Abstract

Despite concentrated efforts by sustainability practitioners and educators around the world, very little progress has been made in terms of creating more sustainable communities. Many of those same practitioners and educators are now calling for a paradigm shift—a new story that will move us away from the view of the world as a machine to one in which the world is seen as a network, a holistic system of interconnections and relationships. Experiential educational methods are acknowledged as the most effective means for teaching and learning “systems” thinking, a key sustainability competency. This is an exploratory case study of one such method—an annual sustainability tour course within a larger certificate program for sustainable community development in a continuing education unit at a major BC academic institution.

The purpose of this research was to gain a better understanding of the perceived influence that an educative experience in the form of a sustainability tour had on participant learning, the features of the tour format that contributed to participant learning, and factors that participants believe enhanced or inhibited application of what they learned. In keeping with a long tradition in adult education research of employing multiple lenses in order to assess program effects, a multi-disciplinary theoretical framework was developed that included theories from systems thinking, sustainability, adult education, program planning and evaluation, application of learning, the sociology of tourism, and cognitive science. Qualitative research methods were employed; both course participants and facilitators from the wider certificate program were interviewed, and a number of course-related documents were analyzed. Findings indicate that the tour format has unique features that produce a “tour effect” that may not only enhance learning, but also contribute to deeper embodied learning, and thereby increase the likelihood for applying
learning. The tour itself was found to be a flexible, multi-vocal mobile storytelling vehicle, one that can play a critical role in moving us into a new story.
Preface

This thesis is an original, unpublished, independent work by the author, S. Gillard. I was the lead investigator, responsible for all major areas of concept formation, data collection and analysis, as well as the majority of manuscript composition. Dr. Robert VanWynsberghe was the principal researcher and supervisory author on this thesis and was involved throughout the process in concept formation and manuscript edits. Drs. Thomas Sork and Hongxia Shan, my two other committee members, were also involved in the early stages of concept formation and contributed to manuscript edits. The fieldwork reported in Chapter 5 and discussed in Chapters 6 and 7 was covered by UBC Ethics Certificate number H14-00470 and Simon Fraser University Ethics Certificate 2014s0167.

Although I include images throughout this thesis, I have not listed them here for a number of reasons. First, I use the images only as a device to draw the reader into the tour. I do not analyze them in the thesis nor do I refer to the images in any significant way. My case study focuses a great deal on the liminal effects of the tour form. I am attempting to place the reader somewhat in liminal space, creating a kind of tour effect in a sense through the use of these photographs. Captions would orient the reader too much and interrupt the flow of the visual tour taking them out of that liminal space. All photo credits and the word cloud on p. 102 are assigned to Spring Gillard. The image on p. 197 was drawn by a study participant (Evan Andrews) during a pre-interview activity (PIA). The mandala graphic on p. 226 was compiled from all study participant PIA drawings.
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For my Mom and Dad, two of the most practically wise people I have ever known.
Another world is not only possible, she is on her way. On a quiet day, I can hear her breathing.

– Arundhati Roy
Chapter 1: Introduction—Everything I Touch Turns to Tour

The roots of my interest in travel and touring and how it became my preferred form of learning and teaching can be traced back through my life. I was born and raised in the small town of Penticton, bracketed by two lakes, in the semi-desert Okanagan Valley. Water sports and recreation were not only important for tourism in our town, but a big part of family life. My first family holidays took place at our cabin on Beaver Lake outside of Kelowna, where we fished away many a weekend. In later years, we took family vacations including one to that most magical of theme parks, Disneyland. One year we spent Christmas in Hawaii, revelling in all that mass tourism had to offer, worshipping the sun on Waikiki Beach, learning about the (deftly
packaged) culture at the Polynesian Cultural Centre, touring with a local hired guide, seeing both sites and sights. We all came home with puka shells, brightly branded shirts from the Primo beer factory, and proud of our ability to make the shaka sign.¹

Growing up in a tourist town, I also experienced the darker side of tourism. Every summer our town doubles in population as tourists flood in to enjoy our warm desert climes, sandy beaches, locally grown fruit and vegetables (the wine wasn’t very good back then, so wine country touring is a recent development). I gained first hand experience in what it meant to host visitors; the economic gain comes at a cost. The shops were crowded and prices were inflated, there were line-ups for restaurants and traffic jams on our normally quiet streets. Campground partyers kept us up at night or worse, destroyed property. Our beaches were filled with tourists acting as if they owned the place. Campers washed their hair in our lakes; boaters infested the waters with the invasive and non-native Eurasian watermilfoil. We felt invaded too, as if our sleepy little town had been taken over. To this day, we all breathe a sigh of relief after Labour Day.

Despite understanding the two faces of tourism, I had the travel bug. In high school I travelled to London and Paris with my French class, and the following year explored the land of Anne of Green Gables with a friend from Prince Edward Island. I then set off for university on Vancouver Island. I had no intention of getting a degree, my sole purpose was to get the two years of undergrad French language required by Air Canada, become a “stewardess” and travel the world. Things did not unfold according to plan, although travel would figure largely. In fact, my life was about to become very mobile. After graduating from the University of Victoria with a Bachelor of Arts (BA) in French and linguistics, I was offered a scholarship to attend the

¹The common Hawaiian greeting means “hang loose” and is performed by curling in the three middle fingers, extending the thumb and baby finger, and rotating the wrist.
University of Quebec in Trois-Rivières. I spent a year there taking courses and teaching conversational English to students. After a summer in Quebec City waiting tables, I wound up in Toronto where I secured a job in the mailroom at an advertising agency.

I worked as a copywriter/producer in advertising for about fifteen years, bouncing back and forth across the country. While in advertising, I learned a lot about messaging and how people are motivated (some would say manipulated) to make a purchase or shift to a new brand. I had climbed my way up the ladder and was making a very good living as an associate creative director at an ad agency on the prairies in Winnipeg, Manitoba. I had also begun reading some books by Eknath Easwaran, an author and Berkeley professor who taught the first accredited course in meditation at a North American university. This modern day mystic was introducing me to a more balanced way of living and opening my eyes to the environmental crises and other serious global issues. I began a spiritual practice following Easwaran’s Eight Point Program that includes meditation and allied disciplines such as slowing down and one-pointed attention.

It wasn't long before selling hamburgers and beer wasn't satisfying me anymore. I headed back out to the west coast. Serendipitously, I stumbled into a compost demonstration garden where people could learn to compost and grow food in the city. I volunteered; my first task was sifting worm poo in the worm corner. The volunteer work evolved into a full time paid position as compost hotline operator and director of communications for City Farmer, the non-profit that runs the garden. While there, I developed environmental education programs for children and adults. We ran composting workshops, classes on organic gardening, natural yard and garden care, soil health and water conservation.
During those years, I was tour guide to many visitors and groups. I discovered that a demonstration garden provided a rich and multi-vocal teaching and learning site. As Confucius (450 BC) reputedly said, “Tell me, and I will forget. Show me, and I may remember. Involve me, and I will understand.” Visitors were immersed in a garden setting. First there was the physical experience, an engagement of all the senses, then there was the visual stimulation, the dazzling colours, and the varied textures brushing up against you. As you breathed it all in, you might notice the sweet scent of a rose one minute, the earthy smell of compost the next. Or perhaps a sound might grab your attention, the swish of a squirrel fleeing from the garden cat, the persistent buzz of a bumblebee as it sipped nectar and gathered pollen from the honeysuckle. Peering into a compost bin, we could see the soil food web come to life, each handful of organic matter alive with bacteria, fungi, and nematodes. There was no need to explain that plants are engaged in a complex relationship with the soil and the rest of the environment, we were elbow deep in the evidence. Visitors immediately understood that healthy soil meant healthy plants. The garden was an ecosystem, teaching us about the cycles of life and the interconnectedness of all things. As we moved along the pathways, we discovered something new with each step. Each site provided multi-layered learning about the ecology of a garden and how the parts fit within the whole. I saw the garden as a microcosm of the world.

City Farmer was known for its work in urban agriculture, in large part due to its content-rich website (City Farmer, n.d.). As a result, we received visitors from around the globe. One year we had three contingents of farmers from Cuba. They invited me to visit them some time, and so I did. With the help of my Cuban contacts and Lifecycles, a non-profit group working in the country, I created my own personal urban agriculture tour of Cuba. I spent fourteen years at

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For an interesting discussion of community gardens as a practice-based pedagogical site for everyday multiculturalism, see Shan and Walter (2015).
City Farmer; my adventures in urban agriculture are recounted in the *Diary of a Compost Hotline Operator* (Gillard, 2003). I realize now that this period of my life marked the intersection of my love for teaching, learning, and tours.

After leaving City Farmer, I began to work as a communications consultant under my own company, Garden Heart Productions. I developed my own series of short courses and workshops on local food systems and other sustainability-related topics. I also worked with a variety of environmental groups, helping them to promote their programs. And I developed tours, a lot of tours. Tours of riversheds, tours of the food system in my neighbourhood, farm tours, composting tours, green roofs and living walls tours. Every year I designed at least one tour for Jane’s Walks, a series of walking tours inspired by Jane Jacobs, an author and activist who had an enormous influence on urban design. Jacobs brought a more “community-based approach to city building” (Jane’s Walk, 2013). She viewed “cities as ecosystems that had their own logic and dynamism which would change over time according to how they were used” (Jane’s Walk, 2013). Jacobs (1957) once famously said, “No one can find what will work for our cities by looking at . . . suburban garden cities, manipulating scale models, or inventing dream cities. You’ve got to get out and walk” (from *Downtown is for People*, as cited in Jane’s Walk, 2013).

As I worked with various groups, I became interested in the different approaches to educating the public about sustainability issues. For example, I often used art to convey messages and had worked with many artists over the years. At City Farmer, I envisioned a garden gate made of recycled materials and artist Davide Pan brought it to life. For the Rivershed Society of BC, I helped to develop a public engagement campaign that contained a series of ten actions that citizens could take to improve the health of their rivershed. Partnering with the
Stream of Dreams Society, we wrapped a SkyTrain in a colourful mural inside and out, with the headline: *Take the Train. Save a Salmon.*

I began asking myself which method was most effective at reaching people. Was it setting up a booth at an environmental fair or was that just preaching to the choir? Was it sitting in trees, marching, rallying, public art, mainstream advertising and promotion, traditional media or social media? Was it educational programs such as the ones we offered at the compost garden? How effective were my own offerings of short courses, workshops and tours if I was only reaching a handful of people at a time? Was any of this education really shifting peoples’ attitudes and behaviours to more sustainable practices? Was there a sure-fire way to reach the masses? In my mind, everyone had to buy in if we were going to avoid wholesale planetary disaster. Or did we need all of these actions to effect social change?

To further explore these questions, I started a blog called *The Compost Diaries* (www.compostdiaries.com). The blog continued the conversation from the *Diary* (Gillard, 2003), extending the discourse into the field of sustainability. I was also writing another book, this one on food politics (Gillard, 2011). I read a lot, talked to people locally and internationally about their projects, and went on more self-designed research tours, this time to Guatemala and India.

Everything I touched turned to tour. So, I began to develop a series of guided “green” tours, a program that would showcase sustainability both regionally and internationally. The tours would cover all sectors: waste and resource management, energy, food security, green buildings/roofs, public spaces/land use, transportation, and green businesses. They would be designed for professionals and academics as well as governmental delegations. International tour plans were based on the self-guided tours I had designed: an urban agriculture tour of Cuba, a coffee farm tour of Guatemala, and a food democracy tour of India. A BC university partner
came on board with some seed money and we launched “Green Scenes” at the United Nations World Urban Forum in Vancouver in 2006. The international tours were put on hold (to conserve my personal energy and limit my carbon output from the travel), but I began to offer regional tours. For example, I organized a green building tour for a delegation from Austria for the BC Ministry of Economic Development and a series of tours for the 2009 Gaining Ground conference around the theme of resiliency. That original program eventually morphed into a sustainability tour, the “applied” course within a certificate program in sustainable community development that was on the planning table at a BC academic institution. I co-facilitated that tour course for six years with my colleague Ellie Campbell.\(^3\) During this annual two-day course, we toured the region looking at living models of sustainability, exploring all sectors from waste to food security. I describe the certificate program and tour course in chapter two of this thesis.

During the period the sustainability course was offered, participants often spoke to us about meaningful moments on tour, or they captured the experiences in their assignments. Graduates went on to apply their learning in their communities or work places; some traced their project back to a moment in the tour course, or to the connections that they made there. One of our former students started several urban farms, another set up a farmers market. To date, this information has not been formally collected.

1.1 Overview of the Thesis

For my Master of Arts (MA) research at the University of British Columbia (UBC), I undertook an exploratory case study of the sustainability tour course primarily through document analysis and semi-structured qualitative interviews with past participants and facilitators in the sustainability certificate program. The purpose of my research was to gain a better understanding

\(^3\) The tour course was cancelled in 2014 and the certificate program was discontinued in 2015.
of the perceived influence that an educative experience in the form of a sustainability tour has on participant learning, the features of the tour format that contributed to participant learning, and factors that participants believe enhanced or inhibited application of what they learned. The three key concepts in my study are: sustainability, application of learning and tours. The “tour” is the central concept that coheres both the conceptual and theoretical frameworks.

As learning “application” is considered “a complex, multidimensional process” requiring “multiple kinds of knowledge” (Ottoson, 1995, p. 25) to enact, it follows that research on application should also be multi-disciplinary (Ottoson, 1995). The fields of adult education and sustainability also have interdisciplinary research traditions. For that reason, I developed a theoretical framework that drew on multiple disciplines and related theories, which I will discuss in a moment.

Ottoson (1995) also argues for a multi-paradigmatic approach to research on application of learning, claiming that “the multiple lenses of post-positivism . . . provide different understandings of the experience of application” (p. 28). The application process must be understood from many philosophical perspectives. As my research is grounded in program planning theory, a theory that spans conventional, deliberative and critical approaches (Wilson and Cervero, 2010), it is difficult to place in one paradigm. I initially placed my research in interpretivism with its purpose of uncovering meaning towards a better understanding of the issues involved (Alvermann, 2010). Lather (2006) views interpretivism as subjective and constructed, a quest to learn and understand the world and the many truths it holds. While interpretivism is considered cooperative and interactive (Lather, 2006), it is also humanistic, valuing the individual over the collective and therefore not a good fit with systems theory which assigns equal value to the individual and his or her environment. Research in sustainability is
also multi-paradigmatic. For example, some of the technical innovation comes from the positivist tradition. However, social sustainability might fall more to social constructivism where social discourse is the vehicle for learning about self and creating our world (Gergen, 1999) or even critical theory with its concern for marginalized or oppressed groups and its emancipatory goals (Lather, 2006). Sork argues that the methods employed by Horton and Freire to effect social change were designed for learning “transfer,” although they may not have used the term (T. J. Sork, personal correspondence with S. Gillard, March 27, 2013). As do many sustainability practitioners, I consider myself a “systems thinker,” someone who understands a community as a network of systems within systems. I view the sustainability tour as a temporary system or network, and therefore believe systems thinking is the best pedagogy for understanding the tour as a mobile community.

For my theoretical framework then, I begin with what I will call here “the new story” (Berry, 1988; Gilman, 1985), an overarching theory (what some might call a paradigm), which is encompassed for me in systems theory. Systems theory is really a family of theories and is related to complexity theory; chaos theory; and social network theory and analysis. With systems theory as my starting point, I draw on various other authors to arrive at my definitions of sustainability, sustainable community development and sustainable communities. I compare traditional leadership with sustainability leadership and discuss key sustainability competencies.

In the field of adult education, I draw on experiential learning theory and in particular embodied learning theory, and enactivism. I also include spirituality as a form of experiential learning (Tisdell, 2008). Experiential learning theory is seen as an important component of sustainability education (Domask, 2007; Gonzalez, 2013, 2015; Jones, Selby & Sterling, 2010; Jucker, 2002; Lange, 2009; Wehrmeyer & Chenoweth, 2006).
Despite the fact that evaluation theory is often placed under organizational management or treated as a discipline in and of itself, I include it here under program planning, its other home. There are various subcategories within evaluation theory including application of learning; transfer; situated learning theory; boundary crossing; and diffusion.

In the area of tours, I investigated several subcategories such as field trips; educational study tours, outdoor education and the sociology of tourism. Finally, I draw on cognitive science to describe what is happening in the brain on tour. In the next section I present my research questions and my approach to investigating them.

1.1.1 **Research questions**

During this exploratory study, I was guided by four questions:

- What do participants perceive that they learned in a sustainability course with a heavy emphasis on touring exemplary sites?
- How do participants apply what they have learned?
- What factors within the home/societal/organizational context of participants are thought to enhance or inhibit the application of what they learn?
- What are the features of this course that are perceived to be responsible for the learning and application? Which design features (if any) are perceived to inhibit learning and application?

In answering the first question (*What did they learn?*), I first compare sustainability competencies with traditional leadership competencies, with a view to showing how leadership manifests in systems theory. I then describe what my study participants learned, aligning that learning with key sustainability competencies.
For the second question (*What did they apply*), I first defined application of learning comparing it to several other “knowledge-for-action” theories as described by Ottoson and Hawe (2009). I was not looking for pure “transfer”—that is the *thing* transferred did not have to be a precise replica of what was learned on tour, it may well have been adapted for the new context. I was interested in all of the ways participants might have applied their learning—not just in the form of projects, initiatives and policy implementation. I took a broader look at how they applied their new knowledge. For example, if they wrote about a site in an assignment or passed on information to a colleague, that too was considered “application.” *Barriers* and *enhancers* to their application efforts also surfaced through the application discussion providing responses to the third question.

Finally, I examined the instructional design of the sustainability tour to ascertain what specific features of a tour might affect (both positively and negatively) learning and application (the fourth, two part question). I reflected on the tour form (both educational and vacational) within several bodies of literature (ecotourism, educational study tours, field trips, outdoor education, service learning, and the sociology of tourism) and defined the tour for my purposes. I then delved into cognitive sciences, peering into “the brain on tour” in an attempt to specify the features of the tour that contribute to embodied learning. Based on the study findings, I then described the features that I perceived to be contributing to learning application. In this study, I argue that the tour is particularly important to sustainability education, potentially serving as catalyst for sustainability leadership expressed through application of learning. In the next section, I provide a chapter-by-chapter summary of this thesis.
1.1.2 Chapter summaries

In this first chapter, I position myself within the field of sustainability as a “systems thinker,” someone who thinks holistically, justifying the use of a multi-disciplinary theoretical framework. I provide an introduction to my thesis outlining the main bodies of literature and authors that I draw upon, the research purpose, questions and ways in which I approached the inquiry. Chapter two describes the tour course and the certificate program in which it dwells. In Chapter three, I review the literature named above, providing definitions for key concepts including sustainability, sustainable community, sustainable community development and sustainability tours. Chapter four presents the findings with respect to learning, application of learning and the tour features perceived to be responsible for both. Chapter five discusses two main areas of applied learning: network building and communicating sustainability. Chapter six concludes with a synthesis of key findings and a number of recommendations for future sustainability programs as well as directions for future research.

1.1.3 Contributions to the field

This exploratory study has a number of benefits. When I began the study, the course and the certificate program were still offered. I believed then that a thorough study could produce rich data that would inform and strengthen the curriculum, perhaps making a case for additional tours within the certificate program and other unit programs as well as influencing other environmental and sustainability education programs. Now that the course and the program have been cancelled, I still believe the findings can inform future sustainability courses and programs within the unit, in particular ones that promote sustainability leadership, change making or social innovation, community capacity building, and urban design. The preliminary findings could have relevance for other sustainability leadership courses in Canada, with particular interest to
continuing education departments of academic institutions, colleges and professional
development arms.

Application of learning continues to be a neglected part of the program planning process.
This case study focuses on application in the context of a sustainability tour. The study also helps
to fill a gap in the pedagogical field trip literature by clearly defining sustainability tours in an
educational setting, distinguishing it from other terms such as field trips and study tours. In the
program planning literature, programs designed to promote social change have also been largely
ignored (Sork, 2000; Wilson & Cervero, 2010), in particular with respect to investigations of
learning application. While there is ample evidence that learning occurs in continuing education
programs, there is less evidence on how that learning manifests when a participant returns home
or to work (Ottoson, 1997b)—the focus of this study. While there is still confusion and overlap
among terms used for application of learning (commonly called “transfer”), this study will also
clearly define application of learning, situating it within systems theory. The sustainability tour
definition and the application of learning clarification will provide a foundation for future
researchers to build on.

I have personal reasons for undertaking this study as well. There has been very little
progress on the sustainability front in the last two decades or so. Many of us in the sustainability
field are beginning to wonder if our hard work and devoted service is all for naught. Have we
failed? Are we wasting our time, our lives? The sustainability story we have been telling to date
has not been particularly effective. As a sustainability leader myself, and a mature and
sometimes cynical one, I am asking these questions. I am also more cautious now about where I
focus my efforts, more protective of my waning energy. I actively seek out leverage points—
places that are ready to move, what Gladwell (2000) calls the tipping points. This study
investigates how a tour format might help to tip the scales and move us further into the new story.

I have also come to believe that there is a gap in what we are teaching in environmental education courses and what some now call education for sustainability (see Berryman & Sauvé, 2013; Jickling & Wals, 2013; Jucker, 2002; Sterling, 2001, 2003). I have a growing conviction that we should be cultivating more intangible leadership skills, those that tap into deeper inner resources, allowing us to hold fast in uncertainty and help us to be courageous in the face of the unknown. So I undertake this study in the hope that it will give me a new place to work, to keep my own doubts at bay. These themes have been explored by others (see Chang, 2013; Gonzalez, 2015; Sterling, 2003) and I will be touching on some of them in the following literature review.

Finally, I have included a rather detailed personal history in this introduction, not only to foreshadow some of the content that follows, but also to illustrate the importance of prior learning and experience. Each learning moment in my life built on the next—and not in a linear way, but in circuitous fashion. My life, like any life, has been a rather labyrinthine journey. My prior learning and experiences have led to application of learning, creating a foundation for my future learning. Each new experience has fuelled my ability to apply what I have learned. Dewey (1998) described this developmental learning process as the “continuity of experience” (p. 12), where each experience is a moving force with the potential to move toward and into future experiences. It is clear to me that there has been a connection in my life between teaching and learning, travel and touring. It is my hope that through the telling of my story, other sustainability educators and learners will be as touched and moved by tours as I am.
Chapter 2: Sustainable Community Development—Program Overview

The certificate in sustainable community development was offered through a continuing education unit of the academic institution. The unit is funded through an endowment created in 1995 with a donation from a real estate foundation. The unit offers courses and lectures on issues of land use and urban design. A curriculum coordinator was hired to spearhead the program planning, guided by an advisory board of local sustainability leaders. Course facilitators, also drawn from the sustainability field, developed their own courses. The curriculum coordinator oversaw course content and tried to ensure that the courses intersected, reinforced and scaffolded one another within a systems theory framework.
The certificate program was designed for mid-career professionals with the goal of developing a multi-disciplinary network of sustainability leaders throughout the province who would initiate projects and implement new policies that would contribute to sustainable community development. Through this goal, I infer that the measure of success for this certificate program hinges on the concepts of leadership, the ability to apply learning, and to build a network.

