings tenets:

1. the reliance on active rather than passive learning;

2. an emphasis on deep learning and understanding;

3. increased responsibility and accountability on the part of the student;

4. an increased sense of autonomy in the learner;

5. an interdependence between teacher and learner;

6. mutual respect within the learner teacher relationship; and

7. a reflexive approach to the teaching and learning process on the part of both teacher and learner. (p. 322)

Rather than trying to standardize students, I saw the need to shift to a more personalized approach to learning. Personalized does not mean isolating individual students, it means getting to know students well enough to know their interests and passions; it means finding out students' interests and the social communities they belong to. Jean Lave and Etienne Wenger (2006) studied apprenticeship as a learning model and coined the phrase "communities of practice" to refer to "groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly" (p. 5). Gee (2003) calls these communities "affinity groups," where social practices develop within what he calls semiotic domains. Semiotic domains are domains of specialized representations, modalities, knowledge, and practices. A semiotic domain can be wine tasting, cellular biology, first-person shooter games or midwifery. Whether it is communities of practice or affinity groups, there is a long tail of unique and specific groups of people who are knowledgeable social insiders. This knowledge Gee (2003) calls a "design grammar" (p. 10). As a teacher, I have learned and mastered how to act within a traditional school setting. Learning the design grammar of the semiotic domain

of teaching, I also belong to an English Language Arts affinity group (or what some might call a Professional Learning Community in my school division). Likewise, students are expected to learn the expectations of student behaviour and academic achievement within a school and individual classrooms. From experience I've learned, however, that some of the students who fail to master the design grammars of a school's semiotic domains excel in smaller communities of practice outside of school. For example, two students in the program had written and recorded their own CD, one student advised a university network administrator using his knowledge of computer networks, and another student wrote fan fiction online. A personalized learning program may draw upon students' interests and strengths not previously demonstrated in school.

While the learning program was still taking place in a school, I was philosophically drawn to learning ideals that were not traditional, and not like "school" as we have long known it. Holt (1976), who coined the term "unschooling," favoured "*doing*—self-directed, purposeful, meaningful life and work—and [is] *against* 'education'—learning cut off from active life and done under pressure of bribe or threat, greed and fear" (p. 1). Curriculum has too long focused on the knowing rather than the doing: "Thus rather than learning to participate in the discourse—to construct and defend their own conclusions based on arguments and evidence appropriate to the traditions of literature, science, or history—students learn about its characteristics" (Applebee, 1996, p. 30). As educators, we need to allow students to actively construct their learning, for "The knowledge that matters to individuals and to society is the knowledge-in-action that is learned through participation in living traditions of knowing and doing" (Applebee, 1996, p. 126).

In student-centered learning where students actively construct their learning, there are times when adults should stay out of the way when a child is engaging in constructive activity (Montessori, 1949). But what does that look like?

Viewing in Practice

A student-centered approach to learning is harder to find in traditional settings. Here I look at two alternative schools as models. They provide a philosophical basis for the development of the alternative program. I will first identify the philosophy and structure of the schools, and then identify how those ideas inspired the program.

Sudbury schools. As summarized in the prior chapter, A. S. Neill founded Summerhill School in 1921 on the belief that the school should be made to fit the child, rather than the other way around. This belief connects well with the idea presented earlier, that in alternative programs "participants drive the programming." The school was run on a democratic principle with a belief that children learn best without coercion. Following his model, the first Sudbury Valley School (K-12) in New England opened in 1968 when a group of people looking for the best way to educate young people decided to start with a clean slate and use democratic principles and the natural curiosity of the students for the world to drive daily activities. In the Sudbury schools model, students are free to figure out what they want to learn and how, using their own interest as the compass. They must think for themselves. There is no set curriculum and academics are seen as only one part of education. There are no grades or documentation of progress. In order to receive a high school diploma, students must have attended the school for at least three years and defended the thesis that they have taken responsibility for preparing themselves to be effective adults in the larger community. According to their self-

published data, approximately 80% of Sudbury schools students complete college. While this radically different approach to learning may not be for all, for me, it seems to better suit today's customized culture aided by digital technologies.

The idea of starting with students' interests, therefore, drove the alternative program. Creating an interdisciplinary curriculum starting with students' interests was intended to allow greater personalization. The challenge was meeting expected course learning outcomes.

Big Picture schools. The primary concept used to provide a philosophical-meets-practical example of student-centered learning was the Big Picture school model. In 1996, Dennis Littky and Elliot Washor started the first of the six schools that compose The Metropolitan Regional Career and Technical Center, referred to as "The Met." The schools include Grades 9-12 and draw mostly from a poorer socio-economic base, built in one of the poorest sections of Rhode Island. I used the Big Picture Learning design, which is based on three foundational principles:

> First, that learning must be based on the interests and goals of each student; second, that a student's curriculum must be relevant to people and places that exist in the real world; and finally, that a student's abilities must be authentically measured by the quality of her or his work. (Big Picture Learning, n.d.)

I agreed with the philosophy, structure and operations of Big Picture schools, which place individual students at the center of learning. I adopted their mantra of "one student at a time." The philosophy is that learning is personalized and "starts with the student, not the subjects or classes" (Littky & Grabelle, 2004, p. 75). Personalized learning is about learning how to think, about being mindful about "bringing out what's

already inside people" (p. 14). It's about the three Rs—relationships, relevance, and rigor (p. 39). While "rigor" can be ambiguous, we focused on developing relationships and relevant learning. People learn best when they care about what they are doing, have choices, when it matters personally, when they use hands and mind, and when what they are doing is real and relevant (Littky & Grabelle, 2004, p. 28). Personalized learning can mean that, "every student has a completely different curriculum, based on who he or she is right now and who he or she wants to become" (Littky & Grabelle, 2004, p. 75). While the schools use exhibitions as a way for students to talk about what they have read or written or drawn or worked on and to present that work to others, I was not prepared for that in the first year of this experiment in alternative learning. In conversation with the principal of the Big Picture school in Winnipeg (Adair Warren, personal communication, June, 2010), I learned that the student exhibitions in their first year of being a school had not gone well, and they were in the process of rethinking how they would do them in their second year.

Creating a student-centered program involved problem-solving and learning with the students. An educated person is defined simply as someone who is educated about a topic. Students can teach as well. The goal was to create an "environment that allows students the freedom to find themselves with the support and motivation of inspiring adults" (Littky & Grabelle, 2004, p. 14). While we did not adopt the Big Picture language name of "advisor" instead of "teacher," students were free to address the teacher by first name, an attempt to reduce the hierarchical structures and to position both teachers and students as learners.

To provide more opportunities for student-centered learning outside of school, we used the model of Learning Through Internship/Interest (LTIs) placements (Littky & Grabelle, 2004). Students could spend two days a week in the community working with mentors in authentic work places or simply focusing on an area of personal interest. Internships are a good example of Applebee's (1996) notion of "knowledge-in-action." The learning is motivated by the context, and at the point of need. Littky's experience shows that "setting up a system where students have a consistent environment where they are able to truly connect with a small group of kids and one adult can radically change their entire schooling experience" (p. 62). Through internships, students can be both individuals *and* members of a community.

Considering the success of The Met School, we accepted the experienced advice of Littky & Grabelle (2004) that "we should not be talking about tweaking the scheduling and modifying the curriculum, but about completely overhauling the entire structure of schools as we have known them for way too long" (p. 29). However, the implementation of a student-centered approach to learning within a traditional teacher-centered school was challenging (as discussed in Chapter 4).

Questions for Reflexive Inquiry

Also in Chapter 4, I address a number of questions I designed to guide my analysis of how a student-centered approach to learning impacted students' learning experiences:

- To what extent did students follow their own interests for learning?
- To what extent did student-centered learning empower students?

- What happened when students were given more freedom to pursue their own interests?
- How did the Learning Through Internships/Interests add to students' learning experiences?
- What were students' greatest struggles and accomplishments with their learning?

Conclusion

One of the main goals of the alternative program was to increase students' engagement with learning by changing their experiences at school. In this chapter, I identified common curriculum and program elements of effective alternative programs for high school students. I identified a pedagogy of care, constructivism and student-centered approaches to learning as key elements of the pilot alternative program, exploring how these approaches were conceptualized, how they informed the design of the program, and how each suggests important reflexive questions for inquiry to evaluate the success of the program (see Figure 2). The creation of an alternative learning program was a great challenge. Schlechty (2001) argued that structural and cultural change "is a messy business involving considerable risk, the necessity for sacrifice, and the likelihood of setbacks" with "leaders and followers alike, operating more on the cutting edge of ignorance than on the cutting edge of knowledge" (p. 164). The ultimate goal of much practitioner research "is challenging inequities, raising questions about the status quo, and enhancing the learning and life chance of students" (Cochran-Smith & Lytle, 2009, p. 102).

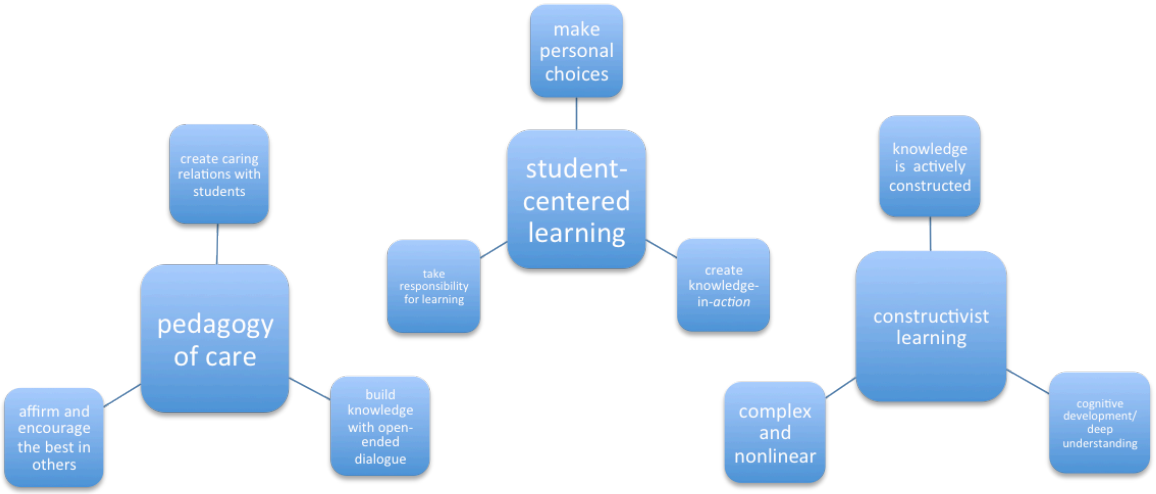

Figure 2. Design Elements Expanded View

Chapter 3 Methodology

The daily imagining and acting out of student-centered learning within a caring, constructivist, learning environment was complex, chaotic, and unpredictable. In anticipation of the kinds of data I would use for the study and in consideration of my continuously developing understandings as a practitioner in this setting, I realized that the study would need to fit my stance and role, as well as the questions I was asking.

The idea for this study began in May 2010 when I was asked to start an alternative program to begin in September 2010. The study initially began as a practitioner-researcher narrative tracing the inquiry journey of the development of the program. Practitioner research data was gathered from September 2010 through June 2011. In March 2012 my committee concluded that the study must also include the perspective of the students. Thus, the data for the study also includes students' learning reflections, transcripts of a focus group of five students conducted in February 2013, two student email interviews, and follow-up interviews with students.

Inquiry as stance (Cochran-Smith & Lytle, 2009) provides a framework for the practitioner narrative reflections. A focus group was used to gather students' perceptions of their learning experiences. The alternative program was a pilot project, and thus, it was a dynamic and responsive inquiry. Rather than a planned implementation with clear assessment measures, it was an organic process, iteratively and intuitively studied and examined by all of us. I found, therefore, that constant-comparative methods of qualitative data analysis (e.g., Corbin & Strauss, 2008) did not fit the nature of the study or the data. The program was (and continues to be) constantly in flux and "on the move." An inquiry stance privileged that movement as an important part of my reflexivity as a

practitioner. But I also required an analytical stance that would theoretically and methodologically privilege such movement—that would recognize the departures, fissures, and uncertain ruptures. Thus, I use rhizomatic analysis in exploring the data. The rhizome as an ontology offers an approach for analyzing the data that can be instructive even if it cannot be perfectly applied.

I use Deleuze and Gattari's (1987) concept of the rhizome as I challenge assumptions about learning and knowledge construction and seek multiple explanations for the phenomena experienced here. The complexity and interconnectedness of learning experiences requires a way of thinking of and researching learning that is not restrictive. The thinking required is different than traditional educational research, both quantitative and qualitative. Rather than trying to find an answer using the "right way" to research, taking a rhizomatic approach to research is intended to see things differently (Stewart, 2011). Rhizoanalysis has been used in education research by others (see Alvermann, 2000; Roy, 2003; Gough, 2006; Honan, 2007; Leander & Rowe, 2006). The rhizome concept may be used to open up opportunities to acquire knowledge and solutions but in different ways.