Each year approximately 20 students from urban and rural communities across the province (and beyond) enrolled in the program and formed a cohort. Cohort members would then take the courses together and collaborate on a final studio project. Students were to complete five core courses (previously six until 2013) and three electives over ten months. The core courses were offered every year in sequence from September through May. They included a foundational, sustainability “principles” course, the applied sustainability tour, courses in green economics, sustainability leadership, social sustainability (dropped for 2014) and a design studio. A number of electives were offered biannually including urban transportation, affordable housing, communicating sustainability, social enterprises, and local food systems. One of the electives could be drawn from an urban design certificate program, also offered through the unit.

The courses generally involved guest speakers/panelists, pair and small group problem-solving activities and discussions, and a final assignment, usually a reflective essay. There was some cross-pollination between the courses, as well as some duplication of speakers and facilitators. For example, in addition to participating in the social sustainability course, I was a guest advisor in the studio course the year they designed a local food and distribution centre (also

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4 Evaluations were poor despite hiring different instructors and making course adjustments based on evaluation feedback. Participants felt that the content did not connect well with the other courses. The certificate coordinator wondered if the material was just too hard to look at because of its depressing content regarding homelessness, mental health, addiction and poverty and the inadequacy of the current social programs. (From a personal conversation with S. Gillard.)
known as a food hub) for a lower mainland urban centre. Ellie Campbell, my co-facilitator for the tour course, also facilitated the communications course.

The sustainability tour course is the only “in the field” experience in the certificate program, all of the other courses are held primarily in a classroom. Occasionally, the cohort would go out for a site visit in one of the other courses. One year, I organized a tour for the social sustainability course. We visited a food recovery agency that rescues food from grocery stores and other food establishments, then redistributes that food through various meal providers and its own low cost grocery stores. One of the cohort members that year was the mayor of a small town; when he returned home he promptly set up a similar model.

The certificate program culminated in the studio design course where students collaborated on a real life problem in metropolitan Vancouver, applying what they had learned in their courses by developing a sustainability plan and implementation strategy, then presenting it to studio instructors and municipal staff. Studio topics have included sustainable transportation, green economic development, green infrastructure and food scraps recycling for multi-family dwellings. Municipalities subsequently adopt some of the participant recommendations.

When the certificate program launched in 2008, it was a unique offering in Canada. Now academic institutions, colleges and technical schools, non-governmental organizations and community groups are offering sustainability courses and programs in various forms. The global economic downturn in 2008 also had a detrimental effect on enrolment. The certificate program was expensive ($5,800), as were the individual courses; the tour course was $650. Often it was the employers footing the bill for their staff. While there was an early bird rate, there were no subsidies and there was decreased enrolment from the non-profit sector as many organizations

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5 Note that on December 18, 2013 two bursaries of $250 each were offered by the unit for a food systems elective in response to a debate occurring on a local food listserv about the high cost of the course.
were impacted by cuts to government funding programs. As a result of the economic situation and the plethora of course offerings on the market, there was a drop in overall enrolment in 2010. In 2011, due to some restructuring of the foundational sustainability course (and an increase from two to three days), the tour course was cut to two days from three. Our contract fees dropped too, and some of the bells and whistles (lunches, food fair meal vouchers, full day bus charters) were eliminated. Nevertheless, there was a slight rise in registration in 2012. In 2013, the unit raised the fees across the board and dropped the discounted early bird rate, resulting in an all time low registration in the certificate program.

The dean of the continuing education unit had made it clear over the years that the certificate in sustainable community development program must be able to pay for itself or it would be cut. In August 2014, while I was planning the sustainability tour for that fall, I heard through a colleague that our course had been cancelled. When I inquired with the university administration, it was confirmed. A few of the other certificate program courses ran through 2014, however, as of 2015, the certificate program is no longer offered. The unit is now offering more specialized courses and programs, such as social innovation and an on-line sustainable transportation certificate. No tour-based sustainability-related courses are evident on the website or in program calendars. I will describe the sustainability tour course next.

2.1 The Sustainability Tour Course Overview

From 2008 through 2013, I co-facilitated the applied sustainability course with my colleague Ellie Campbell. The goal of the sustainability tour course was to provide participants with a range of inspiring “good news” stories and experiences of best practice applications of sustainable community development from across BC and around the world. In the original course description on the unit website, participants were promised:
• a range of applied sustainability case studies presented primarily through field trips and presentations by sustainability champions that outline both ‘what’ happened and ‘how’ results were achieved;
• opportunities for direct interaction with sustainability champions and critical discussion of results and the process followed to achieve the results.

The sustainability tour course was designed to give participants the opportunity to experience the real world applications first hand, to interact with leading sustainability experts and project champions, gaining “insider” access to sites that might not be available to the general public. While I did not purposely employ any specific pedagogical approaches at the time, I was very conscious that the tour was experiential in nature.

Over two days\textsuperscript{6}, we toured the region looking at living models of sustainability, with echoes of my past tours. We have visited rural farms in the valley beyond Vancouver and pondered how we can reconcile preserving farmland with so much pressure for housing from a burgeoning population. We have walked the inner city with a former city planner comparing the food prospects on two streets and the strategies and policies that led to abundance and dearth. We have explored many green buildings and entire “sustainable” developments. We have visited the landfill and been disgusted by the garbage and encouraged by the composting site that captures methane to fuel nearby greenhouses. We have talked to urban farmers to understand if it is possible to both make a living and feed us all if we do pave over the Agricultural Land Reserve (ALR). We have meandered through neighbourhoods to see how traffic can be calmed and storm water managed through innovative street design. (See sample itinerary and alphabetical list of sites in Appendix B).

\textsuperscript{6} Originally three days, but as mentioned the course was reduced to two days in 2011.
2.1.1 Site selection

Each year, we select sustainability models from across a range of sectors that will provide the best educational experience. The sites don't necessarily have to be the latest and greatest, but they need to tell a good story, visually, narratively and experientially. Mature sites often have better stories, point up flaws in more recent sustainability design and provide opportunity for comparison. In general, I relied on past evaluations, my own knowledge and experience in the field, as well as my intuition on how evocative a site might be. By evocative, I mean potential to bring up strong feelings and evoke emotional responses, to inspire and motivate people to apply what they learn. For that reason, I also looked for issues that might be controversial in order to generate good discussion and debate.

During my MA course work\(^7\), I reflected more formally on how I generate ideas for workshop content each year. I surfaced five criteria for site selection including: relevance of site to current times (i.e.; *Was it topical*?); influence of the site on other certificate courses (potential for cross-pollination); the contribution or effect the site might have on the individual participants (potential for application); the contribution it could make to the overall certificate program; and the contribution to sustainable community development in general. In terms of the influence the site might have on the participants, the priorities were: to inspire and motivate; to provide opportunities for rural as well as urban application; potential for breaking down silos/world views; and potential for networking and good dialogue.

In the early years, there was some tension between management and us as facilitators with respect to site selection. In the first year, unit staff insisted that we visit several large developments (i.e.; a development on a university campus and Bayside Views along the

\(^7\) ADHE 329, Developing Short Courses, Workshops and Seminars. I adapted Sork’s rating system for sorting and prioritizing program to conduct my analysis, as described in Caffarella (2002).
downtown waterfront). Due to the unit’s mandate that focused on land use and urban issues, the built environment was favoured over the natural environment. So, a campus development would be preferable to a walk through an urban forest such as Ridgedale Ravine. Although it was not said directly, we got the impression through some of our discussions with the management team that they considered some of the sites that we wanted to visit (i.e., Chum Creek, an urban creek that has been daylighted), too “fringe” for a professional audience and not part of real sustainability work. Time and again, participants validated our site selections on the summative course evaluations. Conversely and without fail, the sites that were imposed on us by the management team rated poorly. After the first couple of years, the administration generally trusted our planning expertise and rationale and no longer imposed sites on us.

Once the sites were selected and confirmed each year, we then constructed themes for each section of the itinerary to provide context and create a natural flow or sequencing to the learning. We visited eight to ten sites over two days, travelling on foot, by local transit (bus and SkyTrain), and on one afternoon by charter bus. There were three core sites, the inner city which we toured with a former city planner; Heritage Village, a unique neighbourhood and housing project led by a resident/community activist or the project architect; and Millennium Town, the legacy of a mega sports event which we toured with the design manager or the landscape architect. Each of these core sites was presented as a “sustainable community” to be contrasted with one another and evaluated on a sustainability frameworks handout.

While the core sites were consistent, the speaker sometimes changed and the narrative may have evolved. For example, the inner city tour started as a food democracy tour in which we questioned why one street in the neighbourhood had plenty and the other was a food desert, completely lacking in food retail outlets. The tour evolved to cover a general blend of policy and
planning decisions as well as cultural influences on the area.

The sustainability tour course takes place primarily outside the classroom, with a short introductory session on day one, minimal in class debriefing time and a short wrap up session at the end of day two. Ellie delivers some introductory content on the first morning, primarily a review of sustainability principles (HB Lanarc, 2003; Roseland, 2005, 2012) and discussion of silos (personal worldviews). She then serves as the tour synthesizer, posing questions to our guest speakers as needed and weaving together themes. I do most of the upfront program planning and logistics including all contact with sites and guest speakers. While I also provide some of the tour “animation,” my main tasks on tour are timekeeping and choreography. I sometimes refer to myself as the Border Collie, shepherding my charges and ensuring everyone (participants and guest speakers) is at the right place at the right time.

2.1.2 Reading materials and handouts

We provide reading materials and handouts in the course. In advance of the course, participants receive a copy of the Greater Vancouver Green Guide, essentially a “Lonely Planet” for sustainability, produced by the UBC Design Centre for Sustainability (2006). We suggest they read excerpts from the guide, before we visit the sites so that there is common ground. In this way, we are framing the participant experience before they even step onto the bus. They also must review (or read for the first time in the case of non-cohort) the first chapter in Roseland’s (2005, 2012) book, *Toward Sustainable Communities, Resources for Citizens and Their Governments*. They are sent a PDF copy of the chapter from the 2005 edition. The first chapter outlines Roseland’s concept of community capital as a “foundation for sustainable community development” (Roseland, 2005, p. 5) comprised of six forms of capital: “natural, physical, economic, human, social and cultural” (p. 5; and see figure 2.1). They are also sent a list of
additional reading and resources prior to the course, which is then amended and resent at the end of the course to ensure that any sources mentioned during the tour are included. Speakers also sometimes provide handouts such as maps or background documents on a site.

A sustainability framework (adapted from HB Lanarc, 2003) was introduced after the tour was cut to two days to make up for lost reflection time. The eight pillars are complete community (land use, density, site layout; opportunities to work, live, shop, play, learn, pray; mixed housing, etc.); transportation (environmentally friendly and community-oriented transportation system; street layout and parking strategies); buildings (green buildings, passive solar, energy efficiency, indoor air quality, green roofs, water efficiency, etc.); multi-tasked open space (habitat protection, support for social networks, food, ecological health, etc.); green infrastructure (community energy and emissions, water/waste/stormwater management, integration); healthy food system (supporting food supply and social connection through food); community facilities and programs (supporting healthy lifestyle and vibrant social community); and economic development (opportunities for investment, business, employment to support a diverse and prosperous community). Each site on our handout is rated as poor (1), good effort (2) or excellent (3), as well as whether and why it is an example of strong or weak sustainability.⁸

Other questions on the handout (which vary slightly by site) include: What were/ are the most significant (sustainability) constraints? How might this development have been improved? How have policy frameworks supported or restricted opportunity? How have policy decisions and/or historic trends affected investment, development patterns, outcomes? In the learning review section, there is space for capturing some personal reflection at the end of each day with the following prompts: Capture your personal key learning points. What is your

⁸ “The ‘weak sustainability’ paradigm states that man-made capital is more important than natural capital (Neumayer, 2003). ‘Strong sustainability,’ on the contrary, is based on the idea of non-substitutable natural capital (Dobson, 1998)” (Davies, 2013).
muddiest point, where do you need clarification? What were you able to identify about your personal silo(s)? How can you adapt your approach to sustainable community development in response? The framework serves as a discussion guide (over lunch in small groups for example) and is the basis of a voting activity (on most sustainable community) at the end of day two.

In 2013, we introduced an Individual Action Plan (IAP) adapted from Caffarella (2002)—a handout that would allow participants to chart, track and reflect on their progress in achieving their personal goals throughout the certificate program. These action plans are used to facilitate application of learning (Caffarella & Daffron, 2013). Ellie and/or I usually visited the Sustainability Principles course to meet the new cohort, assess their areas of interest and give them a preview of our course. I introduced the IAP during that visit.

2.1.3 Evaluation

For the first two years, participants wrote an essay critically reflecting on the sites we visited and on their experience for which they received a pass or fail grade. This final assignment was dropped as the unit administration felt it was too much to ask of busy professionals, especially since all of the other courses required one (except the studio design course where they work on the “assignment” in class). In 2012, we introduced a formative evaluation activity. We asked participants to write a “one minute essay” in which they described one issue or concept that was muddy and one that was clear. This activity did not replace the assignment, rather it helped us to gauge participant learning part way through the course. At the end of the two-day course, participants complete and submit a summative evaluation form. These forms provide early “reviews” on course design, execution and facilitation. With slight variations and omissions on the evaluation form from year to year, there are also spaces for participants to comment on the instructors, guest speakers, sites and the academic institution’s facilities, procedures and
administrative staff. I will not explore the institutional content here, as it is not directly related to my study questions.
Chapter 3: Literature Review—A New Story

In early Greek philosophy, the ultimate moving force and source of all life was identified with the soul, and its principal metaphor was that of the breath of life.

– Capra & Luisi, 2014, p. 5

During the 20th Century, a new cosmic story began to emerge, one that gives us “a new understanding of the universe and of the natural world” (Gilman, 1985, p. 7). It is a story that has been contributed to by multiple disciplines, including physics, astronomy, biology, ecology, anthropology, mathematics and the arts (Capra & Luisi, 2014a; Gilman, 1985). This new story constitutes a paradigm shift, away from the old story, a mechanistic view of life that emphasizes constituent parts—to a new one that is holistic, and speaks to the interconnectedness of all
things. In this new story, the planet is no longer viewed as a machine, but rather “a living, self-regulating system” (Capra & Luisi, 2014a, p. xi). Many modern day mystics, philosophers, scholars, economists and scientists believe that we must return to this “unifying vision” if we are to sustain life on our planet (Berry, 1988; Capra & Luisi, 2014a; Daly, 1997; Easwaran, 1989; Hawken, 2010; Meadows, Meadows, Randers & Behrens, 1972; Norberg-Hodge, 2000; Schumacher, 1993; Sterling, 2003). After all, the problems we face—climate change, resource depletion, environmental degradation, food insecurity and social inequality—are systemic and so must be addressed systemically (Capra & Luisi, 2014a).

Systems theory, an important component of the new story, reflects both the forefront of science and ancient, traditional and holistic beliefs (Capra, 2005; Capra & Luisi, 2014a; Sterling, 2003). I will give a brief overview of systems theory in section 3.1 below. Systems “thinking,” that is “thinking in terms of relationships, patterns, and context” (Capra & Luisi, 2014b, p.1) is seen as a key competency for sustainability practitioners (Ferdig, 2009; Sterling, 2003; Strandberg, 2015; UBC Sustainability Initiative, 2013; Wals & Corcoran, 2012; Wiek, Withycombe & Redman, 2011). In this chapter, I will reflect on the key competencies recommended for sustainability leaders (Barth, Godemann, Rieckmann, Stoltenberg, 2007; Ferdig, 2009; Strandberg, 2015; Sustainability Leadership Institute, 2013; UBC Sustainability Initiative, 2013; Wals, 2010; Wals & Corcoran, 2012; Wiek, Withycombe & Redman, 2011), contrasting them with traditional leadership competencies (Campbell, 2008; Westley, Zimmerman & Quinn Patton, 2007) and compare them with the skills required for application of learning.

A sustainable community, in itself a complex system, “must be designed in such a way that its ways of life, businesses, economy, physical structures, and technologies do not interfere
with nature’s inherent ability to sustain life” (Capra & Luisi, 2014a, p. ix). Sustainability in the “systems” view is not seen as an individual property, but rather “a property of an entire web of relationships” (Capra, 2010, p. 1). However, sustainability remains a contested and co-opted concept (Alvarez & Rogers, 2006; Stibbe, 2009), most frequently defined as part of the broader concept of sustainable development (Bruntland, 1987; Canning, 2010). In section 3.2 of this review, I will present several approaches to sustainability, defining terms and comparing them with the systems view of sustainability.

Much of adult learning is understood to occur in the everyday experiences at work, home and in community, often outside of formal education (Fenwick, 2000; Ottoson, 1995, 1997a, 1997b; Michelson, 1999). Our practical know-how comes from the “doing” in these nonformal/informal sites of learning (Fenwick, 2000; Ottoson, 1995, 1997a, 1997b). Application of learning occurs in the world of practice. Yet, while there is ample evidence that learning occurs in these everyday spaces as well as in adult continuing education programs, there is less evidence “about whether and how that learning is brought back to the workplace and made manifest” (Ottoson, 1997b, p. 93). In section 3.4, drawing on Ottoson (1995, 1997a, 1997b), I will define application of learning, distinguishing it from several other “knowledge-for-action” theories (Caffarella, 2002; Caffarella & Daffron, 2013; Kirkpatrick, 1998; Kirkpatrick & Kirkpatrick, 2006; Ottoson & Hawe, 2009). As application of learning is not treated within systems theory, I will situate the theory of learning application within systems theory.

Experiential learning, or learning by doing, is well established within the field of adult education (Cantor, 1995; Dewey, 1963, 1998; Fenwick, 2000; Kolb, 1984; Michelson, 1999) and has long been acknowledged by sustainability educators as the most effective means to “teach” sustainability (Domask, 2007; Gonzalez, 2013, 2015; Jones, Selby & Sterling, 2010; Jucker,
In section 3.5.2, I present several educational strategies and methods that help us teach and learn the kind of practical wisdom that will be required to deal with the complex sustainability challenges we face (Gonzalez, 2015; Westley et al., 2007), including several arts-based embodied learning methods (Butterwick & Lawrence, 2009; Freiler, 2000; Tyler, 2009) and spiritually-based practices (Chang, 2013; Chödrön, 2010; Easwaran, 1975, 1977, 1978, 1989, 1994, 2003, 2013; Tisdell, 2008; Tolle, 1999). I will argue that tours are an excellent vehicle for educating for sustainability because they do in fact align with systems thinking, their very form immersing us in a holistic experience through movement and breath. Drawing on several bodies of literature (educational tours, field trips, outdoor education, sociology of tourism) and authors (Alvarez & Rogers, 2006; Cheng & Ho, 2012; Day & Petrick, 2006; Kelner & Sanders, 2009; McKercher & du Cros, 2003; Patrick & Tunnicliffe 2013; Werry, 2008; Wittmer & Johnson, 2000; Vascellaro, 2011), I then define the sustainability tour in section 3.6. I delve into cognitive science to explain the mind-body connections (Dirkx, 2001; Goleman, 1995; Jensen, 2005; Stein, 2005; Taylor & Lamoreaux, 2008) and surface the physiological effects of touring. I conclude that section by discussing tours as a mobile storytelling vehicle.

As will become increasingly evident through these pages, as a sustainability practitioner myself, I identify as a systems thinker. I am at home in the paradigm described as the “systems view of life” by Capra and Luisi (2014a). This holistic conception of life resonates with my own personal story, my beliefs and value system, and aligns with my pedagogical approach to experiential, practice-based learning. The systems view is emblematic of my own learning
journey, the culmination of many years of teaching, touring, and learning, in formal, informal and non-formal ways. 

3.1 A Brief Introduction to Systems Theory

As Capra and Luisi (2014a) point out, questions about the “origin, nature and meaning of life are as old as humanity itself” (p. 1) and are the very foundations of philosophy and religion. The early Greek schools made no distinction between animate and inanimate objects, nor between spirit and matter (Capra & Luisi, 2014a). The “kosmos [was] an ordered and harmonious structure” (p. 5), and the universe was “organic, living and spiritual” (p. 7). The planet was viewed as “a living, self-regulating system” (p. xi). While alternative, holistic views existed before the 16th Century (evident in the Renaissance and romantic movements, for example), they were gradually replaced by the “mechanistic conception of nature” (p. 7) which understood the world as a machine. This basic tension between the whole and the parts has been at the root of scientific inquiry since that time. It was Aristotle who first said that the whole is greater than the sum of its parts (Ramage & Shipp, 2009). Using the language of Aristotle and following Capra and Luisi (2014a), I will refer to these two perspectives or schools as matter and form.

According to Capra and Luisi (2014a), the central question in the school of matter is: what is it made of? and in the school of form it is: what is its pattern? The matter advocates see life as a machine, while the form advocates view it as a network, a pattern of relationships. The first question leads to quantifying and measuring the constituent parts of the whole, the second leads to “notions of order, organization, and relationships” (Capra & Luisi, 2014a, p. 4). Over the

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9 In 1996, the Organisation for Economic Co-operation and Development (OECD) attempted to develop strategies for lifelong learning for all, acknowledging that learning didn't happen just at school. They made distinctions between formal, informal and non-formal learning. For more on this, see Fenwick, 2013; Gibb & Walker, 2013; Elfert & Rubenson, 2013; OECD website, 2013.
last century, the study of form has come back into vogue and is congruent with the emergence of systems thinking (Capra & Luisi, 2014a). While some may view the school of matter and the school of form as opposing forces, others view the schools as complementary (Laszlo & Krippner, 1988).

3.1.1 Family origins

Systems theory is perhaps best described as a family of theories (C. Blackmore, personal correspondence with S. Gillard, November, 16, 2015) that attempts to make sense of a complex world by looking at it as a whole, rather than isolated parts (Capra & Luisi, 2014a; Ramage & Shipp, 2009; Sterling, 2003). Most systems theories can be traced back to two intellectual traditions: general systems theory and cybernetics (Ramage & Shipp, 2009).

By the late 1930s, a body of work had been developed by “organismic biologists, Gestalt psychologists, and ecologists” (Capra & Luisi, 2014a, p. 10) that constituted the classical systems theories. During this period, “systemic concepts were integrated into coherent theoretical frameworks describing the principles of organization of living systems” (p. 10). General systems theory (GST) was one of the main branches of classical systems thinking. “It focuses attention on the whole, as well as on the complex interrelationships among its constituent parts” (Laszlo & Krippner, 1998, p. 11). Austrian biologist Ludwig von Bertalanffy is generally credited with firmly establishing GST within the scientific tradition (Capra & Luisi, 2014a).

Another branch of the classical tradition was cybernetics theory, a collaborative endeavour by a multidisciplinary group of mathematicians, neuroscientists, social scientists, and engineers. Cybernetics is “based on the concepts of feedback and information, and the parallels between human and machine behaviours, applying these ideas to a wide range of disciplines” (Ramage & Shipp, 2009, p. 6). Norbert Wiener is responsible for naming the scientific theory,
which he defined as “control and communication in the animal and the machine (Wiener, 1948, as cited in Capra & Luisi, 2014a, p. 87). The concepts of open and closed systems are key to the theory. Systems are open “energetically,” but closed informationally (Capra & Luisi, 2014a).

In a human system such as an organization or community, members may be open to new information and new members, but may at times be closed to both depending on the receptivity of existing membership and the degree of information already circulating within the network. Social network theory\(^\text{10}\) and analysis are closely aligned with systems theory (Heath, 2005). I will be drawing on both later in my discussion of networks.

Complexity theory, also called nonlinear dynamics (Capra & Luisi, 2014a), was strongly influenced by both GST and cybernetics. Complexity theory “embraces life as it is: unpredictable, emergent, evolving and adaptable–not the least bit machine-like” (Westley et al., p. 7). Within systems theory, problems are seen as complex as opposed to simple or complicated. The examples provided by Westley et al. (2007) illustrate the difference clearly. A simple problem would be baking a cake. Even novices can follow a recipe and be reasonably sure of the result, although experience can improve the final product. The baker just adds the ingredients (the parts) more or less as directed, and the cake (the whole) is guaranteed. A complicated problem would entail sending a rocket to the moon. Expertise from multiple domains is required and experience with sending similar rockets increases the likelihood of success. There must be a clear blue print to direct the development of the parts, and to specify their relationships within the assembled whole (a rocket ship). When the strict protocols are followed, a favourable outcome is highly certain.

\(^{10}\) Actor network theory is another related theory that can shed light on issues often “neglected in other kinds of analysis; for example, the importance of non-human factors in the planning dynamic and examining the ways in which actors network to create more complex forms of organization” (Boud, Dahlgren Abrandt Dahlgren, Larsson, Sork, & Walters, 2006, p. 610).
Finally, a complex problem would be raising a child. Rigid protocols “have a limited application or are counter-productive” (Westley et al, 2007, p. 9). Every child is unique, so raising one child does not guarantee success with the next. Experience must be tailored to the needs of each child. When raising a child it is impossible to “separate the parts from the whole; [the] essence exists in the relationship between different people, different experiences, different moments in time” (p. 9). There is no recipe for success and outcomes are highly uncertain.

Chaos theory and fractal geometry are two “important branches of this new mathematics of complexity” (Capra & Luisi, 2014a, p. 98). Educational and organizational management theorists, researchers, practitioners and program evaluators often position themselves within complexity and chaos theories. I will speak to one particular educational framework (enactivism) that draws on complexity theory in section 3.2.3 below.

3.1.2 Critiques of systems theory

As “systems thinking” is a set of theories that make up a conceptual framework (Laszlo & Krippner, 1988), it is challenging to critique. In fact, there appears to be a lack of critiques, which practitioners may see as a good thing. Fenwick (2004) does not see the dearth of critiques as beneficial. She asserts that scholars and educators “are quoting each other to construct an entire literature that has not critically engaged with its own foundations or methods of application, let alone with primary sources debating complexity or chaos theories” (Fenwick, 2004, p. 116). She believes “we need more rigorous analysis and less generic advice” (p. 116). Engaging with primary sources is challenging however because it often requires some knowledge of scientific disciplines. For example, Fitzgerald (1999) draws on wave and particle theory to make a case for more emphasis on the inner workings of an organization, claiming (as do others), that systems theory has an overemphasis on externality—or the context in which it is
Montouri (1998) provides summaries of several older critiques of systems theory that focus on aspects of or theories within the family of systems theory. Some of the critiques focus on specific theorists that do not represent systems theory as a whole, nor take into account new developments in the field (Montuori, 1998). For example, Lyotard’s 1984 critique focuses only on the early work of German sociologist Luhmann (Montuori, 1998). Of course, Montuori’s “new developments” are no longer new either. However, the general criticism that he raises still holds true today, which is that systems theory “is a totalizing discourse, a grand narrative which opens itself up to the possibility of being employed by dominant groups to impose efficiency and performativity on the systems they seek to control” (Montuori, 1998, p. 19). For example, organizational management, a field that has widely adopted systems theory, is often charged with these nefarious motives (Fenwick, 2004; Montouri, 1998). In my mind, it is about time for a new grand narrative. There are a number of other critiques, such as the nature of a system’s boundaries, as well as issues of human agency, which I will take up as I proceed through my discussion of sustainability and systems theory. However, I will discuss one more concern below, that of power relations, as I present one final conceptualization of systems theory, the systems view of life.

3.1.3 The systems view of life

Modern systems theory has been evolving since the early twentieth century in various disciplines (Capra & Luisi, 2014a), but until recently, there was not yet a conceptual framework that incorporated power dynamics in any comprehensive fashion. Capra and Luisi (2014a) provide such a conceptual framework, which they call “the systems view of life.” They “present a unified systemic vision that includes and integrates life’s biological, cognitive, social, and
ecological dimensions” (Capra & Luisi, 2014a, p. xii). In addition, they “discuss the philosophical, spiritual, and political implications” (p. xii) of their view. This systems framework incorporates power structures and attempts to address many other critiques. For example, the authors elaborate on boundaries, particularly cultural boundaries within social systems.

If every system is a system within a system, then “how do you define what is within the system and what is outside of it?” (Ramage & Shipp, 2009, p. 2.). In the systems view there is no fixed and distinct boundary (Davis & Sumara, 1997), rather it is quite permeable. Capra and Luisi (2014a) describe the cultural boundary of a community as similar to a cell membrane in that it both defines (creates its identity) and confines (limits entry to) the network. In addition to the values, beliefs and rules of conduct, the community produces a shared body of knowledge that also helps to shape the unique identity of the culture (Capra & Luisi, 2014a).

Capra and Luisi’s (2014a) “systems view” informs my understanding of sustainability. From this point on, when I refer to “systems theory,” “systems thinking” and “systems view,” I am referring primarily to Capra and Luisi’s (2014a) framework, with some contributions from other authors (such as Capra, 2005, 2010; Ramage & Shipp, 2009; Sterling, 2003; Westley et al., 2007), particularly with respect to applying systems theory to educational studies (Davis & Sumara, 1997, 2008; Fenwick, 2000, 2004; Fenwick et al., 2011). I use the terms interchangeably.

While it would be impossible and unnecessary to fully explore this vast theory for this study, I will draw on several key concepts within this framework to help me define sustainability, which I undertake in the next section. It is also important to first underline a central characteristic of the complex living system, that is its nonlinearity—it is viewed as a network with myriad interconnections (Capra & Luisi, 2014a).
3.2 Defining Sustainability within Systems Theory

While sustainability has come to mean how we as humans sustain ourselves on this planet, it continues to be a contested construct (Alvarez & Rogers, 2006; Stibbe, 2009). Alvarez and Rogers (2006) outline three approaches to sustainability. The first, in fact, revolves around definitions, where the various meanings of the construct are endlessly debated (Alvarez & Rogers, 2006). In the second approach, sustainability practitioners are concerned with implementation and evaluating outcomes—“this is the world of check-lists, indicators, triple bottom-line accounting and ecological footprints” (Alvarez & Rogers, 2006, p. 177). This reductionist “matter school” approach emanates from the positivist, “mechanistic” paradigm and is “based on the premise that once we have enough of the right kind of knowledge the planet (and the people who inhabit it) can be managed ‘sustainably’” (p. 177). Counting and measuring may be well suited to addressing technical problems (Gonzalez, 2015), but they are not foolproof strategies for success within complex systems. Outcomes are unpredictable in non-linear systems (Capra & Luisi, 2014a).

The third approach views sustainability as a discourse. Discourses can be defined as “ways of talking about the world which encode a particular worldview” (Stibbe, 2009, p.1) and it follows that “different discourses will motivate different audiences” (Stibbe, p. 4). While teaching a course on sustainability in practice in rural Australia, Alvarez and Rogers (2006) found that emphasizing this third discursive approach provided a more inclusive learning landscape where multiple understandings of “sustainability” could be presented and discussed. I would add a fourth approach, one in which sustainability is considered a social movement. A social movement is an organized effort to make social change (VanWynsberghe & Goobie, 2009). “Sustainability is a positive program forward for living within our collective means and it
is a counter-narrative and social movement against the negative impacts of unrelenting ‘progress’ defined in terms of modernity” (VanWynsbergh & Goobie, 2009, p. 3). However, sustainability is most commonly defined as part of the broader concept of sustainable development (Canning, 2010).

3.2.1 Sustainable community development

The sustainable development discourse was evident in United Nations (UN) policy documents as early as the 1970s (Berryman & Sauvé, 2013), although the Bruntland Report (1987) is usually credited with coining the phrase. Sustainable development was subsequently adopted as the UN’s guiding principle for long-term global development and defined as “meeting the needs of the present without compromising the ability of future generations to meet their own needs” (Brundtland, 1987, p. 1), assigning equal value to environmental protection, economic and social development. Sustainable development advocates still tend to view progress in terms of growth and maximizing returns rather than optimizing “values for the system’s variables” (Capra, 2005, p. 28). It emphasizes the built environment—the community development.

Sustainable community development is defined as a holistic, inclusive, participatory and empowering process that is capable of resolving local issues, creating jobs, stabilizing local economies, reducing poverty and restoring the natural environment (Roseland, 2012). Communities around the world are now integrating sustainability into official community plans (Roseland, 2012). Sustainability frameworks such as Roseland’s (2005, 2012) six capitals (see Figure 3.1 below), the Eight Pillars (HB Lanarc, 2003), and the Natural Step Canada (2015) are used to guide the process of sustainable development. Despite the fact that the frameworks purport to be holistic and community-centered, development—the built environment—is often foregrounded in these circumstances too.
In systems theory, a sustainable community, “must be designed in such a way that its ways of life, businesses, economy, physical structures, and technologies do not interfere with nature’s inherent ability to sustain life” (Capra & Luisi, 2014a, p. ix). A human community is a living system, “an integrated whole whose essential properties cannot be reduced to those of its parts. They arise from the interactions and relationships between the parts” (p. 10). The members of a system derive their essential properties and their very existence from their relationships, therefore, “sustainability is not an individual property, but is a property of an entire web of relationships” (Capra, 2010, para 1). In other words, sustainability involves an entire community. The more diverse a community is, the more overlapping roles and functions there are, the more resilient it will be. The emphasis in the systems view of sustainability then is on the community building and not the building of buildings (green or otherwise), although the buildings may
ultimately be a product of the community building. There are several core concepts within systems theory that I will explain next.

### 3.2.2 Sustainability principles

Three primary sustainability concepts, which are also principles of ecology or principles of community, give us a framework for both living and developing sustainably (Capra, 2005). First of all, the network is recognized as the basic pattern of organization of all living systems and is inherently non-linear (Capra, 2010). Living organisms, “from the smallest bacterium to all the varieties of plants and animals, including humans” (Capra, 2005, p. 19) are all living systems within living systems. “Biological systems are networks of chemical reactions; social systems are networks of communications” (Capra, 2010, para 4). The principles of an ecological system, a human community and a social network are synonymous in this view. I therefore operationalize the concept of system as both a community and a network, and will use the terms interchangeably throughout this thesis.

Postmodernists are at odds with the ecological emphasis within systems theory that “draws our attention to the biological and physiological nature of humanity (Laszlo, 1996; Morin, 1994) and its environment, rather than merely the semiotic” (Montouri, 1998, p. 23). Capra (2005) acknowledges that not everything can be taught and learned from ecosystems. Capra and Luisi (2014a) extend their ecological conception of life to the social domain by adding a dimension they call “meaning.” Meaning is used “as a shorthand notation for the inner world of reflective consciousness, which contains a multitude of interrelated characteristics” such as “concepts, ideas, images, and symbols” (Capra & Luisi, 2014a, p. 304).

The second sustainability concept asserts that because networks are nested within larger systems, what happens at lower levels affects what happens at higher levels. “Although the same
basic principles of organization operate at each scale, the different systems represent levels of differing complexity” (Capra, 2005, pp. 23-24). The important point here is that “events at one level of the system affect the sustainability of the systems embedded in the other levels” (p. 24). “Small changes can have profound effects” (p. 27) and vice versa, large changes may have little to no effect.

The third important principle in systems theory concerns how change happens, what some theorists would call learning and development. Based on the Santiago theory of cognition developed by Maturana and Varela in the 1970s, systems theorists understand cognition as a process and learning as a cognitive act resulting from a living organism’s interaction with its environment (Capra & Luisi, 2014a). Learning in this view is embodied, that is, “human reason does not transcend the body . . . but is shaped crucially by the detailed nature of our bodies and brains and by our bodily experience. The very structure of reason arises from our bodies and brains” (Capra & Luisi, 2014a, p. 272). It follows that “the structures of our bodies and brains determine the concepts we can form and the reasoning we can engage in” (p. 272).

In complex human social systems, information and ideas get circulated, expanded on and amplified “through various feedback loops” (Capra & Luisi, 2014a, p. 2). These social or communication networks are self-regulating (also known as autopoietic11) in that they self-generate through communication, an open flow of information nourishes and enlivens the network. However, the self-regulating nature of systems is a highly contested concept that some feel does not adequately account for a powerful elite that dominates and marginalizes other groups and dictates norms within the broader culture (Fenwick, 2000, 2004).

11 Autopoiesis, essentially self-making, is present in a living system “when the self-organization is such that it can regenerate from within all its own components” (Capra & Luisi, 2014, p. 165). “The defining characteristic of an autopoietic system is that it undergoes continual structural changes while preserving its web-like pattern of organization” (Capra & Luisi, 2014, p. 255).
Members within the network may choose to act on information that is meaningful and relevant to them and the patterns of interaction within the community may shift as a result. For example, “when new people join, the entire network may reconfigure itself; when people leave, the network will change again, or may even break down” (Fenwick, 2000, p. 317). The relevant information triggers a “disturbance” in their environment. These disturbances result in structural changes, which constitute acts of cognition. However, as Fenwick (2000) points out, “influences on patterns of co-emergence exerted by culturally determined meaning categories such as gender, race, sexuality, class, and religion may be indiscernible from a systems perspective” (pp. 264-265). Capra and Luisi (2014a) do not specifically address these meaning categories.

When a system reaches a point of instability or breaks down, which they inevitably do from time to time, “new structures, forms, and patterns spontaneously emerge” (Capra, 2005, p. 28). In this view, person and context are inseparable and change occurs through the “intentional tinkering of one with the other” (Fenwick, 2000). The process of cognition “is not a representation of an independently existing world but rather a continual bringing forth of a world through the process of living” (Capra & Luisi, 2014a, p. 256). This change process is called “structural coupling,” “mutual specification,” “co-emergence” or “enaction,” the term proposed by Varela (Capra & Luisi, 2014a). Enactivism then is a theory of cognition.

### 3.2.3 Enactivism

Drawing on the work of Varela and Maturana and others, Davis and Sumara (1997) developed the theory of enactivism, describing it as “an interpretive framework” (p. 106). “Enactivism” is not prevalent in current educational literature—rather many refer instead to complexity theory or even “ecological approaches” (Fenwick personal correspondence with S. Gillard, November 16, 2015). In later works, Davis and Sumara (2006, 2008) also drop
enactivism and refer to complexity. Nevertheless, I will invoke the enactivist theory here as it relates specifically to the systems view of life I have adopted for this thesis. This theory rejects the constructivist notion that “cognition is located within cognitive agents who are cast as isolated from one another and distinct from the world, and insists instead that all cognition exists in the interstices of a complex ecology of organismic relationality” (Davis & Sumara, 1997, p. 110). The individual “knower” is “an integral part of a relational fabric” (p. 109) and it is the relations among knower and known” (p. 109) that are foregrounded. Knowledge is not seen as an object “to be grasped, held, stored, manipulated, and wielded” (p. 109), rather it is “associated with our acting and existing in a biologically and phenomenologically constituted world” (p. 109).

Contrary to the privileged Western notion that selves are individual and autonomous, the idea of “coupling” suggests that a new transcendent unity arises when two or more persons come together in conversation or in any joint action. In the process, a possibility is opened for what Gadamer calls a “fusing of horizons,” a movement toward consensus among persons whose thinking/acting can no longer be considered in strictly subjective terms. (Davis & Sumara, 1997, p. 110)

While systems theory has been criticized for dismissing human agency, Davis and Sumara (1997) argue that “personal integrities or subjectivities” (pp. 110–111) are not lost here, even though “there may be an experience of “self-forgetting” in the midst of shared action” (p. 111)—a fusing of horizons as they say. In this view, learning cannot be predicted and controlled (Davis & Sumara, 1997). Furthermore, neither can teaching. Even with conscious intent by the teacher in the form of prescribed goals and outcomes, the context will also shape both the teaching and the learning. In this way, Davis and Sumara (1997) found in their own teaching practice, that learning was more “occasioned” than “caused” (p. 115). Because we are dealing with a nonlinear system, “we can’t discern the direct ‘causes’ of any particular action” (Davis & Sumara, 1997, p. 115).
In this view, teaching and learning are understood “as simultaneously shaping and being shaped by the circumstances in which they occur. Neither a simple process of enacting cultural standards nor a matter of subjective activity, teaching is a responsive choreography” (Davis & Sumara, 1997, p. 122). Davis and Sumara (1997) assert that “the cultural practice of ‘education’ occurs within and among complex systems that span several phenomenal levels: there are individuals, there are collectives of individuals (including classrooms, schools, et), there are communities in which schools exist, and there are larger cultural contexts” (p. 120). And, I would add political contexts, including at the program planning table (Wilson & Cervero, 2010). “Teaching and learning cannot be studied as though they occur in isolated and closed systems” (p. 122). It is worth repeating that adult educators believe that learning occurs not only in formal educational settings, but also in everyday experiences (Ottoson, 1995; Fenwick, 2000; Michelson, 1999).

That does not mean that teaching is futile, rather it is participatory—“the teacher participates in, but does not determine student learning” (Davis & Sumara, 1997, p. 115). An educator’s role within such a system then is to “occasion” learning and refrain from imposing prescriptive rational pedagogies. Fenwick (2000) adds that educators may serve as communicators, interpreters and storymakers. In short, educators are not unlike tour guides, helping their charges to “name what is unfolding around them and inside them . . . trace and meaningfully record the interactions of the actors and objects in the expanding spaces . . . make sense of the patterns emerging among these complex systems” and understand their own role in those emerging patterns. As Davis and Sumara (1997) say, it is more “responsive choreography” than planned pedagogy.
I have described what educational leadership might look like within systems theory. Now I will turn to sustainability leadership, contrasting it with traditional leadership competencies.

3.3 Leadership: From Hero’s Journey to Network Weaver

The traditional leader has been characterized by the archetypal hero’s journey, the stages of which are most famously charted by Joseph Campbell (2008). The central “character,” who is leading an ordinary life, suddenly hears a call, sets off on a journey, attracts allies, has encounters with wise ones and ogres, and after a number of tests and setbacks, ultimately saves the day. The heroine, transformed by her journey, then returns home with the prize that will also somehow transform the world. The leader in that sense is “someone who is able to hold a vision, to articulate it clearly, and to communicate it with passion and charisma” (Capra, 2010, para 18).

To address the systemic issues we face today, sustainability leaders require a complex set of competencies. Wiek et al. (2011) define sustainability competence as, “a functionally linked complex of knowledge, skills, and attitudes that enable successful task performance and problem solving with respect to real-world sustainability problems, challenges, and opportunities” (p. 204). Systems or holistic thinking is one of the key competencies identified on most sustainability employers’ “laundry lists” (Wiek et al., 2011, p. 204).

We live in a world where problem solving is no longer about working on “familiar problems in familiar contexts” (Hawe, Bond & Butler, 2009, p. 94), but rather “the ability to deal with unfamiliar problems in unfamiliar contexts” (p. 94). As Hawe et al. (2009) point out, this “zone of action involves uncertainty, change, risk, intuition, and innovation” (p. 94). The ability to cope with uncertainty, chaos and ambiguity has also been identified as a key competency

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12 See also Barth, Godemann, Rieckmann & Stoltenberg (2007) for detailed definitions and analysis of competencies in the context of higher education.
13 See Wiek et al. (2011) for a comparative analysis of several such lists from which they developed a sustainability competency framework.
(Wals & Corcoran, 2012) and one that will be increasingly called on as the effects of climate change worsen. Taylor and Lamoreaux (2008) call this ability to adjust within a fluid environment “adaptive decision-making,” “an integrative brain process that . . . requires examining issues from multiple perspectives” (p. 56).

Wals and Corcoran (2012) summarize some of the competencies considered key to the sustainability professional, including “thinking in a forward manner (anticipatory thinking), seeing relationships and interdependencies (systems thinking), the ability to put yourself in the mind of others, even other species, having different backgrounds or living elsewhere (empathic understanding and open-mindedness), utilizing diversity towards creativity, and coping with uncertainty” (p. 24). Capra (2005) believes that “one of the most valuable skills for utilizing ecological understanding is the ability to recognize when the time is right for the emergence of new forms and patterns” (p. 28). In systems theory, we look beyond the charismatic leader to the network itself.