Stewart (2011) argues that we have been colonized to see education as a system, where school becomes conflated with learning, and where, as subjects of the system, we then subject others to the same system, replicating what we have come to see as natural and right. The rhizome, however, is about uncertainty (Cormier, 2011). "The rhizome metaphor, which represents a critical leap in coping with the loss of a canon against which to compare, judge, and value knowledge, may be particularly apt as a model for disciplines on the bleeding edge where the canon is fluid and knowledge is a moving

target" (Cormier, 2008). There is no simple starting point or central idea in the rhizomatic view, rather, it begins *in medias res*, in the middle of things, where the narrative is nonlinear.

The pilot learning environment was a break in the rhizome of school. Deleuze & Guattari (1987) suggest that from a break in the rhizome, new shoots will grow again on old or new lines. As a rhizome spreads underground where no one can see them with shoots emerging in unexpected places, making connections is a challenging task both in conception and in writing about. For Deleuze & Guattari (1987), "a rhizome can be connected to anything other, and must be" (p. 7).

Viewed as a rhizome, knowledge becomes a living thing. Deleuze and Guattari (1987) reject the arboreal metaphor of the tree with its deep roots and foundational trunk with branches that reach out, but remain stationary. They favour the rhizome metaphor for its non-hierarchy and uncenteredness. The rhizome is characterized by heterogeneity and connection; it is constantly producing new shoots and rootlets; it is creative and opens up new opportunities. The tree is about *being*, whereas the rhizome is about *becoming*: "Rhizomes do not evolve from an original essence (model), by means of filiation or correspondence, that is, genetic representation. Instead, rhizomes are anomalous becomings produced by the formation of transversal alliances between different and coexisting terms within an open system" (Deleuze & Guattari, 1987, p. 10). The rhizome is "an antigenealogy" (p. 21). Books are arborescent, but the web is a rhizome.

Deleuze and Guattari (1987) maintain that arboreal structures work on the principles of "tracing." The rhizome operates according to the logic of "maps:"

> What distinguishes the map from the tracing is that it is entirely oriented to toward an experimentation in contact with the real…it fosters connections between fields…The map is open and connectable in all of its dimensions; it is detachable, reversible, susceptible to constant modification…Maps have multiple entryways, as opposed to the tracing, which always comes back to the same. (p.12)

Like the phenomena of networked systems, the map is oriented to experimentation and adaption.

Here I come back to the questions I asked as I began the alternative learning environment: What is a learned person? What does one need to know? What can one know? How does one know? Rhizomatic thinking provides a way to openly examine these questions as it "recognizes diverse viewpoints, entryways, and paths, which we take as we construct meaning" (Medina, 2011, p. 22). Experimentation and adaptation requires new territories and maps; it necessitates, new understandings of learning, education and teaching in dynamic and complex environments.

Deleuze and Guattari (1987) use the terms *deterritorialization* and *reterritorialization* to illustrate a constant process of transformation. Deterritorialization is the process of undoing what has already been done, a process that breaks up stratification, where control is taken away from places that have already been established. The movement is in an unexpected direction, based on desire and necessity, not on the destruction of existing strata. What follows then is reterritorialization, which is to make new forms and new modes with new power. Events do not follow a ready-made plan, but rather are spontaneously organized through actualization.

As much of the pilot year was a wandering through new territory, Deleuze and Guattari's (1987) construct of the nomad as an example of the rhizome is a useful theoretical and methodological tool. For them, nomadism is characterized by movement, rather than being in one place. Nomadic thought is deterritorializing. The nomad moves along a path between one point and another, autonomous and possessing direction, for "the life of the nomad is the intermezzo" (p. 380). Thinking nomadically, I sought to map the "in-betweens," the contradictions and challenges between multiple connecting points and lines. Using rhizomatic thinking to explore both my own and the students' "new lines of flight" (Deleuze and Guattari, 1987, p. 161) allowed the exploration of experiencing uncertainty as positive though unsettling (Allan, 2007). For "Lines of flight, big or small, are present at any time and can lead in any direction. Rhizomes are always constructed in the struggle between stabilizing and destabilizing forces, produced in the constant struggle between lines of consistency and lines of flight" (Usher, 2010, p. 71). Though much easier to conceive of initially, I resisted the attempt to seek stasis in what is an ever-changing environment.

Honan and Sellers (2007) provide three signposts for using Deleuze and Guattari's work as a research method using Harding's (1987) caution against "methodolatry." Three connections are described: first, writing a rhizomatic text that is non-linear and self-consciously part of the research method; second, using rhizomatic thought to analyze the discourses operating within data; and third, following Deleuzian lines of flight that connect and link disparate forms of data so that (im)plausible readings can connect analysis of multiple data forms (e.g., practitioner journals, student learning reflections, and interview transcripts).

The methodology is used in this study to gain an understanding of how individuals interacted to create a space for learning differently.

Research Questions

1) How did a focus on a pedagogy of care create a learning culture from the perspective of practitioner and student?
2) What happened when I implemented a constructivist approach to teaching and student learning?
3) To what extent did giving students greater self-direction, choice, and control of their curriculum impact their learning experiences?

Research Design

Case Study

A case study was selected as an effective design for examining the events of establishing and developing the learning program. According to Yin (2003), a case study is an effective design when: (a) the study focus is to answer "how" and "why" questions; (b) the behaviour of those involved in the study cannot be manipulated; (c) contextual conditions are believed relevant to the phenomenon under study; or (d) the boundaries are not clear between the phenomenon and context (as cited in Baxter & Jack, 2008). This study may be viewed as a case study as it is an investigation of a bounded system (Stake, 2000) and meets Yin's design criteria. As a bounded system, it allows the system to be understood in its own habitat under natural conditions (Stake, 1978). It is inductive in the sense that the data drives the understandings that emerge from the study. The research focuses on the learning program and provides a rich description of the participants, which

will enrich the reader's understanding of the program from the data that emerges (Merriam, 1988).

Case studies are also a good fit with practitioner research. Using Emig's teacher inquiry paradigm, Goswami, Lewis, Rutherford and Waff (2009) highlight the value of teacher research and teacher practice on student learning, offering up several case study narratives of teacher researchers. The authors emphasize the importance of teacher research on teacher practice for the purpose of enhancing student learning. For Goswami et. al., case studies are intended to create a web of meaning as teacher researchers share the lessons that they learned.

Practitioner Research

Using inquiry as stance (Cochran-Smyth & Lytle, 2009) I assumed the role of practitioner researcher as I envisioned and developed the program. My reflections and the data generated through my inquiry is important because

> Inquiry as stance is grounded in the problems and contexts of practice in the first place and in the ways practitioners collaboratively theorize, study, and act on those problems in the best interests of the learning and life chances of students and their communities…it conjoins theories of how to change things with theories of what needs to change and indeed assumes that these are inseparable…it is an organic and democratic action. (Cochran-Smyth & Lytle, 2009, p. 123)

In a practitioner research study, data includes the day-to-day documentation of teaching and learning. I used my personal journals, a year-end divisional report, my responses to student reflections, and research notes as practitioner-researcher data. The questions in Table 2 guided the analysis of those data.

Table 2

Research Instrument for Practitioner-Researcher

Research Instrument: Reflexive Inquiry Questions to Guide the Analysis
Care Relations
• Did the care relations and attachments make a difference for the vulnerable, stuck and defended students? • How involved were the parents in the students' school interests?
Constructivism
• To what extent did students use inquiry-based learning processes? • Was I able to construct a curriculum with each student?
Student-Centered
• What happened when students were given more freedom to pursue their own interests? • What role did technology play in facilitating student-centered learning? • Are students able to articulate their own learning processes, and new understandings? • How did the Learning Through Internships/Interests add to students' learning experiences? • What were students' greatest struggles and accomplishments with their learning?

Participants

In June 2010, names of potential students for the program were solicited by the principal from teachers who taught Grades 10 and 11. The teachers were asked to submit names of students who were "disengaged" and whom they felt could benefit from an alternative learning environment. A list was then collated by the principal. The students and their parents were invited to an information evening where the outline and goals of the program were introduced. Interested students and their parents arranged a meeting with me at the beginning of September 2010. My colleague, who taught .25 in the program, also participated in most of these meetings. The focus of these discussions was on the students' learning interests and learning aptitudes. The purpose of these

discussions was to determine if the students, together with their parents, had a proposal of a potential personal learning plan and if they would be willing to venture forward to create and follow their own plan with assistance. Ten of the students who attended those meetings decided to join the program.

The study is focused on the experiences of the initial year, as I was most interested in the participants' learning experiences in light of how the program attempted to provide a shift from the traditional learning setting. While the focus of this study was the pilot year of the program, as students in Grade 11 continued in the program for Grade 12, the second year of their student reflections of their learning experiences was also included.

I knew (and was known by) most of the participants before the program year began. Some of the participants I had taught in Grade 11 English Language Arts the previous year. The participants were in Grades 11 and 12 during the pilot year of the program. Some of the participants also took regular classes while they were in the program, while others took all of their courses in the program. The participants were aware that I was collecting practitioner-researcher data for the duration of the pilot year for a Master's thesis. The Education and Nursing Research Ethics Board gave approval for me to ask the former students for permission to use their reflective journals and planning documents. All participants granted permission to use these documents.

For the purposes of the study, participants were recruited by a neutral person by telephone and invited to participate. All potential participants were over 18. Potential participants included all those who participated in the first and continued into the second year. Those who agreed to participate provided their email address, which I used to send

them an invitation to participate. The invitation included a copy of the research questions to be used in the focus group. The students had all graduated, and therefore, there was no power-over relationship. However, I recognize that there may have been students who may have felt pressured to participate to please me. The invitation to participate made clear that their decision would not in any way affect how I perceived them or the possibility of future interactions with them (e.g., requests for recommendation letters). For those who indicated they were interested in participating, I sent a letter of consent for them to read and consider, along with my contact information if they had any questions about participating in the study.

Participants were asked to grant their permission to participate in an email follow-up interview to clarify data from the focus group should that be deemed necessary. In the letter and again at the beginning of the focus group, participants were informed of their right to refuse to answer any of the questions and to withdraw from the study at any time.

Focus Group as a Method

A focus group is a research technique for collecting data through group interaction on a topic determined by the researcher. The focus group is a means of collecting data. The data arises from a group discussion, which is actively guided by the researcher. The focus group is used as a method of data collection because it allows for a rich, interactive description by a group of individuals on a specific topic (Greenbaum, 1998). The focus group interview allows participants the opportunity to listen to others, to probe each other's reasons for holding a certain view, and to modify their answers after consideration of others' views (Stewart, Shamdasani, & Rook, 2007).

The use of a focus group in this study allowed participants to both share and compare their individual perceptions of their learning experiences. I sought to discover how a pedagogy of care, the construction of inquiry projects, and the following of personal interests impacted students' learning experiences (both in the program, and now, as they reflected on their participation in the program one to two years later). The focus group followed an open-ended interview protocol, with questions framed around the three main study questions (see Appendix A).

As a researcher, my role was to facilitate the discussion among the participants and to draw out both their individual and shared understandings. I was also interested in how the participants would respond to each other's perceptions of their understandings of their experiences. Would they amend their initial responses after listening to others? Would they attempt to find consensus or hold to their individual perspectives? While there was a danger of groupthink—a term coined by Irving Janis (1972) to explain how people tend to seek consensus in a group to minimize conflict—the goal of collecting individual perceptions was explained in the focus group interview and the participants were not afraid to disagree with each other during the interview.

During the focus group, I asked an observer, Anne Reimer, to manually record supplementary (observational) data relating to context, environment, personal gesture, posture, and the like. I used a digital audio recorder for sound, and a video recorder for both sound and for recording body language dynamics. As I facilitated the discussion, I kept observational notes as well, noting context, environment, personal gesture, posture, and the like.

The focus group was held in a neutral location in the community. Refreshments were provided and students and I spent 20 minutes catching up with one another.

In addition to the focus group, student data was gathered through email interviews and email follow up questions, and through student learning journals and planning documents created during the pilot program (discussed later). As the students and I had many individual, small, and large group discussions regarding learning, schooling, and the goals and hopes for the pilot program, it was valuable to discover how the students perceived their learning experiences looking back on them now. How did those experiences shape their learning? What did they carry forward with them from those experiences?

Anonymity and Confidentiality

Seven students agreed to be interviewed and gave consent to use their learning reflections and planning documents, written during their first and second year in the program. The participants have all graduated and are all over 18. The participants in the study include several students who spent more than one year in the learning environment. To protect the anonymity of the students, I do not identify the students by name, nor do I indicate which students were in Grade 11 or 12 or which students went on to university. Pseudonym initials are used throughout. Two students were not able to participate in the focus group interview, but were interviewed by email individually. Student data is referenced as "interview," "follow-up," or "journal" to distinguish its origin and to protect student identity. The focus of interest in the study was on their learning, which was unique for each individual. The seven students in this study represent their own voices, the opinions of which may or may not be shared by others.

The data was accessible only to the researcher. All notes, focus group transcripts, audio and video recordings of the focus group discussions were stored on the researcher's computer, which is password protected. Once the focus group audio and video recordings were transcribed, they were permanently erased. The data collected from participants has identifying information removed. For example, no names were used in the transcription of the focus group; pseudonym initials were used to label participants' contributions. No names are used in the study; pseudonym initials are given to participants and when necessary, other possible identifying information is also removed and/or changed to guard, in the best way I can, against others identifying those in the study. Participants in the focus group were also informed that they may not share specific details of the focus group interview that may identify individuals. Even so, participants were made aware that the small number of participants and the fact that their participation in the program is known to others in the community increases the likelihood that their identify may become known.

Data Sources

Personal journals. Practitioner journals were important sources of data in the study because they record the questions, struggles, and decisions made during the development of the program. Because this was a pilot project, the journaling sought to document my decision-making, reflect on the program and students' learning, and answer questions others could pose, such as, "What's going on here? Why did you do that? What were you thinking?" As practitioner, the goal was to improve practice and student learning while questioning what learning should and could be.

Journal entries were made several times a week from September to June 2010. The entries record the process of the program's beginnings, the decisions, struggles, frustrations, and above all, the questions about student learning that arose over the course of the year. The journals were an important source of data for this study because they provide a window into the perceptions of the understandings of the practitioner. They provide a way for the reader to more clearly view the governing gaze, the assumptions, the theories, and the traditions drawn on (Goswami, Lewis, Rutherford & Waff, 2009). They also help address the research questions, as the analysis focused on better understanding how I handled a pedagogy of care, a constructivist approach, and a student-centered approach to learning.

A year-end divisional report. A six-page report I wrote for the assistant superintendent provided an overview of the program, the successes and lessons learned, as well as results and recommendations. The assistant superintendent provided the outline for the requested report. This data summarizes a number of key issues that were important to the division, providing a view of the program from a practitioner's perspective within the expectations of the larger educational structure.

Responses to student reflections. Students were asked to reflect in writing on their learning experiences on a weekly basis. Each week, I responded to their reflections. My responses included providing encouragement, personal support, practical information (e.g., as to where to find resources), and connections to my learning experiences with the program. These data were useful in examining my "moves" as a practitioner in the moment, responding to students' particular learning needs. Studied through the analytic framework, these responses as a data set were interesting in their connections to a number

of questions: How did I respond to the students? Did my responses fit with my stated goals for the program? Was caring evident? Was a constructivist approach supported? Was the learning student-centered? What were the most common types of responses?

Research notes. As my personal journals raised questions, I went in search of answers that would help to make sense of what was going on in the program. While the research questions for this study guided the development of the program, the search for praxis required more understanding (e.g., Were there learning theories that fit with what I was seeing in the program?). My research notes included excerpts and quotes from readings, as well as my own thoughts and questions. The research notes offered a window into what I saw as valuable and pertinent issues at the time. These data arose in praxis and are therefore important to the research because they help illuminate my understandings of learning and students' learning experiences. The analyses of these data are detailed in a later section in this chapter.

Student learning reflections. Students were asked to reflect on their learning experiences weekly, through writing. As a set of data, the students' learning reflections provided a view of students' perceptions of their learning experiences during the course of the program.

Student planning documents. Students used their questions and interests to map and plan their learning using http://bubbl.us (graphic organizer) and a wiki. The planning documents provided evidence of the inquiry process and the strategies used by each student to achieve her/his learning goals.

Focus group/email interviews. The focus group provided an opportunity to see how students' perceptions of their learning experiences stayed the same or changed over

time. The focus group transcripts also provided an opportunity to discover the longer and broader impacts of students' learning experiences beyond the program. The data were analyzed to discover whether or not the students felt cared for, how they managed inquiry learning, and the impact of a program that attempted to design learning around their interests.

Follow-up interviews. Follow-up interviews using email were used to seek clarification from the focus group and email interviews.

Analysis of Data

I began by examining the data (practitioner journals, year-end divisional report, practitioner comments on student reflections, student learning reflections, student planning documents, focus group transcripts, and follow-up interviews) and mapping multiple connections. I did this initially through a process of "rhizotextual analysis."

Rhizotextual analysis involves mapping the connections between discourses used in different places, "identifying the intersections and connections, finding moments where the assemblages of discourses merge to make plausible and reason(able) sense to the reader" (Honan & Sellers, 2007, p. 3). This study focused on the construction and negotiation of the growth of the learning environment from multiple perspectives: my perspective as both practitioner and researcher, and those of the students who participated in the first two years of the pilot program both during the program (e.g., through the journals) and after (e.g., through their comments in the focus group). The research questions required the perspectives of both the practitioner and the students, and thus informed the design of the study. They are tangled together, and necessarily so.

Rhizoanalysis is about analyzing interaction as a process of producing difference. It is less focused on the meaning of a stable text and more on interpreting text "as a constantly moving configuration that is ripe with potential for divergent movements" (Leander & Rowe, 2006, p. 435). It is looking for the connections and linkages between various discursive themes. It emphasizes the unexpected.

> A rhizo-textual analysis not only draws to the surface and makes visible discourses operating within and across various texts, but it also focuses our attention on the discourse that we ourselves as researchers engage with in talking, reading, writing and re-presenting our data. (Honan & Sellers, 2007, p. 4)

Rhizoanalysis was also a good "fit" methodologically for this study, as it is also considered to be a philosophy of developing pedagogy (Leander & Rowe, 2006). As Leander & Rowe (2006) put it, "The focus of rhizoanalysis is what is being made, or what could possible be made" (p. 449). It is an attempt to hold fast to that which is never-ending. As an analytic tool, the concept of the rhizome offers a way to look at the multiplicity of things that happened and allows me to examine the complex connections in the data.

- the practitioner data (e.g., personal journals, year-end divisional report, comments on student reflections) categories using Appendix B questions;
- the categories in the practitioner-researcher notes;
- the student data (e.g., focus group transcript) categories using Appendix A questions;
- the categories in student reflections; and
- the strategies students used to plan their learning (e.g., planning documents).

The connections are what Deleuze and Guattari (1987) call lines of flight, which can lead in any direction, and are produced in the constant struggle between lines of consistency (stabilizing forces) and lines of flight (destabilizing forces):

> Lines of consistency connect and unify different practices and effects and by so doing establish hierarchies and define relations between solidified strata. Lines of flight in contrast disarticulate relations between and among practices and effects, opening up context to their outsides and the possibilities therein. They break-down unity and coherence. They decenter centers, disrupting hierarchies and disarticulating strata. (Usher, 2010, p. 71)

The lines of flight highlight the weaknesses in prevailing structures and "it is there that possibilities for change and movement are offered" (Usher, 2010, p. 71).

Ultimately, the methodology used here seeks to lay open the lines of flight enabled by viewing the learning as rhizomatic, a lens used to see learning differently.

Chapter 4 Findings

In this chapter I draw multiple connections between nodes that emerge from the data, keenly aware that the rhizome moves and grows in unpredictable ways and never attains a fixed and final form (Roy, 2003). Nonetheless, the task of this study requires a somewhat linear, fixed form. I attempt, at least, to write with the idea of the rhizome, considering Deleuze and Guattari's (1987) six traits (as outlined in Chapter 1): connection, heterogeneity, multiplicity, a signifying rupture, and cartography. Structurally, ideas overlap and begin anew and resurface, as I lay bare the tensions and uncertainties. Problems arising in interpreting the data are also the data (Hart, 1995).

A key focus of this study is the rethinking and experimenting with signifying orders of traditional bounded learning spaces. I take the role of an ethnographer as I map out new terrain following lines of flight away from the bounded spaces of the traditional school (e.g., routines, closed curriculum). To clarify, I am mapping out the territory and not creating a map, for this is one mapping of many possible. The concept of the rhizome is particularly suitable for theorizing the tendencies and potentialities of the narrative and descriptive spaces (Roy, 2003, p.88). Considering that the site of study was an experiment in departure from some of the bounded structures such as prescribed curriculum, required number of course hours, and space (off-campus), a rhizomatic analysis enables other ways to think about learning and teaching both unanticipated and unaccustomed. Like the rhizome that can send off shoots in any direction, to use the rhizome theoretically, is to look for the differences, the tensions that emerged in the students and myself in the middle of this learning space. This study is not about finding solutions, but rather about mapping students' learning experiences, of opening up the

possibilities of learning spaces and new knowledge. Thus, in this chapter, I hope to clearly present "the sensible multiplicities that are the conditions of actual experience" (Hayden, 1998, p. 35), as I map the departures and ruptures. By inspecting the breaks and ruptures I hope to construct new knowledge rather than re-creating the old (Alvermann, 2000).

While attempting to map becomings is a bit like chasing after the wind, I take inspiration as I make a connection to W. O. Mitchell's novel, *Who Has Seen the Wind*, where a character, living on the open spaces of the prairie without the religious and social boundaries of the nearby town, after being released from prison, instructs his son to let their caged owl free. Symbolic knowledge has been freed, as has he. Knowledge is something to be created, lived and experienced, rather than possessed. That is an idea of knowledge that I was also trying to live out.

For me, the rhizome is a new lens for thinking about curriculum and learning—one that I did not have when I began this study. The learning environment was designed to be dynamic, flexible, and ultimately, created by the participants. The design included the primary setting (i.e., a 289 sq. ft. room within a school), the purpose (i.e., experiment with ways to engage students in learning), the participants (i.e., seven Grade 11-12 students), and the tools (i.e., a pedagogy of care, constructivist inquiry, and student-centered learning). The texts used included provincial curriculum documents, texts selected and recommended to the students by me, and relevant texts chosen by the students. The non-structured design was intentionally open and intended to prevent me and the students from reverting to previous designs of "doing school".

As I tried diligently *not* to trace structures of the existing school system that may have contributed to students' disengagement, a nomadic wandering in search of different ways to learn and think differently about learning and knowledge began. Experimentation and experience were privileged. The idea of the rhizome was a discovery that emerged during and from my experiences with the students, rather than being a concept I began with. Before the school year started, and throughout the year, I told my colleagues that there had to be an underlying philosophy to guide the learning. Pedagogically, broad student interests and needs required me to make a multiplicity of connections, and required a methodology that would not limit an understanding of the rhizomatic nature experienced.

My analysis of the data seeks to build new knowledge of teaching and learning derived through reflection on practice in an authentic learning environment (Atkinson & Claxton, 2000). The mapping of practitioner and student data is performed here as connections and lines of flight are laid bare. This data, like the rhizome, is entwined and layered, a multiplicity that is not separable into an arboreal structure. I draw lines of connections, but these are not the only lines that could be drawn. This chapter represents one mapping, limited by the necessity of a linear presentation of non-linear ideas.

Deleuze and Guattari's (1987) example of decalcomania illustrates the process of becoming that this thesis represents. Decalcomania is a process where ink or paint is placed between two objects like paper or glass, resulting in the creation of a new terrain. When the "press" is opened, the two sides share an impression, though each is unique. In the same way, the students and I, and the students with each other, and the students with others, were coming together, and taking away aspects of the other in a process of

becoming. So too, the knowledge we were making together was focused on the means of our actions (i.e., the press of them together) rather than on the ends (i.e., what the result of the "press" looked like).

In this chapter, I am also aware of the tensions of representation and participation in qualitative research. That means that while I make every effort to re-perform the students' voices, I too am part of the performance and include my voice to show what I take away. Viewed rhizomatically as a heterogeneity, the students' understandings of their experiences, and my understandings of my own experiences, my observations of the students' experiences, and now my re-performing of the students' and my own understandings are separate, and yet connected and bound together as one mass.