3.3.1 Sustainability leadership: Thinking like a network

As we have seen, in the social domain the network pattern is viewed as a communications system. The primary role of leaders within this communication system is to be a network weaver (Krebs & Holley, 2006). They must “weave social ties, access new and diverse perspectives, openly build and share knowledge, create infrastructure for widespread engagement [and] coordinate resources and action” (Searce, 2011, p. 5). The more diverse a community is, the more overlapping roles and functions there are, the more resilient it will be. An important capacity for sustainability leaders then is to consciously build the network with both familiars and strangers. Recall that one of the goals of the certificate program in sustainable community development is to build the network.
There are two basic rules for governing a vibrant network. The first is to start with those you know, then introduce those you don’t know, “similarity helps build trust, while diversity introduces new ideas and perspectives” (Krebs & Holley, 2006, p. 12). By reaching across traditional divides and outside disciplinary silos, diversity is introduced into the network and new capacities and resources can be accessed. Reaching beyond the core to the periphery can invite the powerful stranger into our midst. “The periphery is the open, porous boundary of the community network. It is where new members/ideas come and go. The periphery monitors the environment, while the core implements what is discovered and deemed useful” (Krebs & Holley, 2006, p. 15). The powerful stranger can be “the other,” the perceived enemies on the “other” side of an issue for which we are fighting, as well as the biases, blind spots, fear and resistance within ourselves (Westley et al., 2007).

Community members become “empowered by being connected to the network” (Capra & Luisi, 2014a, p. 313). Everyone who joins the network contributes and has the potential of becoming a powerful hub or leader within the network. In the network, we are mutually dependent—my survival depends on the survival of the rest of the community members. Cooperation among members is vital. As Capra (2005) points out, “life did not take over the planet by combat but by cooperation, partnership, and networking” (p. 24). In a social system or organization well versed in systems thinking, we might witness “relationship-based processes” such as partnership building and networking, as well as “decision-making by consensus” (p. 21). Nevertheless, self-interest often keeps us from recognizing our interdependence. One only has to listen in on a meeting of co-operative housing members to understand that in practice these processes are challenging to sustain.
Within a community, no single individual possesses all of the key competencies, but a kind of collective competence or “collective creativity” (Capra & Luisi, 2014a, p. 319) is accrued. Sociologist Emile Durkheim refers to this as collective effervescence, a “natural by-product of the patterns of interaction that occur between people” (Westley et al, 2007, p. 131). There is wisdom in the collaboration that is not possessed by any one member of the network. “Single individuals, single actions and single organizations all play a part, but it is the subtle rules of engagement, between and among the elements, that is the force that seems to give initiatives a life of their own” (Westley et al., 2007, p. 10). As Westley et al. (2007) point out, one bird may fly into a window, but a flock never will. In this coming together, a “culture of collaboration” is created, which is “more than the sum of the many collaborations” (Krebs & Holley, p. 10). In essence, the network leader is facilitating a culture of collaboration.

There is another aspect to the facilitation that a sustainability leader must attend to and it concerns the cultivation of emergence. Facilitating emergence means cultivating certain conditions—creating the context for change with a view to “holding the space for the community as a whole to create something new” (Capra, 2010, para 19). The facilitator (of a network or organization) must be open to “a flow of information and ideas” (Capra, 2010, para 9) as he or she continually builds and manages the networks of communications. Innovation or “novelty” arises in this atmosphere of openness within the network. The mindset must be inquisitive, fostering “a learning culture in which continual questioning is encouraged and innovation is rewarded” (Capra, 2010, para 21). Leaders must then “be able to recognize the emergent novelty, articulate it, and incorporate it into the organization’s design” (para 24). During times of instability, the leader must acknowledge the emotions that arise and “create a climate of trust and mutual support” (Capra, 2010, para 22). As not all innovations will be viable, “in such a culture,
experimentation is encouraged and learning is valued as much as success” (Capra, 2010, para 24). The culture must be infused with the spirit of experimentation; the freedom to make mistakes is paramount in facilitating the emergence of novelty.

Fenwick (2004) takes issue with the “genre of management/leadership literature that appropriates and renders in simplistic romantic terms notions of self-similarity, co-emergence, self-organization and nonlinearity. These are posed as the positive alternative to ‘traditional’ notions of linearity, hierarchy, rigidity, regulation and detail” (p. 116). She goes on to say:

Superior (managerial) practices supposedly aligned with ‘chaos’ thinking echo the soft regulation of new management theory: be flexible, values-based, person-centered, participatory, open, permeable and inclusive—without interrupting fundamental social structures and economic discourses. Issues of power, inequities, politics, subjectivities, language, and the micro-complexities of everyday relations are thus neutralized, or conveniently stripped from the representation of organizations and practice. (Fenwick, 2004, p. 116)

I agree that these managerial practices are somewhat idealistic. I have worked in organizations where lip service is paid to community development models and decision-making by consensus, but in practice, the bosses operate in hierarchical fashion.

To conclude this leadership discussion, I will now return to the overarching goal of the certificate program in sustainable community development in which the sustainability tour course resides. The goal was: to create a network of sustainability leaders throughout British Columbia (BC) who wish to implement sustainable development policies, practices and initiatives in their communities. Within this goal, sustainability leader is equated with someone who builds a network and implements sustainability policies, practices and initiatives. However, building a network through facilitating partnerships and collaboration as described above, could in fact be viewed as application of learning. For the purposes of my study then, I define
sustainability leader as someone who applies what they learn. I turn now to a discussion of learning application.

### 3.4 Application of Learning

Despite the fact that adult education is an applied field, its relationship with application of learning has been ambivalent (Ottoson, 1995). “For some adult educators, the application of learning following adult education programs is more important than planning or methods” (Ottoson, 1995, p. 17). For others, application is “a favorite strawperson for railing against instrumentalism” (p. 18). The ambivalence is due in great part to its co-opting by the positivist technical rational tradition, a product of the old story. The term “application” was subsequently understood as a technical one (Ottoson, 1995) and used to describe a step-by-step learning experience suited to technological training environments. Program planners within the technical rational tradition place value on formal learning objectives and outcomes, neglecting the processes or contexts in which they are found. In this way application, which, according to Ottoson (1995) is a “complex, multidimensional process” (p. 25) and a social one at that, was invisible unless it was tied to technology.

In addition to being co-opted by the technical rational tradition, application was also “split from the basic sciences and fractured across every discipline and field of study” (Ottoson, 1995, p. 20). In a review of the scientific literature, Ottoson (1995) found countless references to transfer, implementation and utilization, but topic headings for the process of application were conspicuously absent. Tellingly, under the heading “applied science,” researchers were directed to “technology” (Ottoson, 1995). There were entries for “everything from ‘applied acoustics’ to ‘applied word processing.’ In each case, the technology is specified and the application subsumed” (Ottoson, 1995, p. 21). As Ottoson (1995) says, “it is difficult to understand or
replicate the effects of adult education while treating process as a value-free ‘black box’” (p. 18). By reconceptualizing and redefining application, Ottoson (1995) attempted to reclaim the application from positivism.

The *Oxford English Dictionary* (2008) defines application as: “the action of bringing something to bear upon a person or thing with practical results; the action of causing something to affect a person or thing.” Ottoson (1997a) defines application as “putting learning . . . into practical contact in intended application settings, such as work, home or community contexts” (p. 94, italics hers). Her definition encompasses both “the action of applying” (Ottoson, 1997b, p. 18), in addition to emphasizing the practical effects. The definition also underlines the importance of process and the fact that learning, application and daily life are interrelated. As we apply what we learn in the world of practice, a common definition is given rather than a scientific or technical one (Ottoson, 1995).

The end of a program is often the last contact we have with learners, yet, “to look for the success of an educational program in the applause at its curtain call may be to miss the real successes and failures of its application” (Ottoson, 1997b, p. 106). Application concerns itself with what happens after the end of a program. Assessing the after effects of a program is important because it helps adult educators understand the circumstances of why and how the application occurred. Those findings can ultimately help us affect social policy, improve our own practices, and daily lives as lifelong learners and contributing community members (Ottoson, 1995).

Despite the clarity of Ottoson’s (1995) definition, in my own review of the literature, I found there was still much confusion between various “knowledge-for-action theories” (Ottoson & Hawe, 2009).
3.4.1 Knowledge-for-action theories

While “application” is commonly used in education, training and evaluation circles, often as an umbrella term for all forms of learning application, it is frequently confused with other knowledge-for-action theories such as knowledge utilization, diffusion, implementation, learning transfer and translation (Ottoson & Hawe, 2009). All of these terms describe a change process and have commonalities, yet there are also important differences that I will now describe.

Knowledge utilization is concerned with how research knowledge moves into action. Diffusion theory focuses on the disbursement of information through a communication network. Implementation theory looks at how policy takes shape in practice. Learning transfer attempts to measure how the knowledge “transfers” from the training site to the application site (Kirkpatrick, 1998; Kirkpatrick & Kirkpatrick, 2006). Translation theory examines how language shifts with the introduction of new programs or policies. As we have seen, application occurs in the world of practice. This theoretical lens brings into focus how principles, ideas, or theories interface with what constitutes the practical in different contexts (Ottoson, 1995). As we shall see, in application, the practical context plays a very important role in whether or not knowledge moves into action.

Each theoretical lens described above shines “the light somewhat differently” (Hawe et al., p. 90) and helps us examine the various ways in which knowledge might be applied. While evaluators, and the stakeholders they represent, may be conditioned to using specific lens such as one of the above that aligns with their own field or discipline, applying different lenses, sensitizes them “to the subtlety of knowledge in change processes and the diversity of its manifestations” (Hawe et al., p. 90). As Ottoson (1995) says, “the post adult education process is
too complex to comprehend from a perspective anchored predominantly in one discipline or field” (p. 18).

Each knowledge-for-action theory has an instrumental understanding of how the knowledge is applied and a more symbolic one. Ottoson (1997a) calls these assessment approaches mainstream and sidestream. “The mainstream approach is most often rational, seeks immediate effect, and presses to protect the idea” (Ottoson, 1995, p. 95). Instrumental “use” is easier to track as it is “more immediate, observable, and context specific” (Ottoson, 1997a, p. 90). It is very protective of the original intent of the idea or program and its objectives.

The sidestream approaches “occur over time, take varied forms, and cross multiple contexts” (Ottoson, 1997a, p. 90). Due to the multiple influences over time, these approaches “share credit for change” (p. 90). That is, it is difficult to attribute the post program effects to a particular instructional technique or format. The sidestream approaches are less rational and decidedly nonlinear, they take “the winding road to effect” (p. 95). While these theories can “illuminate factors that evaluators might measure or processes that they might better be able to recognize and capture” (Hawe et al., 2009, p. 90), in complex systems they are inadequate in and of themselves to account for everything that happens within “the black box” of process during, immediately following and beyond the program (Ottoson & Hawe, 2009; Ottoson, 1995). Evaluators will often use multiple lenses in order “to move beyond program objectives as the unchallenged determinant of program effects” (Ottoson, 1997a, p. 88).

As with the other knowledge-for-action theories (Ottoson & Hawe, 2009), application has both an instrumental or mainstream understanding and an enlightened or sidestream one. The mainstream view seeks “fidelity to the original idea, without much external influence” (Ottoson, 1995, p. 22). The effects, which must be both useful and observable, are measured in a relatively
short time frame following the program (Ottoson, 1995). The sidestream approach allows for an idea to be used or adapted more than once over an indefinite time period and “is not causally traced to a single source” (p. 22).

To detect application in practice, evaluators need to be attuned to the multiple forms an innovation can take and the multiple ways and times in which it can be applied. To look for the innovation as taught in an educational program may be to miss the one reinvented and applied in practice. (Ottoson, 1997b, p. 106)

In this view, evaluation of programs “based on application must deal with the translation and mutual adaptation of ideas and context over time” (Ottoson, 1997a, p. 92).

The strong role of context in application led Weiss and Bucuvalas (1980) to suggest that this process be approached as the sociology of knowledge application. This approach to application leads with the social consequences of knowledge rather than with the psychological processes of transfer. Assessment based on application must deal with the translation and mutual adaptation of ideas and context over time. It is the tricky stuff of assessment. We are no longer looking for mirror images, we are looking for the essence of an idea.” (Ottoson, 1997a, pp. 91–92)

We can hear the language of systems theory here, stressing the importance of context and to a great degree, being concerned with social change. With the growing interest in complex systems, evaluators have begun to foreground context, realizing the “importance of the structures within which [the program intervention] is embedded or dispersed” (Hawe et al., 2009, p. 91).

And rightly so, given “that implementers inevitably adapt programs to local contexts” (Hawe et al., 2009, p. 95). After all, who knows the local context better? When the idea, program or policy is introduced, it interacts with its community and there is mutual adaptation.

3.4.2 Critique of application of learning theory

Much of the criticism surrounding “application” emanates from both the confusion in terms noted above and the “instrumental” understandings of “transfer.” Transfer is often used as the umbrella term for ways in which knowledge moves into action. For example, Tennant (1999) defines transfer as “how knowledge acquired in one situation applies (or fails to apply) in other
situations” (p. 165). In the instrumental understanding, the training site and the application site must be mirror images and there is “little or no modification” (Ottoson, 1997a, p. 88) of the program between sites. “Transfer is about a precise change, not just any change” (Ottoson, 1997a, p. 89). Ottoson and Hawe (2009) and others (Cornford, 2005; Tennant, 1999) have critiqued learning transfer for its limited unidirectional focus. Akkerman and Bakker (2011) criticize learning transfer for being too bounded (a singular domain) in its approach, that it involves “one time and one-sided transitions, primarily affecting an individual who moves from a context of learning to one of application (e.g., from school to work)” (p. 136). Akkerman and Bakker (2011) contend that rich learning can be found at the boundaries. The boundaries are not seen as barriers at all, but places where learning can be greatly enhanced. Allowing for the fact that we cross boundaries on a daily basis, the enlightened view of transfer does allow for some adaptation to context.

Boundary crossing refers “to ongoing, two-sided actions and interactions between contexts. These actions and interactions across sites are argued to affect not only the individual but also the different social practices at large” (Akkerman & Bakker, 2011, p. 136). Kolb's (1984) experiential learning theory also promotes the idea of boundary crossing “When learning is conceived as a holistic adaptive process, it provides conceptual bridges across life situations such as school and work, portraying learning as a continuous, lifelong process” (p. 33). Like cells, the boundaries are permeable and those who have the ability to pass back and forth between the domain walls have the “ability to manage and integrate multiple, divergent discourses and practices across social boundaries” (Akkerman & Bakker, 2011, p. 181). Again, we hear the echo of systems theory here.
Situated learning is also part of the discussion with respect to reconceptualizing the transfer process. Although situated learning theory was not “born in the systems theory tradition. . . . It is well aligned with the perspective” (Wenger, 2010, p. 1). In Lave and Wenger’s (1991) concept of situated learning, learning occurs within a community of practice, which is “essentially a community engaged in a common set of tasks, with its associated stories, traditions and ways of working” (Tennant, 1999, p. 173). The community of practice itself can be viewed as a “simple social system” (p. 1). These communities are sometimes formal learning networks, but are just as often informal networks within human organizations. Our tour could be conceived as a community of sustainability practice. In this way, both communities and communities of practice are networks and are referred to as such throughout this thesis.

While the cognitive psychology tradition of transfer has focused on skills directly acquired during training, treating learning as separate from its application context, the situated learning approach acknowledges “the importance of context in acquiring knowledge and skill” (Tennant, 1999, p. 170). The learning, and subsequent application that takes place within the networks is seen as a social process. In this sociocultural view, application “is not a matter of learners acquiring abstract knowledge and procedures which are applied to many situations, rather it is a matter of “learning to participate in interactions in ways that succeed over a broad range of situations (Greeno 1997:7)” (Tennant, 1998, p. 174). In other words, it is more application than transfer given its focus on the interaction between the learners, ideas, principles, and practical context (Ottoson, 1997a).

Another area of importance in the application discussion is the expanded meaning of skills and the focus on generic skills by policymakers as a way to “increase international competitiveness and workplace productivity, and reduce employment” (Cornford, 2005, p. 25), a
shift prompted by the Organisation for Economic Co-operation and Development’s (OECD) reframing of adult education and lifelong learning.\textsuperscript{14} “Lifelong learning itself is assumed to involve the employment of generic learning skills, with these skills rarely or never spelled out specifically in the lifelong learning literature (Cornford, 2002a)” (Cornford, 2005, p. 29). It is worth repeating here that the sustainability tour course is situated in the lifelong learning unit. I will take up the skills required for application of learning in section 3.5.1 below. First, I will discuss how various factors may interact during the educational program that can inhibit or promote application of learning.

3.4.3 Application influences and barriers

There are many reasons why learners may or may not be able to apply what they've learned. [Drawing on earlier work (for example, Baldwin & Ford, 1988; Cervero, 1988; Green & Kreuter, 1991; Weiss, 1972) across the five knowledge-for-action theories discussed earlier,] Ottoson (1997b) developed five influences on application in the context of continuing education: Educational (the educational program, instructors and methods), Intervention\textsuperscript{15} (the thing applied), Predisposing (attitudes, opinions, values, beliefs, prior experience), Enabling (procedural knowledge, resources, power, authority, opportunity) and Reinforcing (support from colleagues, community members, context “climate”). The presence of these factors may predispose the participants “to learning and applying what is learned” (Caffarella, 2002, p. 212). For example, the motivation for entering a program can be critical to subsequent engagement in learning (Wlodkowski, 1997). The opposite is also true; an absence of one or more of these factors could inhibit application. For instance, a lack of motivation or gaps in foundational knowledge are considered barriers to application (Cafferella, 2002; Cafferella & Daffron, 2013).

\textsuperscript{14} For more on this topic, see Fenwick, 2013; Ng & Shan, 2010; Shan, 2009.

\textsuperscript{15} Ottoson actually calls this influencing factor \textit{Innovation}, but I changed it to \textit{Intervention} to avoid confusion with “innovation” in systems theory. See my rationale in section 3.4.4.
Caffarella and Daffron (2013) point out that what is being implemented must also be realistic and doable within a reasonable time frame and with adequate funding allocated to the purpose. Not all of these influencing factors necessarily apply to each program and a planner's influence on each of the factors will vary by context and program. “It is the interaction among a number of the factors that makes a difference in whether learners can apply what they have learned outside of the formal learning situation” (Caffarella, 2002, p. 211). Through these factors, we can see how “individual action interacts with context” (Ottoson, 1995, p. 17). So, the process of application aligns with systems theory in that the individual and the context mutually specify one other.

In this section, I have described the various ways in which knowledge moves into action and distinguished the application process from them. I have also listed influences and barriers to the application process. I will now turn to what emerges through the change process called application.

3.4.4 Applications, designed and emergent structures

There are two “things” that are part of the application process. The first thing, sometimes called the “intervention” “appliance” or “innovation” in evaluation theory, is generally thought of as knowledge—in the form of principles, concepts, ideas, skills, and beliefs—but it could also be a new program or policy, “inanimate objects, living creatures, and laws” (Ottoson, 1995, p. 19). While the appliance may vary, the “practical contact does not” (Ottoson, 1995, p. 19). The sustainability tour course would be considered an appliance—we are out in the field looking at real world applications of sustainability.

The interaction of the learner and the thing within a context can produce another thing—what I will call here an “application.” Applications could be new knowledge, although not just
any knowledge, practical knowledge. The interaction might also produce “new relationships, a renewed sense of self-confidence, tangible resources, or confirmation that change in practice is not needed” (Ottoson, 1995, p. 23). As Ottoson (1995) points out, “no one discipline, no one adult education stakeholder, and no one adult education philosophy owns the interface between the thing and the practical” (p. 28). I will turn now to systems theory to see what applications may emerge from the shifting patterns of interaction.

Recall that in the social domain, the network pattern is seen as a communications system. That system produces social structures, that is, “structures of meaning, or semantic structures” (Capra & Luisi, 2014a, p. 313) and “rules of behavior” (p. 308) that shape the culture of a community. There are two types of structures that emerge within a system: designed and emergent. Designed structures are the ideas, values and beliefs which are documented in “written and digital texts,” “artifacts, works of art,” “technologies, and material goods” (Capra & Luisi, 2014a, p. 314). Sustainability frameworks, official planning amendments, local food and waste management policies, even internationally agreed upon climate change accords would be considered designed structures. These products embody “the shared meaning generated by the society’s networks of communications” (p. 314). We might also call these boundary objects Boundary objects are “artifacts that articulate meaning and address multiple perspectives” (Akkerman & Bakker, 2011, p. 141). They are intended to assist with the flow of communication across disciplinary boundaries or social communities. These objects can serve as translators and may facilitate more collaborative practice. The designed structures tend to be more stable. The emergent structures arise from the interactions among the members of a network and are more dynamic. Communities of practice, or creative teams within an ad agency would be seen as emergent structures from which innovations arise.
According to Capra and Luisi (2014a), “in every human organization there is a tension between its designed structures, which embody relationships of power, and its emergent structures, which represent the organization’s aliveness and creativity” (p. 320). Designed and emergent structures are the “embodiments” “products” “applications” or innovations arising from the changing system. In this thesis, I will deliberately not use the term “innovation” to describe an intervention (in the form of a program such as the tour course) in order to avoid confusion with systems theory in which an innovation would be considered emergence of novelty. I will reserve the use of innovation for “applications” that emerge from the interaction between the thing and the context, also called emergent structures.

Now that I have described the application process, situated it within systems theory, and listed the types of applications that emerge from the process, I will now discuss the types of knowledge required to apply learning.

3.5 The Art of Application

As we have seen, application and practice are intimately tied. There is “no way around the relationship” (Ottoson, 1995, p. 19). “Application . . . brings into focus how principles, ideas, or theories interface with what constitutes the practical in different contexts (Ottoson 1995). Practice—that is, doing—is not ontologically separable from learning and human development, but is the very substance of it” (Fenwick et al, 2011, p. 1). Application of learning is “a complex, multidimensional process that takes more than a good idea. It takes knowledge, skill, endurance, and artistry” (Ottoson, 1995, p. 25). Ottoson (1995) stresses that application requires “multiple kinds of knowledge, including knowledge of the thing, the context, the practical, and the skill to put it all together” (p. 25). Application involves both the “use of existing knowledge but also the creation of new knowledge in context” (Ottoson, 1997a, p. 91).
Greek philosopher, Aristotle, was the first to clearly distinguish between three different types of knowledge: *episteme*, *techne* and *phronesis* (Breier & Ralphs, 2009). Scientific knowledge is known as *episteme*, this type of knowledge is the currency of academia, and the application of this knowledge would be the domain of knowledge utilization. In terms of sustainability knowledge, Gonzalez (2015) calls this the *know-what*, the explicit knowledge of the field.