Let me foreground this chapter by starting in the middle with a journal excerpt of RT, which is an excellent example of multiplicity, mapping, lines of flight and "the fabric of the rhizome [that] is the conjunction 'and…and…and…'" (Deleuze & Guattari, 1987, p. 25):

> I had started this week like every other week, working on the Classics, and then I started to think. I was connecting myths to what I was learning and then I started thinking about fate and free will. Somehow, I'm not quite sure how, this led me to thinking about ghosts and how maybe they aren't spirits of dead people, but people on other planes, reminding me of a book called *A Crack in the Line* where every decision splits off into its own alternate reality. From this, I made the leap to time and how if all decisions split into an alternate reality would they eventually come together into one? If fate exists that would be the case. But if fate doesn't

> exist there is no reason for any of the planes or realities to come together because why would the two realities face the same decision? i.e. A person in reality 1 (P1) must make the decision to go to war or stay at home. The decision is made to go to war but an alternate reality is created in which they stayed home. Now the person who went off to war has decisions such as, do I shoot this person? etc. There's no reason for the same person who stayed home to have to decide between shooting someone or not shooting someone. However, if for some unknown reason, the person in reality 2 (P2) did have to make the decision, and they made the same decision as P1, maybe the paths WOULD cross but not on the same plane, thus creating the illusion of a ghost. Or maybe their paths would only cross when both people were in the same place at the same time... Sort of like the Lake House idea except in the Lake House, the characters had crossed paths on the same plane once before and he was in the past and she was in the future. And they changed the future if I recall correctly. She told him not to be in the place he died during her time and saved his life in his time so that they were together in the past and therefore the future...? But what if dying was his fate? Or maybe saving him was her fate? Omigosh my brain hurts. Anyways, I was thinking about time and the future and the past and eventually all of this confusion led me to make a connection to String Theory, which is where I am now. (RT, Journal)

This mapping is a performance of learning enabled by the rupture of a prescribed curriculum. From an exploration of history to myths to a novel, a movie, to a

philosophical paradox and finally to string theory, RT's lines of flight extend ever outward making connections without end. There is no center, no course to stabilize, control and provide order. There is no answer. The phrase at the end of the journal entry, "where I am now", makes it clear that the learning is ongoing, aptly demonstrating Deleuze and Guattari's (1987) rhizome as "a model that is perpetually prolonging itself, breaking off and starting up again" (p. 20).

Entering the learning environment in the middle of a traditional school and in the middle of students' high school careers, created a number of ruptures, with many break offs and start-ups. For the students, the larger concerns were marks and grades, accredited curriculum, expectations of post-secondary institutions and work, and personal learning interests. For me as practitioner, the provincial curricula, assessment and institutional structures were dominant concerns or "nodes." These nodes were the connected points of departure. As practitioner-researcher, I saw reasons for students to break from the firmly rooted structures of school and learning. Neither the students nor I had any idea how much of a break we could or would make.

In the sections that follow, I have attempted to name or label those breaks, or lines of flight, in the students' own words. It is their articulation of their experiences and ways of theorizing those experiences that begin to point to the shoots, or departures that the program enabled from the traditional classroom and ways of doing school.

School is boring. Let me get on with my life. Let me learn my own way.

The students offered a number of reasons for agreeing to try an alternative approach to learning. Their reasons coalesced around their desire for independence and a willingness to try something different. They were "bored with school," "done with

school," and ready to "get on with" their lives. The boredom was a result of "using the same skill set over and over again with little change" (RT, Follow-up). RT wanted "something different" (Follow-up). In their words, "I wanted to start really working towards my future…I felt like I was being held back by the system" (DF, Interview); "I wanted to do things *my* own way (AP, Interview); "It was a lot easier to do it on my own…I wanted to explore things more" (MK, Interview). The desire to create their own learning experiences, to break from the restraining "system" and do something different, indicate a willingness to learn, and a need to provide students with opportunities to explore and learn in ways that they desire. CS also described a personal desire to learn and the obstacle of school in pursuing learning passions:

> "was (and am) very curious and passionate about learning, and school was nothing but a boring, frustrating obstacle…I was sick of memorizing and regurgitating, and it seemed to me that school wasn't very confident in itself that it had taught me anything either, as we were still being taught proper use of punctuation marks in Grade 11, which I seem to recall learning in every single year of ELA before that" (Interview).

These students identified lines of flight away from the routines and practices that were all too familiar and constraining to practices and interests that they could better direct and control.

For some students, their participation in the program was not their first attempt to break free from the official structures of schooling. JM, for example, liked to learn and solve problems independently and thus resisted the notion that there was one "correct method—the one taught in class—that had to be used.

> There were several times that I asked my math teachers, 'Why do I have to do it this way? My method gets me the same answer.' And they would just get annoyed, as if I was trying to be difficult, and say, 'Because the curriculum says you should do it this way!' (JM, Interview)

For JM and others, the idea of learning through a student-centered, self-directed program was thus very enticing. Another student, (SW), had been prepared to quit school, but believed that the personalized nature of the program would allow him to pursue his personal interests in ways specifically related to his future career: "I knew what I wanted to do, so I knew this program was right for me" (Interview). For SW, the program was self- determined: the opportunity was there to pursue the topics that SW felt were necessary for future work. The line of flight, then, was toward the possibilities that SW was able to imagine.

The students in the program were adolescents who wanted to learn, but who wanted to learn what *they* felt was of value to them. They had intrinsic motivations for learning. They were interested in learning, but not in doing school. If not for the requirement of a Grade 12 certificate, most said they would not have continued with school. These voices speak loudly of a desire to break free from the territory that is school, in order to create their own territories. But it was not so easy.

For one, students shared that they found it difficult to re-conceive the classroom as a space in which to pursue their own learning goals and interests. In my conversations with students (e.g., the focus group and interviews), several students revealed that when identifying and selecting their learning interests, they were still trying to please the teacher rather than their own interests. For example, RT said, "I ended up picking

something I didn't actually care about because it would be the easiest to fit into what I assumed you were trying to do. I didn't listen to myself and do what I actually was interested in" (Follow-up). RT suggested that the problem was due to the fact that "the program still had to fit the parameters of the regular system and the students still had to be evaluated by someone to prove that they knew what they were learning" (Follow-up). RT's theory was similar to JM's recognition that exploring personal interests was limited by curriculum options. At the time, RT said, "I didn't listen to myself" because of the boundary-creating assumptions of teachers, other students, the curriculum and assessment. Personal desires to learn did not fit into the structures available and RT struggled to reterritorialize learning from a process designed for/by school to one designed for/by self. It was difficult to make the break.

JM and others offered another reason for not following personal interests, which had its emergence earlier in their schooling careers. Their many years of schooling had led them to understand the clear separation and demarcation of personal and school learning, two very distinct territories. Even within the attempt of the program to blur those boundaries, JM admitted that, "The things I chose to do in the program were things I was interested in, but they were not the things I was most interested in" (Interview). JM recalled key events in an elementary school history, for example, which revealed a student hurt by a teacher's expectations. After putting heart and soul into a project and then receiving a poor mark because the one aspect of the project that was being marked did not meet the teacher's expectations, JM concluded that, "giving up something I loved to be judged and given a number was impossible for me after that. I was constantly worried that the teacher wouldn't like it as much as I did" (Interview). The intrinsic

enjoyment of the work was diminished by the external assessment, which did not match with a personal assessment. In another example, after repeatedly being told to stop reading personal books and drawing, even though the expected work was complete, JM learned "not to bring things I enjoyed doing to school because none of these things were directly related to what we were working on in class" (Interview). This intentional (or at times, perhaps unintentional) separation of in and out-of-school learning resulted in JM's keeping personal learning joys at home. Because of these experiences, JM was reticent to follow the strongest of personal interests, keenly aware that the gap between in- and out-of-school learning was not entirely possible to close in any program still accountable to institutional structures. "When they said to me, 'You can choose to learn anything you want to this year,' I thought to myself, 'That's not really true, because some things the Province of Manitoba will not recognize'" (Interview). Here JM acknowledges the connections and tensions between personal learning and its recognition in school, limited by prescribed curriculum and assessment.

In a journal entry, JM makes another connection to show the tensions and complexities between the territories of home and school and future work, a topic that other students spoke of as well:

> I know what I like to do at home when I have free time. Do I really want to do those things at school, too? If I start doing those things at school, it would make it seem far less enjoyable. I would feel like I have to get something done, and it wouldn't be a hobby anymore. That's what I'm scared of anyway…When I hear the words "school' and "job," I immediately think it's not going to be fun. I should try not to think like

that. Maybe it's actually possible to do things at school or at a job that are your hobbies also. (Journal)

"School" and "work" are both "work," places where individuals go and participate out of necessity, not desire. A hobby is something one learns about for self. My attempts to re-define the space of school were not predicated with a plan for how students would create their own learning spaces. JM's response shows at least a tentative willingness to consider allowing for more connections.

When the students and I began the year outlining personal learning plans (without a clear idea of how to proceed), we started with the prescribed courses that seemed unavoidable, and we improvised from there. Students selected a mix of regular classroom courses, distance education courses, learning inquiries led by personal interest, and internship possibilities. Practically, it meant creating visual graphics connecting interests and curiosities like Figure 3.

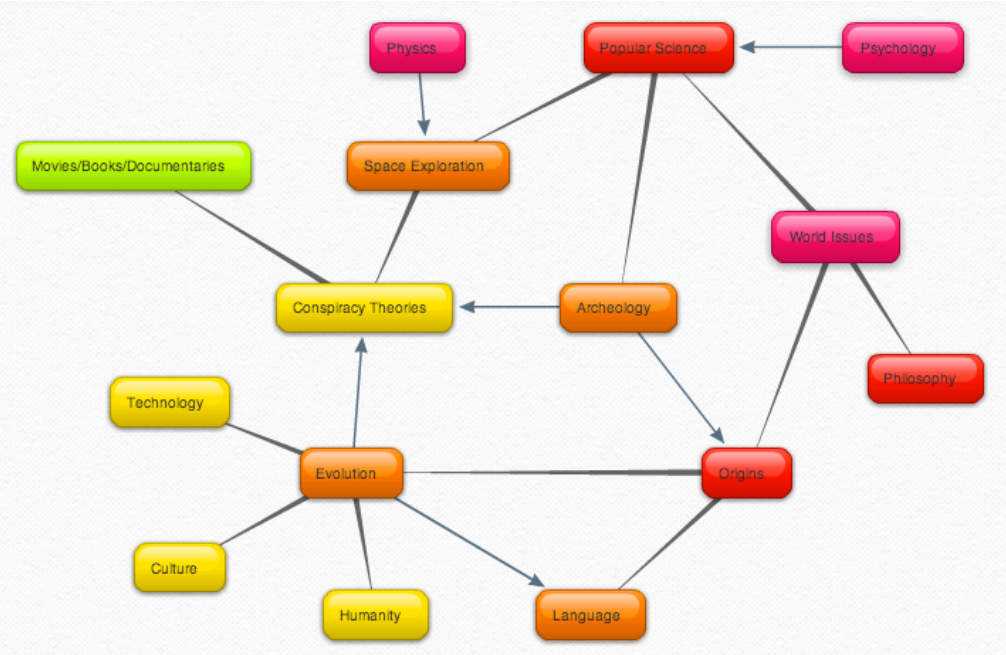

Figure 3. Example of Student Planning using http://bubbl.us

The graphic organizers were meant to be a way of giving structure to the learning. But it didn't work out that way.

When students pursued their own interests, some began to experience contradictions in defining their learning. For many students, like RT, the freedom to create one's own learning path was welcomed, however, structures like deadlines (which were supposed to be self-created) were missed as an external stabilizing force: "Even though I'm a person who likes to go everywhere all at once, I like having structure and that lack of structure was maybe not necessarily the best thing because it meant that I could go anywhere and even though I was like okay to do this, there wasn't really any penalty for not doing it so I knew I could get away with not doing it" (Interview). Being in a space without beginning or end was "okay" given that there was no penalty (a structure) for learning freely. The limited structure that I added was having students set goals and make plans, including deadlines. What was it that RT was "getting away with?" What was being resisted? RT clarified in a follow-up interview:

> Not completing my goal wasn't the thing that drove me crazy, actually. It was not having a goal and then creating a goal just because someone else said I should. Of course there was lots of learning going on. I learned a ridiculous amount of stuff about thinking and connectivity.

So here the structure imposed (as a tracing) was not desired, but the learning took place, even without having a clear goal.

For me, this is where the rhizome conceptualization of learning makes sense. The arboreal notion of planting a seed containing the genealogy of expected learning

outcomes contrasts with the notion of planting a tuber that grows widely, out of sight, unexpectedly surfacing in unexpected places.

What I was doing actually mattered.

There is more than one way to understand this statement. MK said,

> No matter how much it frustrated me, I was forced to rewrite things and rewrite things and do them and again until they were actually *done* [emphasized] until it was good enough and was better or at least the best that I could do it. Whereas before that in school, I wouldn't have cared. (Interview)

The many conversations that we had about MK's work, and the revisions I suggested were driven by MK's choice of the topic and the writing task. MK was personally invested in the learning, and knowing that it mattered, I made every effort to push MK to develop writing skills and to create a final product that MK would be satisfied with. Four of the students in either the interview or their journals referred to themselves as trying to ascertain a high level of "perfection" in their work. AP, while reflecting on the process of working on a product, which demonstrated many weeks of research and thinking, wrote, "I won't tolerate anything less than what I see as perfect" (Journal).

While there is no evidence to suggest that any student felt they had achieved "perfection," these examples speak to the effort and persistence on the part of the students. Both AP and MK were learning about things they were keenly interested in and cared about as the topics were connected to possible professions in their futures. I certainly discussed the topics and possible creation of texts with them as part of the process; however, we didn't talk about marks. Their desire was to learn about their

respective topics and to develop skills required for future schooling and possible careers. For me, caring about the students and what they were learning meant pushing them to take risks and to do whatever they were doing well. My intent was to show that their learning interests mattered. The pushing and encouraging happened through much dialogue. The caring about individual students started with encouraging them to learn what they wanted to learn, not what they "had" to learn, and then scaffolding their learning as they pursued new directions, supporting them in their frustrations and failures, and allowing them to abandon some projects when I believed that significant learning had taken place, even if it was not what was initially planned.