The *know-what* of sustainability is the *explicit knowledge* that can be taught in a sequential manner, easily communicated, and systematized and formalized in writing (Fleck, 1997). Know-what knowledge is “(1) subject to quality control by editors, peer review and debate and (2) given status by incorporation into educational programmes, examinations and courses” (Eraut, 2000, p. 114). (Gonzalez, 2015, p. 106)

*Techne* is “oriented towards production” (Breier & Ralphs, 2009, p. 481). Gonzalez (2015) classifies this type of knowledge as the *know-how*. Expert technical knowledge is needed for producing durable, “designed” products such as green buildings or solar panels. *Episteme* and *techne* support the production of knowledge and technical “products,” but a different type of knowledge is required to produce a more public action, such as creating sustainable communities or effecting social change (Ottoson, 1995). That knowledge is *phronesis*, or practical wisdom.

Not that practice always makes perfect. Davis and Sumara (1997) point out that teacher education training—in particular the practicum—may well perpetuate certain “teaching practices that are founded on somewhat limited conceptions of learning and cognition” (p. 106).

Nevertheless, in the context of application, and as we shall see in sustainable community development, *episteme* and *techne* may be important, but it is equally important to be “practically wise” (Breier & Ralphs, 2009, p. 479).
3.5.1 Application “skills”

As we have seen, in a complex system, learning cannot be understood in a pedagogically prescriptive way. “There is no direct causal, linear, fixable relationship among the various components of any community” (Davis & Sumara, 1997, p. 111). As the practical is the opposite of that which is speculative, theoretical or ideal, much of the application process involves negotiation between concepts and context” (Ottoson, 1997a, p. 91).

It takes more than one’s head to put a thing into practical contact. Application is a process that connects the head with the rest of the body, the theory with the practice. Application means getting one’s hands dirty, it means having the heart to persevere in the face of obstacles, it means having the touch to apply with sensitivity, it means having the guts to make tough choices, and it means having one’s feet firmly grounded in practical reality. (Ottoson, 1995, p. 25)

Ottoson (1995) concludes that application is not a set of outcomes or products following an adult education program, but rather it is a “social process” (p. 28), and not entirely rational. More than critical thinking skills are needed to bring about application, it is in fact more art than skill that is required to orchestrate the “when, how, why and with whom application occurs” (Ottoson, 1995, p. 26).

First and perhaps foremost “application requires survival skills” (Ottoson, 1995, p. 25). Following a program, the participant re-enters the workplace, the home or community where the receptivity to a new innovation may be wide open or woefully lacking due to the realities of established daily routines. Overflowing inboxes or laundry baskets may also quell the participant’s own initial enthusiasm. “What was all so important to apply at the end of an adult education program many seem increasingly less important amid other priorities (p. 26). Drawing on Dunne (1993), Ottoson (1995) refers to the “rough ground of process” (p. 26). The degree of difficulty to implement a change is a large consideration. If it is “too disruptive to present practice, actions, and/or beliefs” (Caffarella, 2002, p. 212), it is unlikely the innovation will be
adopted. The transition can be a rough one when you charge back from a program like Athena on a steed, only to have the castle gate slammed in your face.

In addition to survival skills, Ottoson (1995) points out how valuable are “the skills of translation, negotiation, adaptation, and decision-making” (p. 26). She is careful to say that, “these are not the skills of control; they are the skills of practical contact” (p. 26).

Application requires the ability to negotiate for space, opportunity, resources, and support to put a thing in practical contact. Negotiation involves more than communication skills. It involves political skills of understanding power distribution and its aid or resistance in getting a thing applied. Application requires a mixture of decision-making and courage to figure out whether an idea might be applied, adapted, or abandoned” (Ottoson, 1995, p. 26).

Having command of these skills requires the knowledge of phronesis, “knowledge that grows from the context of application” (Ottoson, 1995, p. 26). Ottoson’s list is remarkably similar to the list of sustainability “competencies” described in section 3.3, such as adaptive decision making (Taylor & Lamoreaux, 2008) and dealing with “unfamiliar problems in unfamiliar contexts” (Hawe et al., 2009, p. 94). Advanced communication skills are critical for sustainability practitioners and for application: the ability to convene meetings, negotiate and understand the political landscape, spot trends and identify leverage points in order to move projects ahead. As much of sustainability work is on ambiguous and shifting ground, it is also imperative to adapt quickly—to be practical and flexible in the moment, in other words sustainability leaders, defined herein as those who are able to apply what they learn, must be responsive choreographers (Davis & Sumara, 1997). In addition, as outcomes cannot be guaranteed within a network, and application takes place within networks, “application [also does not] guarantee outcomes” (Ottoson, 1995, p. 24).

Systems thinking and application theory both highlight the need to “teach individuals not only about things (explicit knowledge), but also how to skilfully apply their knowledge in
practice” (Gonzalez, 2015, p. 108). However, there is one more critical component: we must also know ourselves, what Gonzalez calls *know-who*, what some might call development of consciousness. This is the domain of tacit knowledge. The idea of tacit knowledge was introduced by Polanyi in 1962 (Gonzalez, 2015), which can be summed up in one of his most famous quotes: “we know more than we can tell” (1962, p. 612, as cited in Gonzalez, p. 106). Drawing on both Polanyi (1962) and Nonaka and Takeuchi (1995), Gonzalez defines “*tacit knowledge*” as knowledge that is hard to articulate, characterized as knowledge of experience (body), simultaneous (here and now), and analogue (practice) knowledge” (p. 106). Tacit knowledge is not easily taught, as it is “not . . . readily articulable and therefore not easily communicable or tradable” (Fleck, 1997, p. 388 as cited in Gonzalez, 2015, p. 106). Tacit knowledge is often acquired through non-formal learning and ways of knowing such as through Indigenous oral traditions or a spiritual practice.16 In this thesis, I argue that tours are another way in which to acquire such wisdom.

Gonzalez (2015) claims that higher education does not adequately prepare students to address sustainability challenges, because “*know-what* knowledge is overemphasized over practical *know-how* skills, and personal *know-who* awareness” (p. 8). “Know-how is about the practical skills of mobilizing change, and know-who is about growing the meaning-making structures that we use to understand ourselves and the world around us” (Gonzalez, 2015, p. 104). While *know-how* requires explicit knowledge, it also relies on tacit or *know-who* knowledge (Gonzalez 2015). The messy world of practice is not only where knowledge is applied, but also where knowledge is created through experience (Ottoson, 1995) and through which self-awareness and trust in an inner authority can grow (Gonzalez, 2015). Of course, the

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16 See Tisdell (2008) for a discussion of the role of spirituality in adult and higher education.
debate between learning and development of consciousness is a long and ongoing one. As Dewey (1998) said,

The history of educational theory is marked by opposition between the idea that education is development from within and that it is formation from without; that it is based upon natural endowments and that education is a process of overcoming natural inclination and substituting in its place habits acquired under external pressure. (p. 1)

As does Gonzalez, I feel that our lack of know—who is perpetuating our lack of progress in developing more sustainable communities.

Davis and Sumara (1997) believe that “enactivism draws our attention to the knowledge that tends to remain unformulated—knowledge that we are constantly enacting as we move through the world, but which tends to be relegated to the backdrop, the ground of our conscious experience” (p. 116). Such knowledge they say is embodied, and extends to bodies beyond our own. The human body is a subsystem nested within other systems.

It arises from the fact that we have/are bodies that are parts of the organismic unity of an ongoing world. While our enacted or embodied knowledge is available to conscious formulation, it tends to go on unnoticed unless something occurs to draw our attention to it. Thus, according to enactivist theory, actions are not simply manifestations of (internal) understandings. They are themselves understandings. (Davis & Sumara, 1997, p. 117)

In this way, cognition does not occur “in minds or brains, but in the possibility for shared action” (Davis & Sumara, 1997, p. 117). There is a “continuous mutual effect between the cognitive processes of the individual and the evolutionary dynamic of the collective” (p. 120). There are inextricable relations between the knower and the known, the personal and the cultural, the narrated and the experienced (Davis & Sumara, 1997). Davis and Sumara (1997) purposely use the terms cognition and learning synonymously to “trouble the notion that personal knowledge can be static. Thought is dynamic and always in flux—that is, it is always caught up in new learning” (p. 106). These actions, these understandings then are evidence of learning being applied.
As Gadamer (1990) has suggested, it is not so important that we come to understand who we are and what we do—what matters is that we come to interpret the conditions that circumscribe identities and actions. This means, hermeneutically speaking, that the focus of inquiry is not so much on the components of experience (persons, objects, places), but, rather, on the relations that bind these elements together in action. (Davis & Sumara, 1997, p. 111)

Given that practical experience is critical to both sustainability and application, planning for both should be one and the same. Program planners agree that application must be embedded in the instructional design in order to enhance the possibility of learning application (Caffarella, 2002; Caffarella & Daffron, 2013; Ottoson, 1995). There are various methods “that help learners put ideas into contact with the practical” (Ottoson, 1995, p. 27) including concrete examples and case studies, working collaboratively in teams, critical reflection activities and discussions, and practice time in the classroom. Sustainability educators would compile a similar list of activities along with field-based course work and field trips, internships, service learning, in class simulations, and roleplaying (Domask, 2007; Gonzalez, 2015).

Next I will look at planning programs for phronesis.

3.5.2 Planning programs for phronesis

As we have seen, both adult learning and application of learning are commonly understood to occur “in everyday workplace tasks and interactions, home and family activity, community involvement, and other sites of nonformal education” (Fenwick, 2000, p. 242). “Many of us believe that our skills and concepts, and certainly the construction of our practical knowledge, the know-how that we use in our daily activities and work, are best learned by doing” (Fenwick, 2001, p. 1). Learning by doing, also known as experiential learning, is a well-established tradition in adult education (Fenwick, 2001), popularized through David Kolb’s
Wehrmeyer and Chenoweth (2006) stress the importance of experiential learning especially for short courses, often the format for continuing education studies. While some have argued that all learning is experiential (Domask, 2012; Fenwick, 2001; Newman, 2011), I will use the term here “to avoid epistemological arguments within broader constructs such as knowledge or cognition” (Fenwick, 2001, p. 1).

Following Fenwick (2000), I take an enactivist perspective here. Enactivists “explore how cognition and environment become simultaneously enacted through experiential learning” (Fenwick, 2000, p. 261). Humans are inseparable from their environment, and “perturbations of one system excite responses in the structural dynamics of the other” (Fenwick, 2000, p. 261). Fenwick refers to this as “intentional tinkering” with each other. Enactivists focus on the pattern of relationships within a complex system and “not on the components of experience” (Davis & Sumara, 1997, p. 111). For example, for both Kolb’s (1994) four-part experiential learning cycle and Mezirow’s (2009) ten-stage process of transformative learning, the experience must be filtered through reflection (Fenwick, 2000).

Direct experiences connect theoretical learning with practical learning. Ideally, the learning is also interdisciplinary, as specialization can produce the siloed, reductionist thinking that is also the product of Cartesian and Newtonian traditions. “In direct opposition to the trend in mainstream culture toward greater specialization, we need to actively promote the generalist—the one who sees connections and makes links across different disciplines” (Norberg-Hodge, 2000, p. 189). Sustainability educators and scholars agree that experiential course design is imperative if we are to facilitate the learning of key adaptive sustainability competencies, such as systems thinking, empathic understanding, and the ability to work in uncertainty and ambiguity.

17 The theory includes four stages: concrete experience (feeling), reflective observation (watching), abstract conceptualization (thinking) and active experimentation (doing).
Gonzalez (2015) co-developed a leadership course at UBC. The course “aimed to develop the know-what knowledge, the know-how skills, and know-who awareness of sustainability leadership” (p. 93) and “to situate the practice of leadership in the context of sustainability” (p. 93). The content emphasized complexity awareness; perspective awareness; knowledge and understanding (sustainability literacy); relational skills (interacting, deliberating, influencing); and dispositions (values, attitudes, commitments) (Gonzalez, 2013). The team focused on building competencies such as “working through fear and failure, holding steady in the face of conflict; strengthening the courage to experiment (take risks); developing the stomach for uncertainty, chaos and ambiguity; ability to sustain and operate in paradoxical and contradicting situations; orientate around questions not solutions; developing creativity and improvisation skills; [the] art of compromising and holding people through loss” (Gonzalez, 2013, slide 19). Gonzalez (2015) and the instructional design team developed a series of “experiential exercises” involving simulations, movie analysis, music and voice sessions to build the skill set. Curiously, there were no tours included in the sustainability leadership course.

Gonzalez (2015) found that while the students valued the learning, the single course was not sufficient to prepare them for working in the ambiguous ground of sustainability. He recommended a program consisting of multiple courses, much like our sustainable community development certificate program. He concluded that “in the context of sustainability, higher education institutions can do more to contribute to the development of these ways of knowing” (Gonzalez, 2015, p. ii). Embodied learning is a dimension of experiential learning that is receiving great attention in the field of education, addressing the role emotions play in the
learning process (Freiler, 2008; Butterwick & Lawrence, 2009). I will discuss embodied learning next.

### 3.5.2.1 Embodied learning

Freiler (2008) defines embodied learning “as a way to construct knowledge through direct engagement in bodily experiences and inhabiting one’s body through a felt sense of being-in-the-world” (p. 40). Embodied arts-based approaches include storytelling, photography, weaving, quilt making and “drawing visual metaphors” (Butterwick & Lawrence, 2009, p. 35). Butterwick and Lawrence (2009) use performative activities such as popular theatre. This form of embodied storytelling can lead to transformative learning, “what we define as a kind of shape-shifting or changing the form of ourselves, our emotions, our thoughts, our worldviews, and our relationship to others, toward a more just society” (Butterwick & Lawrence, 2009, p. 35).

According to Capra (2005), integrating the arts into curricula is an effective way to develop and refine our “ability to recognize and express patterns” (p. 22). He includes literature, poetry, music, the visual and performing arts in his list of pattern provokers.

Because the study of patterns requires visualizing and mapping, every time that the study of pattern has been in the forefront, artists have contributed significantly to the advancement of science. (Capra, 2005, p. 22).

Great scientists such as Leonardo DaVinci and the German poet Goethe made great contributions to the scientific field through their artistic works. Their examples provide a strong case for interdisciplinary studies.

I will now discuss how tours might facilitate the acquisition of both sustainability leadership competencies and application of learning skills—the knowledge of phronesis. I will begin by defining the concept of “tour.”
3.6 Defining Sustainability Tours

I have struggled with how to define “tour” as there is a plethora of poorly defined terms in the related bodies of literature such as field trip, educational tour, educational study tour and the list goes on. Alvarez and Rogers (2006) used “site visit,” “field trip,” “series of field trips” and “trips out there” interchangeably to describe their four-day course entitled “Farming the Future.” There is also overlap with volunteer tourism, ecotourism and service learning. Field trip-based learning communities, learning journeys and virtual field trips are other areas where the tour form is evoked. I found nearly 3000 entries for field trips on ERIC, there were none for educational tours, educational study tours or sustainability tours. Searches on other databases (EBSCO, Proquest, Sage Journals) produced similar results. While I did find a few entries for sustainability tours on Proquest, they were generally tours of campus facilities featuring the operational side of sustainable practices. There were also a few articles on liability, which is a consideration for tour planners. While creating a typology of tours would be an area of further research, I will restrict my definition discussion here to: field trips, field courses, outdoor education and educational tours or study trips with an end goal of defining sustainability tours.

I use the phrase field trip here as distinct from a field course that would take place solely in the field (an archaeology course perhaps) and a field school. Field courses are sometimes offered at field schools. For example, UBC offers courses in coastal and marine sciences at the Bamfield Marine Station. Anthropologists may immerse themselves in a culture for a time, conducting an ethnographic study; this would be classified as field research or field studies and would sometimes be offered as a field course locally or abroad. In their study of zoo field trip design, Patrick and Tunnicliffe (2013) adopt the following definition of a field trip: “a trip

18 For an interesting discussion of ecotourism and transformative learning, see Walter, 2013.
19 McKercher and du Cros (2003) developed a tourism typology identifying five types of cultural tourists.
arranged by the school and undertaken for educational purposes, in which the students go to places where the materials of instruction may be observed and studied directly in their functional setting: for example, a trip to a factory, a city waterworks, a library, a museum etc.” (Krepel & Duvall, 1981, p. 7, as cited in Patrick & Tunnicliffe, 2013, p. 180).

Over the past 70 years or so, a rich body of pedagogical literature on field trip design has accumulated (for a comprehensive list see Patrick & Tunnicliffe, 2013, p. 180). Drawing on his own experience as a teacher at Bank Street College of Education in New York, Vascellaro (2011) provides case studies of elementary school field trips in which the “history of the everyday and of marginalized groups [came] alive” (Campbell, 2012, p. 480). The second half of the book is directed to teachers in training and provides instruction on the method (Campbell, 2012). While a program planners’ guide to designing tours may be useful, it is not my intent to produce one here.

According to Kelner and Sanders (2009), “the preferred theory of practice tends to understand field trips as instances of Dewey’s humanistic philosophy of experiential education (Dewey 1938)” (p. 137), that is “the organic connection between education and personal experience” (Dewey, 1998, p. 12). Although the term field trip is used in higher education and informal adult education settings, it evokes an afternoon (or at most day-long) school trip to a local destination such as a museum or stream with specific learning goals in mind (Patrick & Tunnicliffe, 2013). I recall going to an actual field in my Grade 11 biology class, marking off a square foot of territory and collecting samples of the flora and biota. I would argue that the science connection still lurks within the field trip, although there are a few examples of other disciplines (for example Vascellaro, 2011 emphasizes geography and social history). In addition, I found in the literature that field trips are viewed as supplementary to the more important
classroom work and are linked to rational learning goals and outcomes (Patrick & Tunnicliff, 2013).

The trend in higher education is towards a more flexible learning environment that employs face-to-face, blended, and online experiences (see Bruff, 2015; Brame, 2015, Mazur, 1997). The Centre for Teaching, Learning and Technology at UBC has been actively piloting and promoting a flexible learning initiative. One of the teaching practices associated with this emerging trend is to flip the traditional classroom, creating a more interactive space. In the flipped classroom model, students are introduced to new course content through readings and online videos before class, then during class time they engage in more hands-on activities (such as discussions and debates with peers and professors, debates, simulations, group projects). In this way, a field trip would be an example of a flipped classroom as opposed to just “adding value” to the classroom experience. Perhaps “flipped out” would be a better description!

The term field trip also implies a single, specific destination, whereas during our sustainability tour we visit multiple sites. Sometimes field trips are called “educational tours.” Cheng and Ho (2012) use the term exclusively in their study of a secondary school trip and define it for their purposes.

An educational tour [is] a planned experiential programme/activity, taking place outside the school environment, for student learning and their development in the cognitive, affective and skill domains. Learning in educational tours takes place through participating, interacting with the environment and student reflection during and after the activity. (Cheng & Ho, 2012, p. 244).

I believe Cheng and Ho’s (2012) definition and ensuing discussion distinguishes the educational tour from the field trip. They emphasize an extended timeframe (six days) that differs from the short-term field trip and travel well beyond the local environment (from Hong Kong to Mainland China). They also clearly see touring as a form of experiential learning, linking tours with

Learning in tours has the quality of informal learning in that it is less systematic, more flexible, less structured and less institutionalized; is more dependent on learners’ self-motivation and self-assessment; and is “first-hand” experience in real contexts, involving considerable cooperation and sharing. (Cheng & Ho, 2012, p. 244)

Cheng and Ho (2012) also view the educational tour as a form of outdoor education. I disagree here, as I believe tours can include indoor experiences, as when we tour The Bottle Depot or the Asian Studies green building. I believe outdoor education programs such as Outward Bound or the Audubon Expedition Model (Wittmer & Johnson, 2000) are related to educational tours and closely aligned with environmental education. They certainly share characteristics (they both make use of guest experts for example), however, the purposes are usually quite different and often involve some strenuous outdoor activities such as hiking or kayaking with a view to gaining experience and knowledge within a specific natural environment (Day & Petrick, 2006). For example, in a residential program at Yellowstone National Park, the purpose was “to strengthen bonds between people and wilderness” (Day & Petrick, 2006, p. vii) in the hope that the participants are then inspired to “conserve what they love” (Baba Dioum, Senegalese ecologist as quoted in Day & Petrick, 2006, p. ix). During the five-day program, participants take “nature field trips” (usually hiking to the location) that are animated by guest “nature guides.” Outdoor education has its roots in both adult education and the wilderness movement of the 1960s and 1970s, a “fusion of politics, science and vision about the value of wilderness” (Day & Petrick, 2006, p. vii).

The educational study tour (sometimes simply called study tours) tends to be longer in

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20 Walter (2009) provides “a typology of philosophical traditions in environmental education” (p. 3). He places outdoor education and ecotourism within the Progressive Tradition; whereas Freire and Horton with their emancipatory objectives would find a home in the Radical philosophy, alongside Greenpeace and the Raging Grannies (see his table on pp. 5-7).
duration and is often an international excursion provided by academic institutions and other organizations. Global Exchange, an international human rights group leads “reality tours” defined as “experiential education tours” to many countries including Ecuador, Cuba, and South Africa. The tours are designed to educate while effecting social change (Global Exchange, 2013). Road Scholar, formerly Elderhostel (Road Scholar, 2013), caters to the over 60 market with the purpose of providing low-cost educational and cultural programs. Their website claims they offer 5,500 educational tours in 50 states and 150 countries. I would also classify the international sustainability tours (to India, Cuba, Guatemala) that I was developing in concert with a BC academic institution as study tours (see Introduction).

In my day, it was in vogue to take a year off after high school and backpack around Europe before entering university. Back then Contiki Tours (2013) did a brisk business with high school grads (or maybe it was their parents) who opted for the safety of travelling with an organized group. This rite of passage probably hearkens back to the Grand Tour, a tradition for post-Oxford upper middle class European men meant to steep them in fine arts and culture. The tour could last from a few months to a few years and the young charges were generally accompanied by a guide or tutor (Grand Tour, n.d.). Now it seems students are going straight from undergrad to grad school but taking advantage of the numerous credited vacations on offer. This form of touring is often called International Service Learning. Increasingly commodified academic institutions are making a profitable, pedagogical link with tourism, what Werry (2008) refers to as the “vexed conjuncture between tourism and schooling” (p. 16). I will now move to the concept of touristic tours to determine what characteristics they might share with educational tours.

3.6.1 Traveller versus tourist

Kelner and Sanders (2009) situate field trips within the field of tourism, “a genre of travel in which individuals construct meaning through the consumption of place” (p. 138). The scholarly critique of tourism arose in the 1970s as a response to “the elitist dismissal of tourism as a shallow, degraded form of travel” (p. 138). Many of us prefer to call ourselves travellers as opposed to tourists. The tourist is seen as “less enlightened, less conscientious, less distinguished than oneself (Culler, 1981)” (Werry, 2008, p. 14). And yet, travellers often tour the same routes and sites as tourists (Werry, 2009). I justify the distinction because when I travel I want to learn something, believing that my student self is what transforms me from a lowly tourist into a traveller, but as Werry (2008) points out it is a thin disguise.

It is often learning—being learned, being motivated by the desire to learn, and actually having learned things—that stands as a bulwark between traveler and tourist. But it is a dangerously flimsy ruse. Shame blossoms where the student and ambassador of culture is exposed as a gullible know-nothing, the self-appointed ethnographer made to feel the privilege and presumption of his role, or the wholly commercial nature of her welcome, where the “traveler” is exposed as “tourist.” (Werry, 2008, p. 14)

So while I consider myself a traveller, setting myself apart from people who take cruises or book into a Club Med resort for a purely hedonistic vacation, I may not be so different than a tourist after all. But what of our sustainability tour course, are we mere tourists in our own town?

3.6.2 Gaze, group & culture

Kelner and Sanders (2009) developed a course in the sociology of tourism, which they call a “field-trip-based course” (p. 136) in their hometown of Nashville, Tennessee. Their definition of field trip is particularly illuminating in that it conceptualizes the field trip as an act of tourism (Kelner & Sanders, 2009). “Building on the idea that tourism is a configuration of spatial and cultural knowledge practices centered on movement, semiotics, interaction, ritual and consumption, we conceived of the field trip as a deployment of tourism in an educational
context” (p. 137). The authors recognize a tour then by its spatiality (geographic location outside the classroom, workplace, country, etc.), temporality (outside ordinary time) and symbolic boundaries (participants wear nametags, carry cameras, and may sport a “costume” such as floral print shirts). Their conceptualization was very useful in analyzing my own sustainability tour.

Kelner and Sanders (2009) designed their course based on three overlapping dimensions of touristic practice: “gaze, group and culture” (p. 138, italics theirs). Gaze refers to “semiotic practices that assign meaning to place” (p. 138) or how sites are represented or framed by the hosting organization, museum, tour guide, etc. In our case, an ordinary looking corner store with barred windows is revealed as a low-cost grocery store that allows marginalized residents of the poor inner city neighbourhood to purchase their own groceries with some dignity, perhaps avoiding the line-ups at the food bank or soup kitchen. “When the tourist gaze is applied, people read the things they see as symbolic of something in addition to their taken-for-granted meaning” (Kelner & Sanders, 2009, p. 138). Meanings are often ascribed before arrival at the site through readings or posters or signage. Even the way the tour is structured, how and where the guide stops or moves the group through the site, the points of interest that are woven into the broader narrative, all connote certain sites as worthy of attention (Kelner & Sanders, 2009). Our gaze and bodies follow wherever the guide/facilitator directs us.

Group describes the “interactional practices that form the context for tourist encounters and that mediate other dimensions of the tourism experience” (Kelner & Sanders, 2009, p. 138). Communitas and enclaving are two aspects of group formation that I will discuss next.

3.6.3 Communitas and enclaving

Within tourism’s structure, intense relationships can develop—referred to as “communitas” (Kelner & Sanders, 2009; Werry, 2008). The shipboard romance is a classic
product of the tightly knit community that forms while on tour. Tour guides can help to foster “a cohesive group dynamic” (Kelner & Sanders, 2009, p. 144). I recall one year when we failed to set the important welcoming tone in the opening hour of the class, a practice that begins to knit the group together (Wlodkowski, 1997). There was a logistical glitch and we had to forego our usual introductions and icebreakers. Instead we headed straight out into the inner city, without any context setting. One woman wrote on the evaluations that year that she hadn’t initially connected with us as facilitators, but slowly warmed to us throughout the rest of the course. We do attempt to cultivate the group bonding by using a buddy system as well. It also helps us with the head count and we lose fewer participants that way!

There is another aspect to the group formation however, a kind of protective clustering known as enclaving “whereby tourist spaces and activities are structured in such a way as to limit spontaneous interactions with locals or uncontrolled encounters with quotidian local life” (Edensor 1998, as cited in Werry, 2008, p. 22). It is particularly evident in established tourist meccas like Hawaii, with the “fortress-like urban spatiality of Waikiki (the ways it not only isolates tourists from the city, but internally segregates and organizes the movement of its different echelons of tourists)” (Edensor 1998, as cited in Werry, 2008, p. 22). I remember the panic that gripped me when I landed in Mexico one year. I had hopped a plane last minute without booking a hotel or making any other plans to get to my intended destination further down the coast. After joining up with other travellers heading in my direction, I felt relieved, safe and braver in my pack.

The group dynamic that occurs in tourist settings, also occurs in educational ones. Werry (2008) argues that the college town itself could be classified as an enclave, protecting “its middle-class subjects-in-the-making from embarrassment or shame by restricting chance
interactions with the socially different” (p. 23). Enclaving can be both beneficial and detrimental. On the positive side, Day and Petrick (2006) refer to the relationship building and introspection that occurs during residential wilderness programs when people are “physically and emotionally removed from everyday responsibilities” (p. 1). Learning can be inhibited when cliques form and others are shut out. When I attended university in Trois-Rivières, not only did I attend classes with my English speaking cohort, I also went on weekend cultural excursions, part of the planned immersion program. While it could be argued that the cohort design helps to foster a cohesive learner community (Kelner & Saunders, 2009), hanging out with English speakers was a detriment to my learning to speak French.

Communitas occurs in the sustainability tour course too. As the program is primarily cohort and the participants have already had one course together, the group dynamic is already beginning to emerge. Participants get to know each other better as we travel from site to site, friendships form over lunch (sometimes to the exclusion of others). There is the danger that participants who are taking the tour as a one-off course might feel like outsiders. We encourage interaction beyond their familiairs (through structured activities like the buddy exercise). This encourages networking and promotes inclusivity. In our own tour course, two young women who formed a fast friendship were increasingly disruptive as they moved through the other certificate courses. I heard from a colleague that those behavioural problems inhibited learning for others in the class, particularly in the studio course where group project work was required.

3.6.4 Culture

A third way that tourism can be understood is “as a cultural field constituted as much by its materials and learned behaviors as by any actual travel or sight-seeing” (Kelner & Sanders, 2009, p. 138). Culture encompasses “the cultural practices associated with touring and with the
tourism industry” (Kelner & Sanders, 2009, p. 138)—the souvenir shopping and photo taking, and other iconic signifiers of tourism participation. Kelner’s and Sanders’ course, entitled, “Tourism, Culture & Place,” adopted a tourism framework for the curriculum—creating “a learning environment that uses the object of study as the medium of study” (Kelner & Sanders, 2009, p. 136). So, instead of a syllabus there was an itinerary; teachers and guest experts were referred to as tour guides; students were encouraged by their instructor-tour guides to take photos rather than notes; one of the assignments was a travelogue as opposed to a reflective journal; they had a group T-shirt made up; and after the course was over, a souvenir CD of photos was sent to the ‘tourists/students.’ The course blurred the lines between tourist and student, a line that gets blurrier and blurrier the further we travel.

While we may not be sporting group T-shirts, we do make use of some of tourism’s iconic materials. First of all, we travel in a pack, wearing nametags and snapping photos, immediately signifying “tour” to any observer. We may not be stopping to buy tacky trinkets, but in the registration packages, participants find notepads and pens with the academic institution’s logo (although that was dropped with the budget cuts, but they can certainly shop for branded souvenirs in the book store/gift shop). Participants also relished the opportunity to purchase local preserves and cheeses in the boutique farm shoppe on site at Golden View Farm. In advance of the course, participants receive a copy of the Greater Vancouver Green Guide (Design Centre for Sustainability at UBC, 2006), essentially a “Lonely Planet”22 for sustainability. We suggest they read excerpts from the guide before we visit the sites so that there is common understanding. So we are framing the participant experience before they even step onto the bus.

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The boundaries of our touring culture are somewhat porous. Passers-by often approach us, particularly in the inner city, to ask what we are doing; some join us for a time. Inner city residents are frequently subjected to the touristic gaze and are accustomed to being studied, interviewed, photographed and filmed. In India and Guatemala, locals are less tolerant of the scrutiny and exploitation, and will sometimes charge the privileged for the privilege of taking their photos, something inner city residents may want to keep in mind. We are a privileged group to begin with—anyone that can afford to take this course has certain means. As Hawken (2010) points out, “The environmental movement has long been the province of the upper middle class, both in concerns and benefits, to the exclusion of lower-income and minority groups here and abroad” (p. 137). I remember standing outside an upscale coffee shop in the increasingly gentrified inner city when a resident approached me and said, “Just what we need, another expensive coffee shop.” We are often made acutely aware of our privilege on this tour.

If we revisit the notion of tourism as “a configuration of spatial and cultural knowledge practices centered on movement, semiotics, interaction, ritual and consumption” (Kelner & Sanders, 2009, p. 137) and “the field trip as a deployment of tourism in an educational context” (p. 137), it is now obvious to me at least that the differences between the various forms of tours can be measured in degrees of liminality. That is, the more removed the location of a course is from its quotidian environment (including time, location, culture), the deeper the liminal effects. Liminality is another important concept in the sociology of tourism that I will discuss next.

3.6.5 Liminal space

As Kelner and Sanders (2009) point out, “tourism has the potential to create a liminal space by physically removing people from their home environments and placing them into a travelling community” (2009, p. 138). The experience of being on tour has a “time-out-of-time
The spatial, temporal and social boundaries are dramatically altered from the classroom environment. Tour participants may find themselves interacting with classmates they have never talked to before, or meeting someone new. In this way the tour is a “liminal interactional context” (Kelner & Sanders, 2009, p. 143).

In its original meaning, liminality was an “ethnographic study of ritual passages in small-scale settings” (Thomassen, 2014, p. 1). In its post-colonial sense, the term “refers to moments or periods of transition during which the normal limits to thought, self-understanding and behaviour are relaxed, opening the way to novelty and imagination, construction and destruction (Thomassen, 2014, p. 1). Liminality releases us from structure, such as governance. A tour releases us from the confines of a classroom.

As a tour is out of the ordinary, it is generally seen as a positive and fun experience (Alvarez & Rogers, 2006; Kelner & Sanders, 2009; Werry, 2008). In fact, fun is an important factor in touristic experiences. It is at the top of the list of tourist desires ahead of “service, value, ease and predictability” (Werry, 2008, p. 15). On the other hand, learning, particularly in classrooms, is not generally seen as fun, rather it is thought of as a form of labour, not leisure, more discipline than liberation (Werry, 2008). For the tour planner and guide then, there must be a careful balancing between the educational and the pleasurable (Werry, 2008).

We can imagine a range of other events that may produce liminal effects, some of which we may find uplifting, such as getting a day off work because we are snowed. Hosting a mega sports event might disrupt the day-to-day flow of a city and even displace people from their homes. In this case, public opinions may vary on whether or not the experience and subsequent impacts were positive or negative (for example, see VanWynsberghe, R., Derom, I, & Maurer, E.,
Losing a job can serve as a catalyst for moving into a new career. More severe and unsettling situations such as civil war or an earthquake can suspend us in uncertainty and ambiguity for too long, plunging us into the abyss. Hopelessness and depression may arise in the aftermath of such extreme events as survivors struggle to rebuild their lives. In all of these examples however, relationships are cultivated (in varying degrees of intensity) as people bond and pull together. The more removed the location of a course is from its quotidian environment (including time, location, culture), the deeper the liminal effects. In this way, liminality and communitas are inextricably linked.

Another important feature of the tour format is its potential for multivocality.

3.6.6 Multivocality

Alvarez and Rogers (2006) found that by incorporating a variety of guest speakers with a range of perspectives helped expose both teachers and learners to “different understandings of sustainability” (p. 176). In addition, they found the sites themselves had a voice resulting in a “powerful interplay between discourses” (p. 182). The multivocality created a more holistic picture of sustainable land practices and captured “the messy and complex reality of sustainability on the ground” (p. 182). While the authors originally taught sustainability as if it were “fixed and definable” (p. 176), through the tour, they gradually evolved their teaching practice, understanding sustainability as “a contested discourse that is spoken and claimed by competing groups and cultures, rather than a concept that can be pinned down and identified in the real world” (p. 177). The site by itself can have different meanings for different people at different times. The framing by the facilitator/guides may in fact “force an encounter” (Kelner &

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23 There is an entire body of literature devoted to place-based learning. Tracy Friedel, in the Faculty of Education at UBC teaches a course entitled: Theories and Dimensions of Place-based Learning: Ecohumanist, Critical and Indigenous Lenses.
Sanders, 2009, p. 141) with the way someone else interprets the site. All of these voices, including that of the land, contribute to the narrative, the story that is created while on tour.

As sustainability is itself a multi-disciplinary field, sustainability educators believe that courses should be not only interdisciplinary, but also multi-vocal (Alvarez & Rogers, 2008; Domask, 2007; Gonzalez, 2015; Sterling, 2003). Yet, despite our efforts to create more sustainable communities over the last few decades, very little progress has been made. Stibbe (2009) argues that our lack of progress on the sustainability front lies with the predominant discourse itself.

Our failure in reaching people is not because there is something wrong with the language we are using, but because our words engage only a narrow audience. In the same way that the health of an ecosystem depends on its biodiversity, the effectiveness of our communication lies in the use of a diversity of discourses. (Stibbe, 2009, p. 1)

Stibbe (2009) urges us to seek out new impactful discourses “ways of writing and speaking that inspire people to seek a better world . . . where their own wellbeing, . . . their community, and other communities is enhanced, and the systems which support life are nurtured rather than destroyed” (p. 3). He cites biologist Rachel Carson (Silent Spring, 1962) and astronomer and astrophysicist Carl Sagan (Cosmos, 1980) as two writers who successfully inspired and motivated people to act, combining scientific knowledge and a sense of wonder, capturing the attention of a very wide and mainstream audience. These writers are not simply writers, but storytellers. Tyler (2009) views storytelling as the “starting point for critical discourse” (p. 137).

3.6.7 Tour as storytelling vehicle

Tyler (2009) defines story as “a narration of personal experience” (p. 138) that is “conveyed orally and directly, face-to-face by a teller to listeners in a facilitated forum” (p. 38). In every great storyteller, there is also a bit of the performer. There is an inherent and historical performative quality to the tour as well (Werry, 2008), which we might recognize more at tourist
sites such as the Polynesian Cultural Centre or history museums. Tour guides and facilitators may shape the stories while on tour, but the storymaking process is much more collaborative. On tour we hear the personal stories of the project leaders and we see aspects of the story unfolding before us at the site itself. Tour participants contribute their knowledge and expertise as well. Tyler (2009) sees “stories as both an element and a product of communities of practice” (p. 138). In other words, the stories arise from the collective community experience; there is mutual specificity between the individual members, the collaboration and the environment in which they are situated. As I said at the beginning of this review, we are in the process of creating a new story.

It's all a question of story. We are in trouble just now because we do not have a good story. We are in between stories. The Old Story—the account of how the world came to be and how we fit into it—is not functioning properly, and we have not learned the New Story. The Old Story sustained us for a long period of time. It shaped our emotional attitudes, provided us with a life purpose, energized action. It consecrated suffering, integrated knowledge, guided education. We awoke in the morning and knew where we were. (Thomas Berry, 1988, p. 1)

The old story was based on linear thinking, treating all problems as chains of causes and effects; the new story is based on patterns and relationships (Capra & Luisi, 2014a). Sustainability professionals, environmentalists, educators and social justice activists are also embracing this new story, becoming storytellers themselves. Tellers of this new story believe it to be a powerful way to mobilize change and they are embarking on new ways to engage others in the storytelling process (Butterwick & Lawrence, 2009; Cantor, 1995; Tyler, 2009; VanWynsberghe & Goobie, 2009). As Stibbe (2009) points out, there is no one right worldview, which is why we need to seek out a range of motivating discourses; discourses that align with people's deepest personal goals and inspire them to act, contributing to a more sustainable community. The tour is one such

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24 For a rich investigation of settlement narratives performed at history museums, see Clausen, 2014.
way. In this study, I will argue that the tour form is an ideal storytelling vehicle in that it supports multiple perspectives, and is inherently multivocal.

Before presenting my definition of a sustainability tour, it is useful to look at one more perspective, that of cognitive scientists. By better understanding what is happening in the brain while on tour, some of the other unique features of tours emerge. I emphasize that while I will be discussing what is happening in the brain, I have not forgotten the connection to body. When an emotion registers in the brain there is a physiological effect.

3.6.8 The mind-body connection

There is a growing body of research on how the brain changes as it learns (Jensen, 2005; Stein, 2005; Taylor & Lamoreaux, 2008). While I will be discussing what is happening in the brain in this section, I have not forgotten the connection to the body. I will discuss not only how the mind and body are linked, but also the mind and emotions. When an emotion registers in the brain there is a physiological effect. The brain is a system, essentially a communication network.

The brain is made up of 100,000 million ($10^{11}$) separate cells, “neurones,” that gather information from diverse sources through their “dendrites” . . . integrate them in the “cell body” and send the outcome of their processing to be passed on to the next neurone via their elongated axons which make “synapses” with the next neurone in the chain. (Stein, 2005, p. 33)

The brain is continually accessing its memory networks, searching for connections and “reinterpreting past experiences in light of newer ones” (Taylor & Lamoreaux, 2008, p. 54).

Again we hear Dewey (1998) echoed in this statement, “every experience is a moving force” (p. 31). The experience is a moving force; it is also an embodied one, as Maturana and Varela outline in their Santiago theory of cognition. This is the “enactivist view” of experiential learning in which “cognition depends on the kinds of experience that come from having a body with various sensorimotor capacities embedded in a biological, psychological, cultural context”
(Fenwick, 2000, p. 261). As we saw previously, “the very structure of reason arises from our bodies and brains” (Capra & Luisi, 2014a, p. 272) and the structures of our bodies and brains determine the concepts we can form and the reasoning we can engage in (p. 273). In this way, cognition is a bodily undertaking. “In the literature on practical intelligence and expertise, there is a shared presupposition that expertise is built upon the knowledge and skill gained through sustained practice and experience” (Tennant, 1999, p. 171).

There is good reason then that learning by doing\(^\text{25}\) is more effective than the typical classroom lecture and it can be traced right to the brain.

Learning by doing turns out to be a much more effective teaching technique than learning by passive listening or viewing, and this can be traced directly back to the active participation of motor areas in the memory networks of the cerebral cortex. These areas will be much more efficiently activated by acting out the motor component of the memory than by passive listening or viewing. (Stein, 2005, p. 37)

So while the PowerPoint would “address learning mainly from the cognitive realm” (Peterson, DeCato & Kolb, 2015, p. 229) experiential education programs such as a tour would “address the affective, perceptual and behavioral as well as cognitive dimensions of learning” (p. 229). In other words, the learning goes well beyond episteme or techne when the body is in motion.

The idea that movement and learning are connected is not new. The Buddha taught his followers in groves (Easwaran, 2013). Legend has it that Aristotle loved to walk while he lectured. Aristotle’s peripatetic school was called Peripatos, from the Greek peripatêtikos which means, “of walking” or “given to walking about” (Peripatetic School, n.d.). Most modern day neuroscientists would now agree that there are clear connections between movement and learning (Jensen, 2005). In fact, the same area of the brain (the cerebellum) processes both movement (motor) and learning (cognitive). According to Jensen (2005) “movement can be an

\(^{25}\) See Mobley and Fisher (2014) for a compelling discussion of kinesthetic learning in college classrooms.
effective cognitive strategy to (1) strengthen learning, (2) improve memory and retrieval, and (3) enhance learner motivation and morale” (p. 60). Vascellaro (2011) believes that learning is deepest when “a palette of rich, interdisciplinary, and frequently kinesthetic experiences are directed at the topic of study” (Campbell, 2012, p. 480).

There is an obvious connection between the brain and breath as well. From a purely mechanical point of view, the brain can’t function without oxygen. Physical activity increases blood flow and therefore oxygen flow to the brain (Jensen, 2005). A rise in heart rate increases “excitatory active brain chemicals” (Jensen, 2005, p. 63). In this higher state of arousal, the brain is flooded with nutrient-dense chemicals. It is a known fact that physical exercise helps us to “grow a better brain!” (Jensen, 2005, p. 63).

However, movement is not just about exercise, or even our facial expressions and body language and gestures. There is also what eastern mystics call the “subtle body,” the realm of “sensations, emotions and thoughts [that] are [also] organized patterns of movement” (Keleman, 1987 as cited in Peterson, DeCato & Kolb, 2015, p. 234). Yeganeh and Kolb (2009) found that “mindfulness techniques can enhance experiential learning” (p. 8). Educators are using yoga and other mindfulness practices in the classroom now in an effort to help integrate mind and body. Spirituality has played a strong role in the lives of social justice activist-educators, such as Freire and Horton and is gaining prominence in the adult learning literature (Tisdell, 2008). Tisdell (2008) defines spirituality as “a journey or an experience leading toward wholeness” (p. 28). Many spiritual practices, including my own, include techniques for training or centering of attention, most commonly called mindfulness. I would argue that a tour by its very nature puts you more “in the moment” or “into presence” because it is an out of the ordinary, out of time
experience. Being “in the now” means bringing intense consciousness into the present moment (Tolle, 1999). Being in this unfamiliar, liminal space, heightens attention.

Just as the physical movement of the tour can enhance cognition, so too can the emotional component. “Good learning does not avoid emotions; it embraces them, recognizing emotional states as fast-changing, specific neural networks that incorporate multiple areas of the brain” (Jensen, 2005, p. 72).

Brain-based theories (Damasio, 1994, 1999) and the concept of “emotional intelligence” (Goleman, 1995) suggest that emotion and feelings are deeply interrelated with perceiving and processing information from our external environments, sorting and retrieving information in memory, reasoning, and the embodiment of learning (Merriam and Caffarella, 1999; Taylor, 1996). (Dirkx, 2001, p. 68)

Neuroscientists agree that emotions play a significant role in learning (Jensen, 2005). So not only are the mind and body linked, but the mind and emotions are as well, both positive and negative emotional states. The more negative states such as fear can trigger the fight or flight response, driving the experience and the learning deeper (Jensen, 2005). As we have seen, before the emergence of novelty, the network enters a period of “critical instability” (Capra, 2010, para 22). This experience may be fraught with fear, anxiety, doubt and uncertainty. Seasoned facilitators will understand the dynamic balance at play and will be able to acknowledge the emotions and reassure network members, creating “a climate of trust and mutual support” (Capra, 2010, para 22).