For example, DF explored social and humanitarian issues out of a desire to do something that mattered to the oppressed and less fortunate. At first, DF felt frustrated from feeling unknowledgeable about the issues and then realized it was actually from a desire to know everything. DF's concluding frustration was that, "I can't do anything about the stuff I'm learning" (journal). This *desire to act*, rather than to passively take information in, resonated with most students, partly a desire to "get on with life," yet also a desire to do something that mattered. The desire to learn was recognized as self-motivated: "I think that's what this whole learning project is about—if you want it, you'll do it" (DF, journal). This growth in self-motivated learning was realized by AP:

> I'm exploring unchartered water—I'm still getting a feel for things. Basically everything is at my control and that's a pretty intimidating thing when your whole life you've been given barely enough wiggle room to so much as blow your nose, let alone explore and grow! I'll work hard to get some physical evidence of my learning, not for your benefit, but for mine. (Journal)

AP acknowledges here the shift from school and teacher-directed learning to student-directed learning, from pleasing others to pleasing self.

Mattering also meant having a "safe environment" (RT, Interview) where it was okay to shed tears of frustration or share personal insights and epiphanies. Student-teacher relationships were described as more "in-depth." DF defined the learning environment as "very open" where "I could be very honest about my frustrations with where I was going and where I wasn't going" (Interview). The students felt free to share their opinions and even be challenged with "very different opinions" (MK, Interview) from the teacher, which led to greater and deeper thought: "I would have to go back and rethink what I was saying. In class, I would never have to do that" (MK, Interview). Being challenged with a different opinion was seen as an act of caring. MK felt that in the learning environment, "what I was doing actually mattered" (Interview). Receiving "insightful" advice and formative assessment on work, "meaning you could actually use it," was seen as mattering whereas, "in the classroom no one cared" (AP, Interview).

Regular conversations with individuals and groups of students were key to creating a safe and open environment where students felt free to pursue their learning interests. Small class size was important as I could spend more time with each student. One complaint of the students who continued into the second year, was that I spent more time working with the new students, thus reducing my contact time with them. Conversations take time, which again works against school systems where school learning is very time-structured. However, they were crucial to communicating to students that they, and their learning, mattered.

Dialogue with me, but also with peers, was thus an important part of mattering. DF said that new information should be discussed, as "you're working off of what they [others] are saying" (Interview). RT said that conversation was important for understanding "opinions that other people offer instead of just, oh this is just the information" (RT, Interview). For AP, conversation that involves teaching also "embeds" the learning (Interview), meaning that by sharing what one knows, one actually gains a better understanding: "by re-teaching it to them, you're reconstructing it yourself" (Interview). For AP, "doing something with it [information] really helps as you can apply it somewhere" (Interview). Learning about something that matters means learning something that one can use.

Drawing on the student's ideas that mattering (e.g., about their learning, from others about their learning) was part of a larger framework of expectations for quality work combined with a commitment to provide students with ongoing, high-quality formative assessment. Students knew that the expectations for their learning were high, but that they were supported in achieving those expectations through multiple levels of formative assessment. These aspects of the learning environment also communicated to students that learning "mattered" and it seemed to make some care more about what they were doing. RT noted that it is hard "to know what to do with information when you don't have any reason for learning it in the first place" (Follow-up Interview). DF said, "I often have no desire to learn about it unless I feel like I can apply it to real life in some way and see the connection" (journal). CS found the mattering in that, "I felt that my individual needs and concerns were more important to educators, due both to the small group size, and to the self-directed nature of the program" (Interview). JM expressed

mattering as being asked about her learning interests: “For the first time ever someone sat down and said, ‘What do you want to learn this year?’ I had no idea how to answer that. I’d never been asked to think about it before” (JM, Interview). While JM felt “very cared for” (Interview) and saw caring as being encouraged to pursue personal learning, “school” problematized the learning: “We were always worried about what our report cards were going to look like” (Interview).

Working from the perspective that “responsiveness is at the heart of caring” (Noddings, 2005b, xxv), I tried to stay focused on encouraging and using the students’ interests as the source for learning. Dewey (1916, 1938) insisted that students should be involved in constructing their own learning objectives as there is an organic relationship between what is learned and personal experience, as learning and personal experience are organically related. To situate student learning in their interests and experiences, I worked to build a relationship of caring with and for the students. This was a paradigm shift from traditional education where my role as practitioner was to bring the curriculum to the students, where my concern was how best to ensure that the students received the curriculum. Teaching traditionally was equally about caring for the students. However, the shift involved “decentering” the prescribed curriculum. My caring here was about ensuring that the students first of all were able to surface their learning interests and passions, and then, that they were able to pursue what mattered to them with as we pushed away from the bounded structures.

Learning isn't necessarily linear.

Another departure and destabilization of curriculum and teaching was the acknowledgement that 21st century learners learn in different ways. DF exemplifies a digital age learner:

> I love clicking on links and finding, going off on different ideas…[to] just let my mind click on all these different links and read different books, and gathering my own consensus from it and not what a teacher has to say about it too and putting their opinion on it. (Interview)

AP found that, "Choosing one idea and following it was really difficult; staying on that course and not branching off into other interests was difficult" (AP, Interview); this was consistent with his first journal entry, in which he reflected, "There's so much that I'd like to experience and learn, but I can't seem to focus my interests enough to actually get a solid outline" (AP, first Journal entry). MK explained a different learning journey: "I had a hundred different things…in mind…I started on a completely different path than what I ended up doing…from research I figured out how everything was connected and where I would need to start" (Interview). DF was also one who "changed pathways halfway through the year, completely kind of changed them…I just eventually had to start listening to myself…I just knew where I was supposed to go, my passions and stuff like that" (DF, Interview). DF further clarified that learning is about the making of multiple connections without end:

> I am one of those learners that kind of works as a sponge, and it comes out in things such as conversations and my own creative writing…learning isn't necessarily linear, and projects and papers seem to come to some sort of false

> conclusion, like you are 'done' learning about that topic (i.e. this is my thesis, this is what I believe, here is the evidence I am using to back up this point, and this is my conclusion and I'm totally *done* looking at this topic. (Follow-up)

This explanation shows that DF's learning is like the rhizome, connecting and spontaneously sending out new shoots without end.

Students were not practiced in making their own connections or creating their own learning spaces in school as they were mostly accustomed to tracing the lines of school practices (e.g., by completing structured assignments, projects, and tests within set class times). However, their comments of initial learning experiences sound very rhizome-like (while still containing arboreal language such as "branching" and "solid"). The students appeared to intuitively understand that learning is nonlinear, perhaps as a result of the kinds of digital learning they routinely engaged in on their own.

Turning non-linear learning interests into clear inquiries was a challenge for a number of reasons. As I was working from a constructivist perspective with inquiry models from curriculum frameworks such as English Language Arts, I was imagining assisting student in using their interests to create structured inquiries that could then be followed. In doing so, I may have inadvertently created the idea that learning, or at least a plan for learning, should be linear. Some students began with what they thought was a clear sense of what they wanted to do or at least a large list of possibilities. RT was excited to start and when mapping out a plan with a graphic organizer felt that "I can accomplish all of this" (Interview). DF was also excited by the ideas written on a page believing, "this is exactly where I'm going to go." But it didn't exactly work out that way. Changing deadlines, a lack of structure, and procrastination were given as reasons

that prevented many from completing their plans. In retrospect, most students said the deadlines should be stricter. From my perspective, such comments were revealing, because the deadlines were set by each individual student as part of her/his learning plan. I did not impose any penalty for not meeting their deadlines. In most cases, not meeting initial deadlines wasn't for a lack of effort or learning, but rather, the projects often got larger and demanded more than anticipated. For example, after moving a deadline to complete his project, AP wrote, "It irritates me beyond belief to have to extend my deadline but it's absolutely unrealistic and ridiculous to think that I'll be able to complete such a detailed project" (AP, journal). As questions led to more questions, the building of background knowledge was often necessary to move from surface-level to deeper understandings, and thus, this required additional time. Students' sense of curiosity drove them to push the connections they were making, and to my discovery of what Siemens (2006) and Downes (2006) call connected knowledge, in a pedagogy called connectivism. Connectivism is a learning theory suitable for informal, networked and technology-enabled arenas. Learning is about connecting information sources, knowing where to find information, making decisions and creating knowledge. Learning and knowledge may exist in a community, network or database (e.g., see connectivism.ca).

The idea that learning is not linear may be another explanation for the difficulty students experienced in meeting deadlines. The frustration with constantly extending deadlines was not for laziness or procrastination. Like a rhizome, learning for the sake of learning has no clear beginning or end. It is always happening. The lines of flight the students were making resisted the *dead* lines. Who or what is a school project for? I asked AP in a journal response, "What can you do with that knowledge [a learning goal]?

Can you engage others in exploring X? Are there particular human rights abuses that you can take action (with others) against?" AP later completed two large projects that were not for credits or marks, but community-based, and met the deadlines for both.

Without a linear structure provided for students to trace, students had to make their own way, which was what most students called "frustrating." Most students had many inquiry questions that they wished to explore, but were not sure how to proceed. In retrospect, several noted that they had many questions and "got stuck in the question phase" (RT, Interview) or "didn't necessarily know how to close them" (MK, Interview). That is, they were not sure when to stop questioning and when to start answering. Questions ranged from those that "maybe didn't have an answer" (RT) to the "million questions…that there were answers to, but I just didn't know them" (MK). Narrowing down the questions took a lot of time (MK). Some struggled with philosophical questions that did not have clear answers like "What is fate?" (RT, journal); others struggled with questions that created more questions that seemed never to lead to any kind of conclusion: "Why do we fear death?"; and others struggled with narrowing down broad inquiries to something more manageable: "I've decided to narrow my research down and try to gain a general understanding of one country…it doesn't mean I won't explore other countries (because I just can't stop at one) (DF, Journal).

Not being able to stop inquiring was a characteristic shared by several of the students: "Once I had one question, even if it was specific, I would veer off with these other questions that were parallel to it…I didn't really have a way of finding answers to them, I just kept branching out" (AP, Interview). In the journal, AP refers to this chasing after questions as "researching on the fly" and "untamed research" and "straying"

towards a topic with thoughts that "flow" and get "stuck" and "loosen" or are forcibly "rattled out." But AP and others learned to deal with the questions: "I've learned that I need to start answering questions in order to get myself anywhere" (AP, Journal). TP discovered that by asking, "*why* you wanted the answer to all these questions…it became easier because I was able to figure out what I was actually looking for with asking the question" (Interview). After much research AP concluded,

> "So far everything I've researched has been related to one another…it's beautiful! I can't contain how excited I am that everything is falling into place. The seminar [attended outside school] helped me to find the connection between X and Y…The best way I can show you how I've been able to show my connections, is by this rough write-up made on sticky notes." (AP, Journal)

This non-linear mapping of the learning was not the end of the project; in fact, the project took several more turns before it resulted in the use of a series of graphic forms to express ideas. The graphics were productive forms designed to communicate particular messages and not to present what was learned, that is, a tracing of expected learning ideas in the traditional model. The final outcome was not planned for or anticipated, but the result of an entanglement of ideas, personal interests and aptitudes.

I feel like I haven't accomplished anything because I don't have a mark in front of me or physical evidence of my learning.

Like others, AP was frustrated with a self-defined lack of "physical proof" of learning:

> "The problem isn't that nothing is getting done, the problem is that I've become impatient and want to have something concrete and solid to prove that I'm getting

work done and am actually learning. This journal is the only outlet to relieve my itch to express my thoughts and summarize them" (Journal).

AP then proceeded to list what had been done and learned, though still admitted to a "lack of proof of my accomplishments" (Journal). In another entry AP wrote, "Once I'm satisfied with what I've learned, I'll move on to another topic" (Journal). But there seems to be a paradox at work here. AP was concerned about an apparent lack of "writing" even though AP admits to having "categorized, made lists, organized my thoughts and made some rough drafts. That's great and all, but I'd like to keep my creative juices flowing and be able to come away each week with something to show what I've learned" (Journal). And MK wrote early on, "Thus far, I have accomplished nigh on nothing. This is all about doing things by yourself, and being self-motivated. Unfortunately for me, I am not, by any stretch of the imagination, motivated in the least" (Journal). MK then went on to list some of the things that were done. In fact, I observed MK spending time exploring several topics of self-interest not related to any particular course. We discussed what was being read and I made no attempt to turn the personal interests into tasks that would qualify for required credits. Perhaps many students were like RT who reflected, "I don't necessarily see what I learn at the time that I learn it" (Interview). It is difficult to produce physical proof of learning if the understanding of that learning takes time to emerge. For me, the students' concerns of "proof" indicate that part of their definition of learning, at least in school, is some kind of physical product. I did not stipulate any specific products as proof of learning.