During the change process, some of the old structures may fall apart, but if the supportive climate and the feedback loops in the network of communications persist, new and more meaningful structures are likely to emerge. (Capra, 2010, para 23)

As the new structures emerge, network members “often feel a sense of wonder and elation” (Capra, 2010, p. 3), emotions that should be acknowledged and even celebrated.

More and more organizations and institutions are realizing that learning how to manage
our own emotions, especially in times of ambiguity and uncertainty, is an important aspect of leadership. UBC’s Faculty of Education offers degrees that concentrate on social emotional learning and development. Daniel Goleman (1995) wrote a book on the concept of “emotional intelligence” or “EI.” The basic premise of the book is that the more we are able to identify and manage our own emotions, the better able we will be to help others deal with their emotional strain and influence their responses. He claims EI is in fact more important than “IQ” whether you’re a high-powered CEO, a child in grade school, or a sustainability professional (Goleman, 2015). As we know, our future is uncertain, as it emerges we are bound to encounter emotions both in ourselves and in those around us. Engaging the emotions during programs can influence learning. As facilitator guides we can help “learners to make sense of the patterns emerging amount these complex systems as well as to understand their own involvement in these patterns” (Fenwick, 2000). As a storytaker, we can also “help trace and meaningfully record the interactions of the actors and objects in the expanding spaces” (Fenwick, 2000). In the next section, I will apply the learning from the various bodies of literature covered in this review to define and describe my sustainability tour.

3.6.9 Sustainability tours—A definition

As a working definition for my study, I define sustainability tour as “an educational program in which the curriculum is constructed as a direct and immersive learning experience outside of the classroom, consisting of a series of exemplary and multivocal sites that represent sustainability in practice.” As an embodied learning experience, I believe that tours are a viable vehicle for acquiring the necessary sustainability capacities and should be incorporated into sustainability programs. As a network itself, it meshes well with systems thinking and it has the capacity to provoke the know-how and know-who learning that Gonzalez and others (such as
Capra & Luisi, 2014a; Wals & Corcoran, 2012) feel is critical to sustainability education and to the survival of our species.

The survival of humanity will depend . . . on our ability to understand these principles of ecology and to live accordingly. Nature demonstrates that sustainable systems are possible. The best of modern science is teaching us to recognize the processes by which these systems maintain themselves. It is up to us to learn to apply these principles and to create systems of education through which coming generations can learn the principles and learn to design societies that honor and complement them. (Capra, 2005, p. 29)

In this study, I will argue that the further outside the everyday environment, the more immersed in a culture, the more bracketed the experience, the more potential there is for a more embodied learning experience that may result in application of learning. In the findings and discussion chapter, I provide evidence and make a case for the tour as an excellent strategy for enhancing the application of learning due to the unique features described in this chapter.
Chapter 4: Research Design—A Labyrinthine Journey

First, qualitative data evolve; later accounts round out, qualify, put in perspective, and disqualify earlier ones. Analysts don’t march through data collection as in survey methodology; they scout around, sleuth, and take second and third looks. – Miles & Huberman, 1984, p. 89

Underpinning all qualitative studies is a basic tradition of iterative inquiry wherein the researcher heads out into the field with a handful of burning questions, collects evidence that will help answer those questions, returns to make sense of that data, and heads back out to the field if necessary to gather more data, before weaving the findings into a meaningful tapestry (Grbich, 2013). It is a labyrinthine journey. In fact, while I was conducting my interviews, I felt very much as if I was on tour, visiting each participant’s world for an hour or so at a time.
I have adopted a pragmatic approach to my research, employing multiple theories and methods throughout in order to “build or uncover the case” (VanWynsberghe & Kahn, 2007, p. 82). According to Grbich (2013), pragmatism is “a mix of postpositivism and social constructivism, a leaning toward postmodernism, and emphasis on empirical knowledge, action, triangulation and the changing interaction between the organism and its environments” (p. 9). Having “an eclectic set of tools” (Grbich, 2013, p. 9) from which to choose allows me the flexibility to explore my research questions in depth, and analyze and interpret my findings through different theoretical lenses (Ottoson, 1997a). As Ottoson (1997b) found during a post-program study of a continuing education health institute, “quantitative data suggested that relatively little application had occurred, written comments from respondents suggested more application than the ratings had indicated” (p. 92). According to Ottoson (1995), “the post-adult education process is too complex to comprehend from a perspective anchored predominantly in one discipline or field” (p. 18). The different lenses can surface rich layers of data. Employing multiple data sources, theoretical frames and analysis methods facilitates triangulation and increases the trustworthiness of my study (Andres, 2012; Fine, 2003; Tracy, 2010).

This is an exploratory case study of one sustainability tour within a certificate in sustainable community development at a continuing education unit within a major academic institution in BC. The definition of case study proposed by VanWynsberghe and Kahn (2007) is “a transparadigmatic and transdisciplinary heuristic that involves the careful delineation of the phenomena for which evidence is being collected (event, concept, program, process, etc.)” (p. 80). The tour course under study was offered once a year over two to three days from 2008 through 2013. A case study involves “intensive and in-depth focus on the specific unit of analysis” (p. 83) with thick, contextualized descriptions. In this case, the unit of analysis is
participant perceptions of application of learning within the context of a sustainability tour.

There are multiple facets to examining “application.” First I identified the learning that took place in order to see which learning was applied. In addition, I looked at the ways in which participants felt that their ability to apply what they learned might have been enhanced or inhibited by various factors following Ottoson (1997b) and Caffarella and Daffron (2013). It seems obvious that a tour, being “out there,” immersed in the subject matter, feeling, touching, smelling and experiencing it, will enhance the learning and application potential. However, my interest lies in the specific features of the tour that may contribute to learning application. While the researcher may have some working hypotheses at the outset, she must remain open to serendipitous findings (VanWynsberghe & Kahn, 2007). The object of study surfaces throughout the process of investigation. I will also state up front that as the tour course is embedded within a certificate program, it is nearly impossible to attribute the learning to one specific course. There are multiple influences on application; no one program or encounter can be credited with the outcomes (Ottoson, 1995, 1997a, 1997b; Kirkpatrick, 1998).

### 4.1 Study Population and Participant Selection

I define my target population as adult learners. Adult learning theorists view the adult learner as a distinct category. Drawing on the work of Malcolm Knowles (1980) and others (Boone et al., 2002), I define the adult learner here as one who takes responsibility for their own learning and learning needs, draws on their own life experience and is motivated to apply their new skills and knowledge to real-life situations. While this course is designed for mid-career professionals, there would be some transferability to other age groups. Even within the certificate program itself, we have had participants who are in early career (in years 2012, 2013). Their learning may be applied differently. For example, the new knowledge could help them decide on
a career direction as opposed to initiating a project.

In each annual sustainability tour course, there has generally been an urban-rural split, except in 2012 when all of the participants were from the City of Vancouver. The majority of the participants have been cohort, but non-cohort were also considered. In terms of occupation, past participants have been municipal planners, environmental engineers, corporate staff, politicians, non-profit program coordinators and community developers. The population from which I drew my study candidates then included all past graduates and participants (approximately 100) of the certificate program in sustainable community development over the last six years (2008-2013). The participants, both male and female, are primarily from BC although some have been from other provinces in Canada, the U.S. and one person was from Taiwan, another from Argentina. There is minimal ethnic diversity in the population.

During the selection process, I was looking for a cross section of participants, male/female, urban/rural, from the corporate and non-profit sectors. Drawing on personal knowledge of past tour course participants, I also sought representation from participants who had successfully applied new learning, as well as those who may not have, as I wanted to ascertain barriers to application as well as enhancers. As I attempted to contact potential study candidates, I was unable to locate a few people, either their email had changed or they moved away or they just did not respond. Two people, one from the non-profit sector and another from the oil and gas sector, declined to participate because they were too busy. My process of interviewee selection was not a random, blanket request for participation, but rather quite specific and directed, based on some of my own knowledge of the participants. However, I made it clear to potential candidates that participation in the study was voluntary.
In addition to course participants, all of the certificate program facilitators (approximately 15) were considered for interviews. I ultimately selected three, two of them based on their connection to the sustainability tour course and one with whom I had had very little contact. Early in the process, I also considered interviewing unit staff and potentially someone from the advisory board that was in place during the development of the certificate program, however, as they were not as directly involved with the program implementation and the sample was small, I decided against including them. There were no other intentional exclusions in my study.

Following approvals from a harmonized ethics review process (involving UBC and the study institution26) in early April of 2014, a preliminary list of potential study candidates was compiled and each person was contacted via email with an invitation to participate in the study or to opt out. A brief summary of the study including study purpose was included in the email. Some of those participants requested more information before making a decision, which I sent them. Those candidates who responded positively to the invitation to participate were sent a backgrounder on the study as well as a consent form. They had the option of signing and returning the form to me electronically, or in person at the interview.

I confirmed a total of 12 participants for my study. Nine participants (5 females, 4 males) who had taken the sustainability tour course between 2008 and 2013 were confirmed. Eight of the participants had completed the full certificate program, five of them over two or more years. One participant was just about to take the studio course, the final course that would complete her certificate program. Only the 2010 cohort was not represented.27 I had tried to enlist two different participants from that year, one declined due to being too busy and the other did not

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26 The process also included obtaining formal written consent from the study institution with permission to access email lists, student profiles, evaluation forms and assignments.  
27 However, the certificate program curriculum coordinator does comment at length on the content that year as she co-facilitated with me in 2010.
respond to my email, possibly because she had moved and was no longer at that address. While I did solicit at least two non-cohort study participants, they were not able to enter the study for various reasons. Interview times were then booked via email and in some cases via phone. Three course facilitators were also confirmed (2 females, 1 male). Prior to interviewing participants, I embarked on a pilot study to refine my list of interview questions.

4.2 Pilot Study

I conducted two pilot interviews prior to launching into full-scale data collection. I interviewed one past participant from an urban setting and one rural participant from another course in the broader certificate program. The former was eventually included in the study; the latter was not as she had not actually taken the tour course. The pilot study helped me to trial and refine my interview questions, which I planned to use as a guide for the interviews. The questions asked for information about participants (what year they took the course, whether they were cohort/non-cohort, their personal goal and motivation for taking the course), their prior experience and background in sustainable community development, and in particular, their experience in initiating projects or implementing policies in the community or workplace. The questions also addressed specific features of the course and its relevance to the participant, the barriers and enhancers to applying the new knowledge as well as some demographic information (age, gender, ethnic origins, rural/urban dweller, occupation). In the guiding questions that I prepared for the facilitator interviews, I was probing for what they knew about the tour course, if the sites we visited were referred to in their courses or in assignments, and other evidence of application. My final interview questions for both participants and facilitators are included in Appendix C1.
The pilot also helped me to test out my data analysis protocols, data coding procedures and a priori codes, which I will describe in more detail below. First I will detail the data I collected.

4.3 Data Collection

I collected data from three sources: through interviews with course participants, certificate program facilitators and examining various documents (i.e., participant profiles, evaluation forms, assignments). “Multiple types of data, researcher viewpoints, theoretical frames, and methods of analysis allow different facets of problems to be explored, increases scope, deepens understanding, and encourages consistent (re)interpretation” (Tracy, 2010, p. 843). I employed qualitative methods to collect the data for my case study including a pre-interview activity, in person interviews and accessing relevant documents for analysis.

4.3.1 The interviews

From May through June of 2014, I conducted twelve face-to-face semi-structured interviews (including instructors and participants) and audio recorded them. At the start of each interview, I employed a pre-interview activity (PIA) as outlined by Julia Ellis at the University of Alberta in a pre-conference workshop I attended in Victoria, BC in June 2013. The PIA was part of a larger interview process in interpretive inquiry that Ellis was presenting. The method employs clusters of open-ended questions to get at “part-whole relationships and holistic understanding” (Ellis, 2013, p. 1). Ellis (2013) writes in her handout materials, “an interviewer/researcher hopes to acquire a holistic appreciation for the person being interviewed. The researcher wants to know what is important to the person generally in order to better understand or to more confidently interpret what the person says specifically about the research topic (whole part understanding)” (p. 11). The interpretive process is a vehicle for “learning what
larger ideas are important to the participant: as well as values, motivations, interests, aspirations, fears, loves, important knowledge or interpretive metaphors” (p. 12).

In this activity, participants were asked to draw their vision of a sustainable community and include their role as a sustainability leader in that vision. The participants completed the PIA and then the drawing was referred to during the interview. This activity was used for participants and facilitators. The PIA helped to inform my understanding of the study participants’ philosophical orientation with respect to sustainable community development. One of the drawings appears in this thesis.

At the close of the interview, I asked study participants, including facilitators, to fill in a demographic section (age, gender, ethnicity, job title) on the interview questionnaire that was based on wording and groupings developed by Statistics Canada (2012, 2015). During analysis I was able to tabulate this information for easy retrieval. I will discuss the analysis in more detail in section 4.4 below.

4.3.2 The documents

I also had course documents in my possession, or obtained some, for example, participant profiles that are completed at enrolment, summative evaluation forms for all course participants in the course from each of the six years, formative evaluation activity from all tour participants from the last two years, and my own course notes and email correspondence with participants and colleagues, and assignments (where available) that were completed by tour course participants in the first two years of the tour course and assignment comments. Ellie was responsible for marking the assignments, and received hard copies from the participants. She then returned those copies to them. While none of the assignments (first two years) for the sustainability tour course were kept, I was able to secure a few electronic copies of assignments
from the participants themselves. However, Ellie had retained the comments she made on each assignment and I did include those comments in my data.

Note that I accessed all documents available to me, not just those of the study participants, as I believed they would have comparative value. For example, I could compare emerging themes from the study participant interviews with the themes identified on the evaluation forms. In addition, I could examine the “muddy” and “clear” aspects of the learning part way through the course (from the formative evaluation activity) and compare them with the themes from the evaluation forms and the interviews. The PIA drawings of a sustainable community were another data source, an indication of a participant’s overall understanding and interpretation of sustainable community development. Using these multiple data sources facilitates triangulation and enhances the credibility of my study (Tracy, 2010).

Interview data and documents provide detailed descriptions in order to allow the complexity of the context (the sustainability tour) to fully emerge (VanWynsberghe and Kahn, 2007). The data describes the various initiatives undertaken by participants, their perceptions of the learning and application that took place, and highlights the barriers and enhancers to application of learning. In this way, the data contributed to my further understanding of the tour as a potential vehicle to enhance application of learning. I will now discuss my data analysis protocols.

4.4 **Data Analysis**

Following Miles and Huberman (1984), I analyzed the interviews and documents through a series of theming and coding processes which helped me to reduce and subsequently display the data in order to arrive at my conclusions. I found coding to be the most direct way to break into my data set (Grbich, 2013) and appropriate for a novice researcher such as myself. Coding
focuses on words and phrases, which are more meaningful than numbers, and frequency counts alone (Miles & Huberman, 1984). The coding process leads to thick descriptions which is desirable in any qualitative work and is well suited to case study. The eclectic coding technique I employed is exploratory in nature and matches my overall pragmatic framework. I will now discuss the protocols and procedures I employed during data analysis.

4.4.1 Data analysis protocols

My protocol for the analysis phase of my study has been informed by Grbich (2013), Miles and Huberman (1984) and Saldana (2013). In addition to the ethical considerations (described in section 4.5) and planning for triangulation, I took the following steps below. Although I number the steps, they were more iterative in process; many of the steps are repeated and often concurrent. I continued to test and adapt this protocol through the first three interviews of the regular cycle of data collection. I will elaborate on my coding procedures in a moment.

1. Contact summary sheets. I used as a contact sheet to capture consistent information on each participant. This field document can provide relevant circumstantial information, such as body language or state of mind that could potentially help me interpret the data (Andres, 2012). I created a template to use for each interview. The document included information on the participant (pseudonym, gender, age), the time, date and site of the interview, any contextual comments, main themes and questions that emerged or follow up that may be required. It also included a data accounting table at the bottom of the sheet, enabling me to tick off items from a list of all possible documents (see Table 4.1 below).
2. **Field notes.** In addition to the brief notes I made on the contact summary sheets during the interview, immediately following the interview, while the memories were fresh, I added more formal field notes. These notes provided nuances (Miles & Huberman, 1984), such as unexpected occurrences, salient contextual elements, etc. The notes assisted me with interpreting and conceptualizing the findings as well as in constructing analytic memos.

3. **Transcribe interview.** Each audiotaped interview was transcribed shortly after the interview took place. Capturing the verbatim responses, including some details on pauses, silences and intonation, ensures accuracy and therefore enhances the trustworthiness of my study (Tracy, 2010; Miles & Huberman, 1984).

4. **Member Checks.** Once finalized, the transcriptions were sent to the study participants to check for accuracy and to allow them the opportunity to rescind specific portions of the transcript with which they might be uncomfortable. Once I received their input and adjusted the transcripts accordingly, I removed any identifying elements to ensure their anonymity. I checked in with participants at various points during the analysis process as well to clarify intended meanings. They were also sent the findings chapter for which I invited their feedback on conclusions and adjusted the text as they requested.

5. **Reflection journal.** I kept a diary of ongoing reflections as they arose. These unedited notes informed my memo writing, the interpretation of the data, as well as subsequent theorizing. Due to my dual role as researcher/course instructor, it was vital for me to be

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**Table 4.1 Master Document Table**

<table>
<thead>
<tr>
<th>PIA</th>
<th>Profile</th>
<th>Assignment</th>
<th>Summative Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓</td>
<td>✓</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Gillard (2016)
critically reflective of my own emotions and experiences (Grbich, 2013). I also used the journal as a reference for debriefing with my supervisory committee.

6. Analytic Memos. Every three to four interviews, I wrote up a more formal analytic memo around a particular theme, issue or concept that was emerging as recommended by Miles and Huberman (1984). The memos helped me to discern ways in which certain codes were interacting. For these memos, I drew from the interviews themselves, field notes, contact documents and the reflective journal.

7. Audit trail. Miles and Huberman (1984) recommend keeping an audit trail in order to ensure an accurate accounting of procedural steps, decisions, and subsequent conclusions. Through careful documentation (contact sheets, analytic memos and journal entries), I was able to describe each facet of the study from the conceptual stage through to the data analysis, which lends credibility (Andres, 2012). In this way, I was able to track the procedures and verify my findings. By doing so, I hold myself accountable as a researcher and ensure that “the study results are an accurate reflection of the participants’ behaviours, attitudes and opinions” (Andres, 2012, p. 116). By providing these conventions, a secondary researcher or analyst could also “verify the accuracy and legitimacy of the procedures” (Miles & Huberman, 1984, p. 244). An audit trail increases the validity and trustworthiness of my study.

Although data analysis is occurring through the above steps, once all of the data is collected, there are three main components of qualitative data analysis to consider, which I will discuss below.
4.4.1.1 Reduce, display, conclude

According to Miles and Huberman (1984), qualitative data analysis “consists of three concurrent flows of activity: data reduction, data display, and conclusion drawing/verification” (p. 21). Data reduction involves focusing and simplifying the raw data through a variety of methods including coding, theming and clustering. Through displaying select segments of data we get a preliminary snapshot of potential meanings and implications that allow us to begin to tease out conclusions. Displays may include quotes from interviews, charts, tables and word clouds as shown above. In the third activity, the researcher makes further decisions on what things mean by “noting regularities, patterns, explanations, possible configurations, causal flows, and propositions” (Miles & Huberman, 1984, p. 22). As the meanings emerge, they are tested for
validity and trustworthiness through re-examination, cross-checking (against other data sources) and discussion with colleagues or supervisors. For example, I cross-checked course facilitator interview transcripts with participant interview transcripts to confirm what was percolating for the participants in other courses. Other documents (participant profiles, assignments, etc.) also served as a way to cross-reference data emerging from the interviews. I used emerging themes from all the documents to compare to the emerging themes from the interviews. These cross-checking procedures facilitate triangulation (Andres, 2012; Tracy, 2010).

Yet even while making decisions, as a researcher I knew I must remain open to second thoughts and surprises as I began to write up my findings for my thesis (Miles & Huberman, 1984). This process of cycling back and forth allowed for corrective measures to be taken when necessary. It allowed me to fill in gaps in my data and question my assumptions (Miles & Huberman, 1984).

4.4.2 Data coding procedure

Now that I have described my protocol, I will go into more detail with respect to my data coding procedures. According to Saldana (2013), “a code in qualitative inquiry is most often a word or short phrase that symbolically assigns a summative, salient, essence-capturing, and/or evocative attribute for a portion of language-based or visual data” (p. 3). Codes are usually derived from research questions, literature reviews, and the data itself (interviews, field notes, documents, drawings, photos, etc.). The process consists of assigning overarching labels, or phrase tags, then sorting and grouping segments. The codes can reference activities, perspectives, events, meanings, participation, relationships, social networks, processes, settings, and more (Miles & Huberman, 1984). Themes are then generated and patterns located as they relate to the
research questions. In this way, the data is reduced into a manageable form that can then be displayed and from which conclusions can be drawn.

The coding process allows for the creation of a master index of codes or “codebook” and easy retrieval and organization of similarly tagged codes, themes and patterns within the computer program (Grbich, 2013). The coding scheme serves as a bridge between the data and meaning interpretation, allowing the conceptual structure to surface. Coding can be inductive, where the researcher pre-selects codes and deductive where the codes emerge through deeper study and further reflection on the raw data. It is not uncommon to have “some orienting ideas, foci, and tools” (Miles & Huberman, 1984, p. 27, italics theirs) upon entering a study. I used both inductive and deductive methods, which eventually converged to produce my final list of codes (see code book in Appendix C2).

First I familiarized myself with the completed interview transcriptions by reading through each one in hard copy format. I then reread the transcript with the intention of highlighting key concepts and marking off segments of the transcripts as they related to my research questions. I added descriptive comments in the right hand margins (Grbich, 2013). In the left hand margin, I began to hand code the transcript (using both a priori and any “first impression” codes that emerge). I gradually expanded my list of a priori codes and began the process of organizing them into subcategories. The entire process is a method of reducing data, as not everything would be relevant to my research questions.

I then uploaded the transcripts into NVivo, a computer assisted qualitative data analysis software program. At that stage, I examined the data with a more focused approach, assigning codes to each line. I used my a priori codes and any other codes that emerged in the initial
readings. In addition, I used an eclectic coding approach, once I was “in the system.” I will now describe my coding approaches in more detail.