Some students seemed to feel that they had to create certain kinds of texts—the kind that received marks—in order to show they had learned. Their careers as students

had taught them that is what learning looks like: “I have yet to feel like I’ve really accomplished something, even if I have, because I don’t have a mark in front of me. But, I’m willing to work past that mindset. It might just take some time” (DF, journal). In traditional high school classrooms, assigning marks for creating an inquiry question, outlining a plan for learning, articulating a set of goals, or drafting an essay is usually not done, even if these processes are specific to curricular learning outcomes. They are often seen as the steps to the final product, which then receives the bulk of the summative evaluation. AP wrestled with this sense of a lack of accomplishment in a journal entry written later in the year: “I have no material to show for all the hard work I’ve done.” And yet, in the same journal entry, goes on to say, “Actually, I’ve accomplished a lot despite the setbacks.” As the students and I were co-creating a different learning experience, I focused on student learning, making clear that the only time a mark would be given was for a final grade. The students’ concerns raise important questions: What does learning look like? How is learning measured?

Tensions related to achievement were frustrating for students; in fact, the most common words uttered by students in the Interview (as determined by frequency counts) were “frustration” and “frustrated.” While some frustration may have resulted from the new and unchartered learning journey they were taking, most acknowledged that they understood the purpose of trying alternative approaches to learning, but that they were frustrated by the lack of a clear fit between those alternative approaches and traditional means of recognizing learning. This conflicted sense that nothing was being accomplished led some to feel that they were failing, though not in the traditional sense as they were not being given marks. In the past, MK had simply “moved on” after getting

a poor mark, but now, redoing work until it was the "best that could be done" resulted in more care for the learning. Rather than see failing as negative, MK said, "this actually made me think about what I was doing and actually made me *want* [emphasis] to fix it" (Interview). While DF "hated" the feeling of failing that occurred when having to accept that an approach taken wasn't working any more, the result was motivating, particularly when the topic was of personal interest: 'I don't understand this, so how can I make myself understand this?'…to *actually* understand what you're learning *if* it's interesting to you" (DF, Interview). CS was more blunt: "Mistakes are a pain in the ass that tend to make everything take longer, and when all is said and done, give you a much greater understanding" (Interview). RT saw failure in the lack of tangible progress (products), yet "excelled" in "internal thinking…I grew up and I thought I was grown up" (Interview). Determined not to let failures win, AP was "more motivated by the trial and error because I knew there was not ultimate downfall because by taking risks you were expanding your mind, your horizons and moving forward…trial and error motivated me to move forward" (Interview). This sense of failure led many to eventually understand that *they* had to realize when something wasn't working and *they* had to find a way to fix it. What is key is that the failure often led to a motivation to gain a deeper understanding and to care about the learning, though it required much persistence.

The student data reveal that students were willing to persist through "lack of evidence" and failures to accomplish something because they were invested in *their* learning. Many of the frustrations with learning achievement may be explained as a conflict between performance and learning orientations (Dweck, 1986). Students were most accustomed to performance goals with "evidence," which show their ability, as

compared to learning goals, which are focused on effort and interest: “Persistence is also made more difficult by the fact that “intrinsic” motivational factors—such as task interest or the enjoyment of effort—may be more difficult to access within a performance goal” (p. 1042). The shift from a performance to a learning orientation was evident in those students who were able to attribute the success of their learning to their effort (learning orientation), rather than their ability (performance orientation), (discussed in the next section). For them, challenge and failure within this learning-oriented context resulted in more adaptive motivational patterns (Dweck, 1986).

Frustrations with not being able to produce products of their learning were not reduced with the learning journals, which were intended as the place for students to discuss and reflect on their learning. Not one student made reference to the journals as a source of evidence of their learning in the interview. The firmly established practice of certain physical products as evidence of learning and sources of assessment (e.g., papers, tests, reports, exams) appeared to be a difficult construct to break down. And for some, this was for very good reason: good marks were still necessary for scholarships for university. The next section, however, shows a significant shift in the students’ ownership of their learning and accomplishments.

I’m learning this for me, and not for you.

The desire to do their own learning was a motivator for several to participate in the learning environment. Motivated then by their own learning, students like JM expressed why it was satisfying: “This was very fun because I got to do everything myself. At no point during the project did I have someone tell me I was doing it wrong or it was not what they wanted” (JM, Interview). This spirit of independence and freedom,

which sounds very much like the rhizome, was not without its problems. However, it also had its benefits.

As the students were able to become self-directed in their learning, the learning many were doing also ended up being for themselves. DF wrote in the first journal entry,

> Monday marked the first day where I felt totally free of all classes and those assignments that are just there for the creation of a mark to stamp on a report card. That mark is decided by how much you can place in it to make a teacher happy enough to give you a passing grade. (DF, Journal)

For CS, pursuing personal learning was liberating: "It was a great relief to be free to devote all of my learning energy to following my interests without feeling the stress of neglecting my obligations at school, which I had always been resentful about in the past." Both these students were clear that their learning was for their own benefit, and not for the purposes of simply "doing school." CS found that, "school was nothing but a boring, frustrating obstacle" (Interview) and that the learning environment "gave me the freedom to pursue learning actively, rather than from the passive 'absorption' model of conventional school" (Interview). AP also made the shift from learning for school/teacher/curriculum to learning for self. AP decided to explore the topic of capitalism, which was selected from a World Issues curriculum, but was also of some curiousity: "I wasn't interested in the topic so much as curious about how capitalism worked, its pros, cons and history. I've gotten the gist of it and discussed it with my parents afterwards, so I think that takes care of that" (Journal). The active sharing of the understanding gained and the satisfying of the curiosity, was seen as sufficient exploration of the topic, and more interestingly, sufficient evidence of learning. I

remember our conversation about this, and told AP that I was satisfied that evidence of the learning was demonstrated to the parents and not to me. This was a significant shift from earlier concerns about producing evidence of learning.

Learning *for* self also resulted in greater learning *of* self. RT said that the freedom and possibilities afforded by the alternative learning environment, without the usual structures dictated by traditional classes, was mentally exhausting, yet

> wouldn't go back and change the experience for the world. It was useful. I can't really explain it, but the structured high school and the non-structured program had to go together to be beneficial for me. The program offered me a chance to know myself. (RT, Interview)

Learning about self also meant learning about learning and vice versa. For MK, learning also involved teaching oneself how to learn, including how to set goals for oneself as a learner:

> I learned more how to teach myself things and how to, instead of just getting frustrated and giving up, how to actually work though it and make myself do things…I figured out what the main thing that I wanted as an end goal for myself was. (Interview)

MK's self-directed learning experiences helped develop discipline, increased self-regulation, and resulted in improved academic performance when returning to a regular classroom in the next semester:

> Going back to class for [Math] was actually good because I found what I did better then… I think for me it taught me to be more, definitely more disciplined. It didn't seem when I went back in the classroom, the amount of work we had, it

> just didn't seem as much. It didn't overwhelm me as much anymore. I mean, I know with my math it did. It was frustrating, but it was always that way. But as far as my biology, with my studying and getting through the work and actually doing it, I did a lot better than I would have before. (Interview)

DF also became more attuned to self as a learner: " I learned how to really listen to myself…and to accept that I just can't do everything. I'm going to absorb the stuff that I *really* care about" (Interview). JM found a sense of self in "being able to sit by myself in a quiet room and learn things the way I wanted to learn them," though regretted "not branching out more and experimenting more, but it was so ingrained in my head that everything has to fit on a report card." Students' increasing understandings of self was directly connected to their understanding of their personal interests and passions. The connection is too complex to suggest which came first, the understanding of personal interest or self. What is clear is that a clearer sense of identity went along with a clearer sense of purpose and learning interest.

As students grew in their abilities to determine, plan and carry out their own learning, as well as to deal with the frustrations of feeling like they had to produce certain evidence of their learning, they grew in their ownership and understanding of their learning. Once the students had taken control of their learning, they were not very keen on relinquishing it for external assessment. The students defined learning in the context of assessment (see Table 3) as something that is done for self, is continuous and unending, dynamic, frequently immeasurable, active, involuntary, and more efficient when self-motivated.

Table 3

Student Views on Learning and Assessment

Assessment of Learning	**Student Comments**
• evidence of learning is for self	• Once I'm satisfied with what I've learned, I'll move on to another topic…I'll work hard to get some physical evidence of my learning, not for your benefit but for mine. (AP, Journal)
• learning is never done and does not require proof of its existence	• To learn something, I do NOT need to write anything or come up with some sort of project. I'd prefer if I didn't have to defend my learning because I'm not really ever done. I have an opinion, but that doesn't mean it can't change. (DF, Follow-up)
• learning is dynamic, natural and frequently immeasurable	• In the world, learning is dynamic, it is frequently immeasurable, it is actively pursued, it requires understanding…What I found to be true for myself, and what I believe is true for most people, is that a 'constructivist mode of learning' is the natural way by which we learn, and comes to us very easily unless our ability to learn has been polluted by the commodity approach of systematized education. The construction of knowledge, which for me is often an involuntary process that springs out of my interaction with my surroundings and the world at large, is continuous. It is telling that what I learned in school is *about* school. (CS, Follow-Up)
• self-motivated learning results in better learning	• If someone wants to learn something, they will learn it much quicker and better than if someone else wants them to learn it. (JM, Interview)
• self-directed learning conflicts with externally-directed evaluation	• "The idea that you can learn what you want to learn is fantastic, it's ideally what someone would get out of school. The problem is that the program still had to fit the parameters of the regular system and the students still had to be evaluated by someone to prove that they knew what they were learning" (RT, Follow-up).

CS explained that having to prove what one has learned takes away from the pleasure of learning, and that grading is actually a barrier to learning. The consequences one encounters in life, which are used *for* learning, are the best kind of assessment. CS's perspective of learning and assessment was certainly the most articulate and incriminating. In reflecting on the purpose of assessment, CS argued that…:

> It is my position that the whole notion of proving what one has learned is a form of hoop-jumping that detracts from the pleasure and value of learning. The need for assessment and numerical representation of progress is one of the major barriers preventing school from ever being truly devoted to learning, and one of the reasons that I feel that leaving school will always be more valuable than the most progressive program of the most progressive school. In short, life teaches life skills better than school will ever teach life skills, and life's consequences will always be more educational and constructive than school's artificial consequences. The only value of the school system is in handing out certification, and leaving school entirely will always be a truer learning endeavour, though it will look vastly different for each person. (Interview)

According to the students—both in data collected during the program and particularly, in the Interview and Follow up after—assessment is often at odds with learning in school. Measuring accomplishment was seen as a barrier to learning, which could not be altered, as at minimum, a grade was required for their report card. A grade is meant to be understood in school as a representation of the learning that students do. Traditional assessment in school uses tests, projects and a variety of other physical

evidence to represent learning. Physical evidence is used as proof of learning and valued for its ability to be made public (e.g., wall displays, presentations), referenced, and archived. The "evidence" is for others and not the learner. It helps to explain why my previous students did not return to claim their year-end portfolios that were constructed as the accumulated evidence of their learning.

So while students were beginning to approach assessment with a more rhizomatic perspective on learning following lines of flight, they also found themselves bumping up against boundaries. While their learning may be seen rhizomatically, the assessment was still genealogical, and firmly branched to traditional notions of knowledge and achievement in its intent to represent.

"I always thought of you as part of the program too." (AP, journal)

I was open with the students, sharing my thoughts about different ideas of learning and knowledge and teaching as the year progressed, as they shared their ideas about learning and knowledge with me, very much like a decalcomania. These were mostly spontaneous conversations inspired by the reading and research I was doing to help inform and guide the curriculum and pedagogy of the learning environment. I often found myself discussing with students ideas from a book, article, movie, video, website or research article I had encountered. These ideas thus entered the classroom and became part of our dialogue about curriculum and learning, as I struggled to help make their learning personally meaningful, for I was not always sure how.

I struggled all year in defining my role within the learning environment as I tried to envision and design learning differently. I wondered, "How much should I be driving the program?" and "How do I let learning work its course?" and "When do I intervene or

get out of the way?" (Journal, Sept. 27) and "Are the students *missing* something they *need* to know?" (Journal, Nov. 18). I questioned my abilities as a teacher to direct their learning, to find or help them find appropriate resources, and to challenge them adequately. My notes are full of questions with common themes of sustainability, resources, and *learning*: "How can I sustain students in their personal interests? (Journal, October, 26); What *must* be learned? For whom?" (Journal, Nov. 1); "When do I build and when do I gradually release responsibility (Pearson & Gallagher, 1983) to the students when I'm trying to start already with released responsibility?" (Journal, Nov. 3). In this context of a student-interest driven curriculum, the material was more personal and mattered more to the individual, which pushed me to invest more personally in the learning and the students as well.

After mapping out students' personal learning interests and goals, I recognized the need for increased competence and a curriculum that went beyond the standard. Authentic questions are complex and involve many disciplines; they require coming to understand things from multiple perspectives. They also require a lot more background knowledge than is often possible to provide students if the main objective is to "cover" the curriculum. A student may have created a question about some aspect of human behaviour that is addressed in the fields of psychology, anthropology and sociology. For example, how do we experience and manage pain? Or, what was life really like for women in Ancient Greece? Or what causes depression and how best can it be treated? These complex questions in turn raised many complicated pedagogical questions for me: How deep of a learning experience did I want the students to have? How many resources would I make available to them to answer their questions without getting them bogged

down? What kinds of expectations did I have for students and their learning? Why was I placing expectations on their learning? To what was I connecting this impulse? This was new territory for the students and for me.

According to Noddings (1999), my concerns about increasing my own competence to better teach my students was motivated by an ethic of care. A caring relation is an essential starting point, but it does not in and of itself lead to competent teaching. I realized that I needed to either have a great deal of knowledge myself, or know how to quickly find it. I was excited to learn, and yet began to feel overwhelmed with all of the things I did not know. The topics students identified did not neatly fit into a curriculum. I knew little of Japanese or computer programming or crop rotation or lunar bases or ant habitats or aeronautics or post-colonial Africa or parkour or role-playing computer games. But fitting *into* the curriculum wasn't the goal. I was looking for "a clear structure for freedom" (Sept., journal). To some ideas, I found myself saying, "Great idea, but we can't learn or do that here," and it upset me because I was unable to provide a way. To other ideas, I said, "Go ahead, I'll help you where I can." Initially, I spent many hours searching for resources and directing students to them.

My previous explorations of Summerhill and Sudbury Schools and other free and democratic schools gave me the confidence to leave the resources with the students without dictating what they could or should do with them. Pedagogically, I drew from Freire (1986) and became the student, letting the students become my teachers of what learning could look like. As I was using a constructivist model of learning, Sugatra Mitra's "hole in the wall" research project (Mitra & Rana, 2001), using what he called Minimal Invasive Education, showed that students could learn sufficiently (computer

skills in this case) by self-instruction. Mitra is continuing his work with learning with little or no instruction in what are called Self Organized Learning Environments (SOLE). If I was to care for the students' own learning interests, I saw that I did not have to create the curriculum for them, but that I could stand beside them or behind them as they learned. So my previous role of provider and disseminator of prescribed curriculum shifted greatly. But this created some new difficulties.

Once students were interested in pursuing an interest, the immediate problem I felt was finding the resources to pursue their learning. I wondered, "How can we get them out or get the resources in?" (Journal, Sept. 23, 2010). While we had Internet access, many sites were blocked, limiting access to valuable resources. Though the intent of the program was to provide opportunity for students to learn outside the school (e.g., through internships or job shadowing), the students did not take full advantage of this opportunity. As most took at least one regular class, leaving the building for a day or two a week would have put them behind in those courses. This structural design flaw was not planned for. For those students who did go out, even for a day, it meant coordinating the absences with the classroom teachers. The disadvantage for the students was it meant doing homework to catch up with the classes they missed. This was not an incentive to pursue learning outside the school.

I struggled with the tensions posed by the curriculum beyond the classroom—that is, for the expectations that students' Grade 12 courses prepare them well for post-secondary education. For most, preparation for either university or future work rather than simple curiousities, drove their learning choices and motivation: "The last thing I want is to leave high school feeling unprepared for university and beyond" (AP, journal).

I keenly felt my role in preparing students for their futures and was not certain of the longer-term impact of the different learning approaches we were trying to take. Nonetheless, the goal was to experiment with doing learning differently.

"What am I doing differently here that cannot be done in a classroom?"

I used this question to prevent myself from simply replaying my known role as a classroom teacher, and instead, to construct a different role and new paths of learning for both the students and myself. From the first week and throughout the year, I experienced the struggle of simultaneously meeting the outcomes of the prescribed curriculum while creating personal curricula guided by students' interests. The first was akin to grafting the students to the tree of certified knowledge (reproducing), whereas the second was about fostering and fertilizing open growth and experimentation (producing). The goals are very different. Prescribed curriculum carries with it the idea that the content could or will be useful at some point in the future, be it either to take similar courses at another level or for "life in general." A personal curriculum may also be created as preparation for future school or work, but it is much more specific and personally meaningful.

In many ways, we were negotiating new curriculum. We were developing new interdisciplinary studies, constructing entire "courses" with each of my students around their inquiry questions. While the provincial education department makes it possible for teachers and schools to develop new curriculum and unique courses through a process of "student-initiated courses," (SIC) such proposals (with syllabus) must be prepared and requested in advance of a school year. A SIC curriculum cannot be developed in real time.

Thus, I was split between trying to figure out how to enable students to fully realize their potential through creating new curriculum while yet constrained to try to find the best fit for the student's interests with existing Grade 11/12 course curricula. The tension of meeting student interests and the curriculum was a struggle, and the reactions of the students were often visceral:

> When I tried to explain to the students today that we still had to meet curriculum outcomes, their expressions were ones of anger and disappointment. 'I thought you said we could learn what we wanted to learn?' was the common response. I tried to explain that I agreed whole heartedly with that, but that I felt pressure to meet the curriculum. (Oct. 7, 2010).

There were many conversations with students in the first few months about the contradictory messages that they heard from me. How could I both meet the goals of student interests and passions, *and* meet the requirements for course credit? What I have realized in the process of this study is that the negative feelings of "schizophrenia" I was experiencing, split between these two demands, is what Deleuze and Guattari, have described as

> a positive process of inventive connection, expansion rather than withdrawal. Its twoness is a relay to a multiplicity. From one to another (and another…)…Not aimlessly. Experimentally. The relay in ideas is only effectively expansive if at every step it is also a relay away from ideas into action. Schizophrenia is the enlargement of life's limits through the pragmatic proliferation of concepts. (Massumi, 1992, p. 1)

For me, the positive of doing learning differently was made real through the students' active engagement with learning using their passions and learning interests. Continuous conversations with and observations of students encouraged me to take further steps away from prescribed curriculum despite the tensions it caused. While I am comfortable with experimentation, I also became more comfortable with nomadic thought, which moves freely in exteriority rather than in an ordered interiority, riding on difference, rather than resting on identity (Massumi, 2006). In other words, I had to be comfortable with an uncertain becoming of my role as an educator, rather than being able to work from an idea of who I was.

Reflections on the questions posed

In this chapter I have identified, through a rhizomatic analysis of the data, the lines of flight…But to conclude this chapter I also want to return to the questions posed earlier in the thesis, considering these findings through an inquiry stance. Thus, through two different representations—a figure (see Figure 4, which maps some of the rhizomatic connections here) and a list—I suggest that by focusing on caring relations, and a constructivist and student-centered approach to learning:

- students were keen to pursue their own interests though felt constrained by the metrics of schooling (e.g., prescribed outcomes, grades);
- students were mostly able to construct a personal learning plan with the assistance of the teachers;
- students confirmed or changed their job and career perspectives as fitting with their interests;

- some students struggled between the ambiguity of self study and the clear metrics of success as determined by scholarship and university entrance requirements;
- students' greater freedom lead to a sense of empowerment, greater self-motivation, self-discipline and a sense of self as an individual and a learner;
- all students graduated, with several receiving scholarships and awards; and
- I struggled with satisfying the requirements of prescribed curriculum and encouraging the students' self-constructed curriculum.

In the next chapter, I will discuss the implications derived from this study.

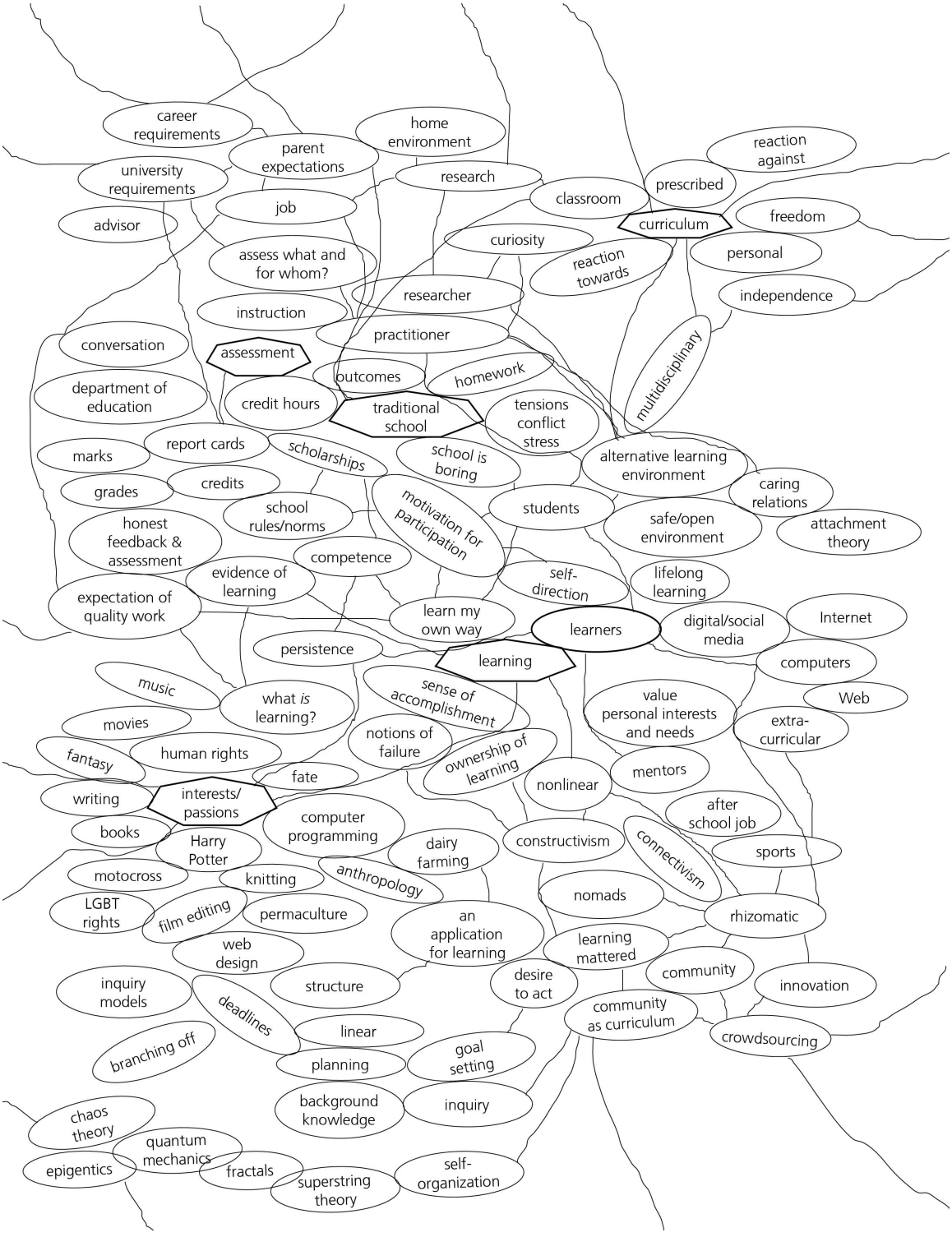

Figure 4. Rhizomatic Connections

Chapter 5 Implications

"We decide whether we love our children enough . . . not to strike from their hands the chance of undertaking something new, something unforseen by us" (Arendt, 1968, p. 198).

The students, through their reflections and responses on their experiences, identified several positive aspects of learning gained from the learning environment. They made it clear that they became more engaged in their learning when they had greater control. They understood learning as being non-linear and less boring when they could do it their own way. With a greater degree of autonomy, they gained a greater sense of self and began to reject external kinds of assessment to which they were accustomed and had gauged their success. By giving value to their interests within a school setting, they saw their learning as mattering. The school structures of time, place, prescribed curriculum and grades were seen to have some value, but were mostly seen as restrictive of personal learning interests.

As a practitioner working within the school system in an alternative learning environment, the positive learning experiences of the students raises a key question for me. Is it possible to support a senior years learning environment that more closely resembles free schooling (learn what you want, where and when you want) within a public school, providing equal graduation accreditation to a traditional course of study? That is, is there room for another conception of learning and knowledge that can be attached to the current one?

As a practitioner researcher, my goal was to gain a better understanding of my practice, and how I, through a learning environment designed to re-engage students in

their education, could improve students' learning, students' well-being and their participation in the community. Beginning an alternative learning environment using a pedagogy of care and a constructivist and a student-centered approach to learning resulted in the development of a learning space best described as rhizomatic for its chaotic, unpredictable and nonlinear characteristics. I worked from the principle of doing something different, which started with the posing of a problem (disengaged students), and resulted in the opening of potential opportunities. While I sought to challenge existing assumptions about teaching and learning in order to provide different learning experiences for students, my perceptions about education and its boundaries were ruptured: a signifying rupture occurred.

A rupture in the rhizome is not like a rupture in the arboreal, which results in death. Rhizomatic ruptures create new lines of flight. They come from somewhere and extend somewhere. They do not begin from nothing, but are always in the middle. We will not be able to see differently if we are unwilling to act differently. An alternative program should decenter and destabilize the arboreal structures of learning for groups of students. It is in difference that new ideas emerge.

My experiences developing a learning environment have underscored several important principles, which I hoped through this study I might come to more fully understand. The first is that students must know that they matter. I believe the study speaks to the necessity of initiating and developing caring relationships and attachments with students. Second, practitioners must assist students in becoming meaning makers who reflect critically on their learning. As a practitioner, I believe it is important to shift from a teacher-centered to a more student-centered approach to learning if my goal is to

facilitate students' curiosity and to encourage a positive attitude towards greater self-directed learning, holding the best interests of students' learning and life experiences in mind. Third, I believe that when students learn to construct their own understandings, they become better positioned to be lifelong learners.

Embrace ambiguity

Like the rhizome, learning begins out of sight, bursting forth unexpectedly in lines of flight. Innovation is not creating an alternative *program* for disengaged students. That was a notion I was given and began with, though I always choked on the word "program." The concept is limiting and simply reterritorializes learning into another space outside the student-learner's control. An alternative to traditional education must offer an alternative concept of learning, which positively opens potential and possibilities for learners. As an educator, I've heard much about the need to be innovative, and to teach students to be innovative. I see innovation as the act of creating something unforeseen. It is decentering and embraces ambiguity and uncertainty, and takes risks.

Change or reform must be revolutionary if it is offer something different. Revolutionary is not moving from print to digital texts to deliver curriculum or "flipping the classroom" so that students listen to lectures at home and come to do the assignments in school. Revolutionary is not setting up students with online-based instruction of individualized, self-paced, courses, which offer immediate feedback. Revolutionary is rejecting the idea that there is a canon of knowledge that students must receive through instruction.

The unstructured nature of students' learning led me to explore connections between chaos theory and education, then connectivism, and then to the concept of the

rhizome as a way to think about learning that I was seeing and experiencing around me. As the rhizome is difficult to contain, and its anti-genealogical nature impossible to replicate in exactness, no replicable "program" was developed because a program connotes a being, and I see learning as becoming, as a lifelong process. Lifelong learning is not about working from a set of principles or having the "right" knowledge and experiences. Lifelong learning is about constantly figuring things out. According to Deleuze, "a true problem…is never fully solved, but persists despite solutions in the infinite play of desire, thereby retaining its problematicity" (Roy, 2003, p. 3). Without a map, one must be created in action, continuously.

Understandings required

I believe this work is significant to my context and the future of evolving a learning environment there, but also to others who seek to engage their students in meaningful and lifelong learning. Lifelong learning may be seen as a rhizome, a breaking off of the linear narrative of school, post-secondary education and work. I learned the following:

- The teacher still plays a central, albeit significantly different role than in a traditional classroom.
- Teachers will require professional development to work in an innovative learning environment.
- Teachers must have a solid understanding of how cognition, emotion and motivation affect teaching and learning and how to put that understanding into practice.
- Teachers must see themselves first as learners.

- Learning opportunities should be social to prevent individuals from working in isolation.
- The knowledge legitimized by the school curriculum must change (Cassassus et al., 2008). We must ask ourselves what are we educating for? Knowledge is not fixed or limited. We need to know what they are going to do with the knowledge.
- We need an approved learning environment design that allows for alternative and innovative, "just-in-time" curriculum that qualifies for certification.

Using inquiry as stance, I used local, contextual knowledge to challenge existing practice in order to enhance "students' learning and life chances for participation in and contribution to a diverse and democratic society" (Cochran-Smith & Lytle, 2009, p. 146) within a larger purpose of social change and social justice. Calls to reform the imbalance of power between teachers and students have been made before by notable educational writers including Dewey (1938), Freire (1986) and Illich (1971). Creating a caring, constructivist, student-centered learning environment, I intended to empower the students to engage in more meaningful and purposeful learning experiences. Cochran-Smith & Lytle (2009) conceptualize inquiry as stance as a theory of what needs to change and how to change things.

Learning is complex and unique to each individual. The "cracks" in organized education through which some students were said to fall needs neither patching nor do the "fallen" need to be gathered into an "alternative" education space. I reject that metaphor. The students and my experiences as practitioner, show that it is possible or at least possible to begin to create an effective learning environment, though the challenges are significant.

Many of the struggles and failures resulted from the conflict of a student-centered focus using personal-interest learning and a systems focus on receiving accredited, outcome-based curriculum. Whether denying students learning opportunities because no credits adequately matched their personal learning interests or trying to fit student-learning goals into approved curriculum, the focus on *learning* was lost. Too much time and energy was spent trying to meet the demands of the system, rather than the demands of the learner. The learning environment as designed is not sustainable within the current structure of the school system. The system restricted rather than expanded learning by not providing a way to credit personal learning that followed its own path. In the regular school system, to prevent failure, we limit the tasks, and clearly identify our goals for the students. There is a time to step back and say, go ahead with your idea. See what happens. There has to be a way for students to try out their ideas, even if they don't succeed. But that will not happen when the focus is on a mark or grade. Learning from mistakes and the process of correcting mistakes are key to mastery learning (Wormeli, 2006).

By focusing on learning, learning how to learn is essential (Fullan, 2013). The Education Council (2006) defines "learning to learn" as

> the ability to pursue and persist in learning, to organise one's own learning, including through effective management of time and information, both individually and in groups… Learning to learn engages learners to build on prior learning and life experiences in order to use and apply knowledge and skills in a variety of contexts: at home, at work, in education and training. Motivation and confidence are crucial to an individual's competence. (annex, paragraph 5)

I wish to add to those voices saying that we need to rethink our conceptions of learning and knowing and teaching (Siemens, 2008), and make significant systems changes (Thomas & Brown, 2011). The problem of traditional systems does not lie with teachers or students, but "with the nature and culture of the system itself" (DeLorenzo, 2009, p.120). Decades of education reform have had little impact on the key structures of the school system.

From the outset, I saw the need for core rather than superficial changes in school structures to support an alternative approach to learning. It was also apparent that changing long embedded school routines would not be easy. Washor & Mojkowski's (2013) successful experiences with alternatives to traditional schooling lead them to understand that the narrow definitions of student success and achievement of outcomes do not fit with significant alternatives. Thomas and Brown (2011) suggest that a new culture of learning is emerging centered on collaborative, adaptive, and demand-driven rather than supply-driven forms of learning. To effect change, Resnick & Spillane (2006) argue that school organization and the implementation of new structures focus on "kernel routines" to "seed" and "propagate" change in teaching and learning. Resnick, Spillane, Goldman, & Rangel (2010) explain that kernel routines aim to recruit and re-purpose familiar ways of doing things eventually supplanting less productive existing ones. The routines must have clearly articulated steps, including a rationale and requirement for each one. Implementation requires school leaders be trained using a scaffolded performance of the routine (see Resnick et al, 2010 for a full discussion).

To initiate change, a new theoretical paradigm for learning and knowing and teaching must be realized. Then we can move on to creating effective learning

environments. But it doesn't end there. We must regularly review our principles and practices, adapting and revising through an inquiry stance as we continue. Continuous adaptation and innovation must be part of the new paradigm.

While I used a constructivist theory of learning as a theoretical and pedagogical guide (e.g., by asking myself what is knowledge? what is learning? and how does one assess it?), my research led me to a new theory of knowledge that better explained what the students and I were experiencing. Downes (2005, 2011) and Siemens (2005) define a view of knowledge as composed of connections and networked entities: connective knowledge. Knowledge is not acquired or transmitted. Connective knowledge is diverse, autonomous, interactive, and open. Learning is a networking process. Learning is both the creating of an *external* network (connecting information and knowledge sources) and an *internal* network (neural). Like our neural pathways, networks continually reshape and adjust to reflect new environments and information (Siemens, 2006). What it means to know is based on organization and connectedness in the brain:

> Knowledge is not something we can package neatly in a sentence and pass along as though it were a finished product. It is complicated, distributed, mixed with other concepts, looks differently to different people, is inexpressible, tacit, mutually understood but never articulated. (Downes, 2011)

Learning is chaotic, continual, co-created and complex (Siemens, 2005) and involves acquiring certain patterns (Downes, 2006). That means that knowledge exists in nodes (e.g. people, organizations, libraries, web sites, books, journals and databases). Knowledge consists of knowing: *about*, *to do*, *to be*, *where* and *to transform* (Siemens, 2006). For "We can no longer personally experience and acquire learning that we need to

act. We derive our competence from forming connections" (Siemens, 2005). (See Siemens, 2005 for a discussion of connectivism.)

Possibilities for Change

I see a rhizomatic conception of learning where curriculum is "constructed and negotiated in real time by the contributions of those engaged in the learning process" (Cormier, 2008, "The Rhizomatic Model of Education") as a viable learning construct. Like a rhizome, the community spontaneously shapes, constructs and reconstructs itself as it responds to changing environmental conditions.

Wallin (2010) warns of romanticizing the rhizome thereby reducing it to another education cliché: "The rhizome is not an object to be known or a metaphoric representation of something else. It is a practical matter of creation" (p. 86). Wallin (2010) further warns that to speak of a rhizomatic model, presumes potential connections, whereas a rhizome should be seen as "an experiment that must be risked, rather than an image to be traced" (p. 85). This means that no model of learning can be created and placed within a particular context. The model and the learning will grow together. For Cormier (2011), knowing the outcome and how to meet the outcome successfully encourages people to not be creative. On the other hand, rhizomes are aggressive, chaotic and resilient, difficult to contain; they follow their own paths.

Conclusion

The limited success of the pilot learning environment at the center of this study suggests that learning and learners must be at the center of what goes on in school. The challenge of learning today is not only for students, but also for practitioners. Amidst the calls and suggestions for education reform, practitioners like myself are asking, Who am

I? What is my role here? How do I effectively meet the demanding needs of today's learners? As practitioners, we must see ourselves, first and foremost, as learners. How do we balance self-directed learning and formal instruction and guidance, while taking into account the unique differences in abilities, needs and motivations of students?

Schools are no longer the sole source of education. The distinction between "personal" and "academic" learning is telling. The latter has been given dominance and power, but that has to change. The numerous conversations I've had with students both in and outside the program indicate that a great deal of learning goes on outside of school, but there is no mechanism to recognize this learning. If students are to stay in school until 18, as is now required by law in Manitoba, all kinds of learning must be recognized. Schooling models and the structures used to organize them will have to change if innovative learning models are to survive within them. While this may read like the tired rhetoric of the last hundred years and more, the students' voices heard in this study advocating personal, engaging learning should matter enough for us to act.

Appendix A

Research Instrument: Student Focus Group Interview Protocol

The focus group interview questions are framed around the three main study questions. (These questions were derived from the evaluation questions in Chapter 3.)

Care Relations/ Pedagogy of Care

- Tell me about why you entered the program.
- Tell me about what it was like when you first started.
- Tell me about the kinds of relationships you developed in the program.
- To what extent did you feel cared for?

Constructivism

- Tell me about the process of creating a your own learning plan that met your interests.
- Tell me about your experiences constructing an interdisciplinary curriculum. What was most meaningful?
- Tell me about your experiences with what I call inquiry-based learning. (Planning, goal setting, researching, sorting, organizing, creating, publishing, assessing and reflecting.)
- Tell me about how you made the change from the way you learned in a classroom to how you learned in the program. What was difficult? What was easy? Can you give me an example?
- To what extent did you feel you could learn what you wanted to learn? Can you give me an example?

- Tell me about some of your experiences with resolving the tension between your own interests, and the requirements of the Manitoba curriculum.
- To what extent were you willing to learn by making mistakes and learning from them? What has that taught you about learning?

Student-Centered Learning

- To what extent did you feel like you could follow your own interests for learning?
- What did you think you were able to learn or do because you could follow your own interests? Were there things that you felt you could not/did not learn?
- Tell me about how you used technology in the program. What were the benefits or advantages and disadvantages? How was it helpful? Can you give me examples?
- Tell me about your Learning Through Internships/Interests experiences.
- Tell me what you learned about your own learning or how to learn.

Concluding Prompt

- Tell me how you believe the program can be improved. What would you change? What would you keep? Why?

Appendix B

Research Instrument: Evaluation Questions for Practitioner-Researcher

Care Relations

- Did the care relations and attachments make a difference for the vulnerable, stuck and defended students?
- How involved were the parents in the students' school interests?

Constructivism

- To what extent did students use inquiry-based learning processes?
- Was I able to construct a curriculum with each student?

Student-Centered

- What happened when students were given more freedom to pursue their own interests?
- What role did technology play in facilitating student-centered learning?
- Are students able to articulate their own learning processes, and new understandings?
- How did the Learning Through Internships/Interests add to students' learning experiences?
- What were students' greatest struggles and accomplishments with their learning?

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