4.4.2.1 A priori codes

Drawing on my research questions and theoretical lenses derived from the literature review28, I conceptualized eight preliminary and very broad a priori codes for my codebook. Saldana (2013) and others (such as Miles & Huberman, 1984) recommend creating this starter list prior to entering the field. My provisional list was: learning, application, tour features, other course features, program participants, barriers, enhancers, and sustainability. It is important to have precise operational definitions for each code so that other researchers understand the phenomena being studied (Miles & Huberman, 1984, p. 60). I will now discuss what constituted applying each of these codes.

I went through each transcript and document, coding segments (paragraphs or more) as “Learning” (LRN) when participants revealed their perceptions and feelings about their learning experience during the sustainability tour and specifics about the knowledge, skills and resources that they may have gained. I was looking for statements about changing “beliefs, attitudes, values, explicit ideas and ideologies as well as behaviour patterns, actions and events” (Grbich, 2013, p. 261). The “Application” code (APPL) was used when participants named ways in which they applied their learning. For example, if specific sites or guest speakers arose in discussions or assignments in other certificate program courses. They may have helped implement a new policy at work or initiated a project at home or in their communities. Armed with their new sustainability knowledge, they may have been able to meaningfully contribute to conversations.

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28 In particular, Caffarella and Daffron’s (2013) examples of barriers and enhancers to transfer and Ottoson’s (1997A) influences on application.
with colleagues, friends and family. They may have built out their sustainability network or even recommended the course or certificate program to a friend or colleague.

Data segments were coded “Tour” (TOUR) when participants mentioned a distinct feature of the course that they perceived to be responsible for their learning. I was watching for statements on being out of the classroom, modes of travel, references to specific projects, sites and guest speakers. The segments were also coded TOUR if participants mentioned the experiential nature of the tour format or an aspect of the tour that impacted them in a powerful way, using words such as *inspirational*, *transformational*, *transformative*, *life-changing* and *epiphany*. Any reference to activities in the classroom or in-class lectures, readings, modeling by instructors, etc. were coded “Other Course Features” (FEATR).

Under “Program Participants” (PART), I clustered prior knowledge, experience and background references; attitudes and values; the relevance of the program (how useful, how valuable, how practical it was). I also initially placed participant motivation, purpose and goals on entering the program there, as well as some of the demographic information (age, occupation, ethnicity) and whether they lived in an urban or rural environment. The “Barriers” (BAR) and “Enhancers” (ENHNC) codes grouped signifiers of the roadblocks encountered and the roadways paved, both reflections of the complexity of the change process. Key factors here could be whether or not the participants perceived themselves to have power and authority and if they had adequate resources (time, financial and staffing). I was watching for mentions of community, organizational and societal factors as well. For example, an organization may be very supportive of change and even reward its employees for innovating and thus facilitate application. In an unsupportive climate, without cooperation from peers, superiors or key political leaders in the community, a project may flounder.
Finally, I coded data segments “Sustainability” (SUST) when participants provided definitions of sustainability and related concepts (sustainable community, sustainable community development, sustainability leadership). Their visions of a sustainable community and their hopes for the future were also coded SUST. I also included references to frameworks and their pillars or capitals and all of the sustainability sectors (such as transportation, energy, green infrastructure). Leadership eventually became a separate category (LEAD) as I compared traditional leadership and sustainability leadership competencies.

As these provisional codes were very broad, I needed to break them down further into additional codes and/or sub-codes to avoid overlapping of categories and to distinguish between topics and themes, otherwise the coding would become meaningless. Grouping the data into broad segments was merely the first step in my data reduction process. In the next round, I looked at these broader chunks of data in NVivo, compared the related segments and did a finer line-by-line analysis. I will now describe the next phase of my coding process where I expanded and refined my code list.

4.4.2.2 Eclectic coding

Following the preliminary hand coding, I used eclectic coding for the first cycle of computer assisted coding of the interview transcripts. Eclectic coding is exploratory in nature and therefore a good fit with an exploratory case study. The method, a form of open coding, is a hybrid of two or more first cycle coding methods (Saldana, 2013). Following Saldana (2013), I used descriptive coding, which sums up the topic of the segment. For example, segments that were coded Network (NET) included any reference to connections made with fellow cohort members, facilitators, guest speakers. I coded segments Change (CHNG) when they referred to how change happens within systems theory, including context, flow, timeline. Under
Communication (COMM), I placed sub-themes such as sustainability literacy, framing and storytelling.

<table>
<thead>
<tr>
<th>CHANGE</th>
<th>CHNG</th>
<th>Change process (systems thinking)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Context</td>
<td>CHNG-CNTX</td>
<td>Setting/environment</td>
</tr>
<tr>
<td>Flow</td>
<td>CHNG-FLO</td>
<td>Leverage points etc.</td>
</tr>
<tr>
<td>Timeline</td>
<td>CHNG-TME</td>
<td>References to the time it takes for change, long view, patience</td>
</tr>
<tr>
<td>Perfection</td>
<td>CHNG-PERF</td>
<td>Mentions of perfection or need to be perfect</td>
</tr>
</tbody>
</table>

*Table 4.2 Code Book Excerpt*
Gillard (2016)

In this cycle, I further broke down some of the participants’ “predisposing” influences such as motivation (MOT) for enrolling in the program and relevance (REL), how relevant a site/topic was for participants and (EDUC) for their education levels. I also added Certificate Program (CERT) to capture the links to other courses and overlapping content. If participants made any recommendations (RECOM) for the course or the certificate program, they were also coded. The goal of this first cycle is “to tighten or condense the number of codes and categories into a more compact set for analysis” (Saldana, 2013, p. 206). I followed this first round with both analytic memo writing and journaling to surface key themes.

I also employed Attribute coding (Saldana, 2013), which is recommended for capturing participant demographics (age, gender, ethnicity,), education and occupation. I added details pertaining to their “green” lifestyle. Some of the “attributes” were initially recorded on the contact sheets and then, as information was culled from the interviews and documents, eventually tabulated for easy reference.

I employed a variety of methods to visually represent my findings. Displaying the data in a visual format can be very useful at several points in the analysis process. As I advanced through the analysis, I displayed the data in tables and charts, and even conceptual maps to help
me detect patterns and begin to draw some conclusions. The tables also allowed me to do some quantitative analysis to add to my qualitative data. For example, I tabulated the ratings section on the evaluation forms across all years to determine what the “first impressions” of the overall course were, in addition to the content, its relevance, the format and organization of the course, how well the additional materials served them, and whether or not they had ample opportunities for participation. I was able to compare the ratings from three of my study participants (who identified themselves on the forms) with the rest of the evaluations. I also tabulated ratings for the sites and speakers immediately following the program, with a view to comparing the site and speaker mentions in the interviews.

At that stage, I began to identify common themes across the coded segments. According to Saldana (2013), “a theme is an outcome of coding, categorization, and analytic reflection” (p. 175). It is an extension of the shorter code words or phrases and serves as a further categorization device. Theming involves the formation of code clusters as they relate to my research questions, hypotheses and concepts. As Miles and Huberman (1984) state, “clustering sets the stage for analysis” (p. 56). I engaged in further cycles of coding/recoding to “synthesize the variety and number of codes into a more unified scheme” (Saldana, 2013, p. 188).

Concurrent with the coding and theming, I was watching for “commonalities, uniqueness, and contradictions, as well as missing information” (Torres-Olave, 2006, p. 75). I compared and contrasted emerging themes within interviews and across interviews. I wanted to know if the findings from the facilitators reinforced what I was learning about participant application from the interviews. For example, I noted if the sites mentioned during the interview were the same for both groups. Further participant reflections (via phone call or email to clarify an intended meaning) also helped me interpret the data at this stage. From my own notes, I added
descriptions, memories and contextual information to the above, and cross-referenced with themes from the document review. I also wrote summaries of the PIAs and used those as evidence of learning particularly with respect to sustainability literacy. Descriptions from the interviews helped me to interpret the document review data. I took careful notes and recorded my research decisions and activities throughout the data collection and analysis process to ensure transparency in my procedures (Tracy, 2010).

Throughout the data analysis phase, I moved back and forth across the data and continually referred back to my research questions and theoretical framework. I found by reading and rereading the interview scripts, I deepened my understanding of what the participants were telling me. I continued to revise my themes as I wrote up the findings, refining my codebook as required throughout the process. Eventually, I established that the themes that were emerging aligned with sustainability leadership competencies and the change process within systems theory. My final list of themes, codes and sub-codes reflects that discovery (see my code book in Appendix C2). I then moved to final displaying and summarizing of the data.

This visual conceptualization also assisted with development of key assertions and helped me to construct a through line for summarizing my findings. As I wrote up and displayed my findings, I continued to draw on the literature review to meaningfully cohere and refine the research questions, methods and findings (Tracy, 2010). Some of the writing that I did in my MA course work was particularly helpful; in particular, I drew on a context analysis that I had undertaken in Developing Short Courses, Workshops and Seminars (ADHE329). While I do not include the context analysis in this thesis due to space considerations and the fact that it would reveal too much about the identities of my participants and the study institution, some of my findings and reflections there inform my interpretation of the findings.
Finally, as I began to write up my findings, I provided thick descriptions, one of the hallmarks of qualitative research (Tracy, 2010; VanWynsberghe & Kahn, 2007). I strove to show more than tell, in order to convey the complexity of my data, providing detail and context so that the reader may arrive at their own conclusions with respect to the findings (Tracy, 2010). As Tracy (2010) points out, this “showing” takes more words than simply “telling” and increases the credibility of the study.

4.5 Credibility, Transferability, and Study Limitations

According to Tracy (2010), credibility “refers to the trustworthiness, verisimilitude, and plausibility of the research findings” (p. 842). For Andres (2012), “trustworthiness is built into a study from its initial conceptualization” (p. 116). In qualitative research, credibility is “achieved through practices including thick description, triangulation . . . and multivocality” (p. 843). Triangulation “assumes that if two or more sources of data, theoretical frameworks, types of data collected, or researchers converge on the same conclusion, then the conclusion is more credible (Denzin, 1978, as cited in Tracy, 2010, p. 843). While there is still debate on whether or not these multiple methods and theoretical lenses do yield more accuracy, many researchers do consider the practice valuable. I did not seek a “valid singular truth” (p. 844), but rather a more complex understanding of “verisimilitude and plausibility.” As Andres (2012) points out, triangulation allows me to explore the study concepts at a deeper level.

For Tracy (2010), “multivocal research includes multiple and varied voices in the qualitative report and analysis” (p. 844), providing “space for a variety of opinions” (p. 844) In terms of multivocality then, my colleague and co-facilitator Ellie Campbell reviewed my findings as a crosscheck for my own biases and concurred with my conclusions. As I did not wish to put words in my participants’ mouths and strove to include multiple perspectives (that
may not coincide with my own view), I presented the quotes “as is” from the carefully transcribed interviews. Participants also reviewed transcripts and my findings and I adjusted the text as they requested.

4.5.1 **Transferability**

As Merriam (2009) says, “in qualitative research, a single case or small, nonrandom, purposeful sample is selected precisely because the researcher wishes to understand the particular in depth, not to find out what is generally true of the many (p. 224). Unlike generalizability, with transferability, “the burden of proof lies less with the original investigator than with the person seeking to make an application elsewhere” (Lincoln & Guba, 1985, p. 298, as cited in Merriam, 2009, pp. 224–225). According to Tracy (2010), “transferability [her emphasis] is achieved when readers feel as though the story of the research overlaps with their own situation and they intuitively transfer the research to their own action” (Tracy, 2010). An audit trail, with detailed description on how I conducted my study and arrived at my conclusions, can help other researchers transfer my findings to their own context (Merriam, 2009).

Despite taking careful precautions throughout (for example through keeping an audit trail), I realized there were still a number of threats to the validity of my study. As I had anticipated there were some issues with memory, especially with the participants from earlier years. I had the course schedule with me during each interview as well as the participant’s profile to use as a prompt if necessary.

There were also a few risks to interviewees that I considered. As I am both researcher and course facilitator, I realized participants might feel inhibited about their responses. They also would not want to jeopardize any relationships that they made with other facilitators in the course or university administrators, especially if they were doing further professional
development courses at the institution. I did not want them to feel obligated or pressured in any way to do the study, so I emphasized in my contact materials and in the interview that their participation was completely voluntary and they could opt out at any time. As the course participants were all interested in sustainable community development, most were keen to be contributing to the ongoing development of the tour course and certificate program.

For current facilitators, there were similar risks. They would not want to jeopardize their contracts. However, as the focus was more on the sustainability tour course and how it affected and interacted with their course and application of learning beyond the certificate program, they were freed up to be constructively critical. As I co-facilitated the sustainability tour course, my own job security was also potentially at risk. As Ellie would also be reviewing my findings, she too could feel inhibited and not want to be too critical about our course, nor threaten her position. Now that the course has been cancelled, there is less concern here. However, there could still be a tendency from both of us to want to show the course in the best possible light in anticipation of future work with the institution. Throughout the study, I have endeavoured to keep my biases transparent and present the findings in a professional and ethical manner. Undoubtedly, both Ellie and I wish to reflect on ways the tour course could be strengthened and re-envisioned, so this study could provide recommendations that would serve that purpose.

I followed all recommended ethical procedures to ensure the confidentiality of my study participants. Participants’ identities and the information they provided were anonymized, as was the name of the institution. Participant profiles, assignments, and other documents were coded. Evaluation forms were also coded (although the majority were anonymously submitted originally). In addition, any related computer and audio files were encrypted and stored on a password-protected computer. To ensure confidentiality, the master index (list with names
matched to pseudonyms and file numbers), hard copies of transcripts, documents and audio-recordings are all kept in a locked filing cabinet in the principal investigator’s (Dr. Rob VanWynsberghe) office. After five years of completing this study, I will assess if it is feasible to retain the data for on-going cross-sectional analysis over time (for example, to compare application of learning with a broader sample across years, or to compare it with another sustainability course at another institution). Only the principal researcher and myself would have continuing access to the data. If it is not feasible, then all of the data will be destroyed.

4.5.2 Study limitations

While application of learning is traditionally the domain of evaluators, this is an exploratory study and not a formal evaluation. I found it challenging to walk that line. While not a true evaluation, I believe this study does provide an evaluative perspective. I did neither pre- nor post-testing as you would in a regular evaluation, so in most cases, it was nearly impossible to separate the learning from the sustainability tour from the learning from the certificate program as a whole. In other words, it was impossible to separate the individual from the context. The course is nested in the certificate program, so it would obviously have an influence on the learning and the application. However, it might have been useful to have one non-cohort participant in my study as a comparison. Non-cohort members were those participants who just took the tour course “a la carte.” I did wonder if they derived as much value from just the one course—did the tour have the same long-term impactful effects without the accompanying certificate courses? Non-cohort members also did not have the additional bonding opportunity provided by the first foundational course and may have felt like outsiders.

Due to my dual position as both researcher and instructor in the program of study, my analytic approach is subjective as well as iterative given that I have included some of my own
reflections and personal data. It has been important throughout the process to critically reflect on my own biases and receive feedback from colleagues, my supervisor and committee. I strove to be sincere in my research, “through self-reflexivity, vulnerability, honesty, transparency, and data auditing” (Tracy, 2010, p. 843). For example, I clearly have favourite sites, and in particular one (Heritage Village) that I have defended to the academic institution strongly over the years. I realized after listening to the audio recordings and reading the transcript that those site biases showed up in the interviews, revealing my inexperience as a researcher. In reviewing the audiotaped interviews, I also heard that I didn’t leave enough silence after I asked my questions in some cases. Had I left more space, my interviewees may have elaborated on their initial responses. Instead I sometimes moved onto the next question too quickly. This rushing also showed my inexperience as a researcher. As mentioned, I have allowed for such personal critical reflection in the form of a journal.

While this study involved a small number of participants, it unearthed some promising findings that contribute to further understanding of the tour as a potential vehicle to enhance application of learning. Researchers may wish to replicate my study in part or in its entirety, applying my research design to other studies of sustainability or environmental leadership programs.

In my concluding chapter, I present implications of those findings, potential uses/users of the case, recommendations for course changes and improvements and directions for future research. In the next chapter, I detail the findings.
Chapter 5: Findings—Through the Forest of Findings

In this chapter, I present an overview of my findings as they relate to participant learning, application and the ways in which the tour format appears to influence both. Barriers and enhancers to application are also presented. I also include evidence of how the tour course links up with the rest of the certificate program, contributing to the broader goals of creating a network of sustainability leaders. The learning is arranged thematically and aligns with key sustainability competencies. Throughout this chapter, it may be helpful to refer to the site descriptions provided in Appendix A. I will begin by describing my study participants.
5.1 Study Participants

In this first section of the chapter, I introduce the study participants and discuss the findings with respect to participant demographics, education, prior experience, lifestyle and motivation for entering the certificate program.

5.1.1 Demographics

I interviewed a total of nine sustainability tour course participants. There were five males and four females, ranging in age between 31 and 64 at the time of the course. The majority (6) falling between 30 to 39, which aligns with the mid-career target population. Six of the nine participants lived and worked in the lower mainland; two of those commuted to Vancouver from another lower mainland municipality. One person was from a northern community, one from an island community. Only one person was from outside of BC; she lived and worked in a large urban centre in Alberta. I used Statistics Canada\(^{29}\) (2012) groupings to help me categorize the size of the towns and cities participants lived in. I determined that there were two small population centres (1,000 to 29,999); four medium-sized centres (30,000 to 99,999) and two large urban centres (100,000 or greater). While this was not an attempt at representation, it did confirm that I had a range of rural to urban participants in my study.

In terms of ethnicity, there was a striking prevalence of Scottish heritage; five participants included Scottish as an ethnic or cultural origin. Only one person was “pure” Scottish and one person was solely Chinese. Other participants identified as a mix of up to four different ethnic origins including Chinese, English, German, Irish, Scottish, Swedish and Welsh.

I interviewed three facilitators from the certificate program. They too fell into the mid-career age groups. At the time of the interview, they ranged in age from 35 to 49. All of the

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\(^{29}\) At the close of the interview, I asked study participants, including facilitators, to fill in a demographic section at the bottom of the interview questionnaire that was based on wording and groupings for ages, ethnic origins and population centres developed by Statistics Canada (2012, 2015).
facilitators lived in urban centres in the greater Vancouver region. The ethnic backgrounds of the facilitators was also very mixed: English/Welsh, Dutch, Scottish/Australian. Interestingly, my co-facilitator Ellie Campbell and I also fall into the mid-career age range, live in Vancouver, and have mixed ethnic backgrounds (Russian/German/French/Scottish/Cree for Spring; English/Finnish for Ellie).

5.1.2 Education

This is an educated group interested in lifelong education. Six participants had undergraduate degrees in a variety of disciplines: engineering, geography, environmental studies, professional writing, and tourism management. One had entered undergraduate studies in English literature and drama but had not completed the degree. Four had completed master’s level studies, three in environmental-related disciplines, one in planning. One participant had begun a master’s in Public Administration, which he said was “on hold” while he strove to obtain professional planner designation through on-the-job experience. Only one person did not mention some form of higher education, but had undertaken significant professional development. Several others mentioned doing other “one off” professional development courses or seminars that related to their work, as well as attending conferences. During the interview, one person raved about a bicycle tour she had just taken during a planning conference she was attending that weekend. No other tour-based courses were mentioned.

Facilitators were also highly educated, all three had both undergraduate and master’s degrees; one of them had two master’s level degrees. Disciplines included environmental studies, political science and urban planning. Again, Ellie and I align with these educational findings. Ellie holds two undergrad degrees, an MBA, and entered a PhD program shortly after I began my MA study.
5.1.3 Prior experience

There was an interesting mix of prior experience and eclectic work backgrounds. Current occupations included planners from various sectors, engineers, a biologist, an urban farmer, and a technical writer. There was one politician who also worked in real estate development. Only two participants identified “sustainability” in their current job titles. Three participants worked in the municipal sector, five in the private sector, one in the non-profit sector. In their profiles, several (4) participants noted that they belonged to professional organizations and two had served on boards or municipal advisory committees.

In terms of work prior to their current positions described above, job titles included: mayor, principal/co-founder of an architectural firm, engineers (structural, geo-environmental), planners (civic, transportation, natural resources). Several participants had some previous sustainability experience through their work, each primarily in one sector. For example, the transportation planner had developed transport policy to encourage modal shifts and had experience in designing sustainable streetscapes. The biologist had experience in the environmental sector working mainly for government under various titles including wetlands ecologist, environmental sustainability coordinator and natural resource planner. The geo-environmental engineer had a background in “constructing landfills, looking at waste, recycling of waste, composting” as well as cleaning up contaminated sites and “working with oil and gas facilities.” One person was the sustainability manager of The Bottle Depot at the time of the sustainability course, a site we visit on tour. Some of the background experience was unique. One person had been a pilot, another worked in a nightclub, another taught English conversation to Middle School children in Mexico.
Facilitators also had diverse work experience. One had started her planning career at a non-profit near New York City, then worked in both the governmental and private sector all in a planning capacity. Another had worked overseas for a non-profit, had experience in the private sector as well, then launched two environmental non-profits in the Vancouver area. The third worked for a major environmental non-profit organization. All three now worked as sustainability consultants. Ellie and I both had communications backgrounds and ran our own communications consultancies catering to clients in the field of sustainability.

5.1.4  Lifestyle

All of the participants were clearly environmentally aware and striving to live more sustainable lives. They walked, cycled, or took local transit to work, recycled and composted. One lived in a net zero home that she and her partner had built themselves. Three people mentioned growing food in their backyards or in a community garden. Others (3) mentioned that they enjoyed spending time in nature. Facilitators were also very “green.” One of them was renovating his house—converting it to a net zero home.

Sometimes this “green” lifestyle was also reflected in their work environment. For example, when I interviewed Drew Woods, the transportation planner, one of his colleagues was boarding the elevator with us and had a portable bike. The bikes were kept in the office and used by staff to get to appointments with clients. Drew travelled to and from work via commuter train. Two people were involved with green or sustainability committees at work, one volunteered for an environmental group. Several participants also mentioned spending time with their children or grandchildren and engaging them in various “sustainable” activities, such as gardening. During our interview, Mark Connelly, a structural engineer, showed me pictures of the wooden “digger” he had just built for his grandson.
The majority of the participants demonstrated a high degree of mobility. They had travelled extensively, spent time in other provinces across Canada and other countries for education and/or work purposes. Four of the participants had immigrated to Canada. Only one participant lived and worked in the same lower mainland community that he was born and raised in. Participants had resided in up to six different cities through the course of their lives.

Facilitators were also highly mobile, they had lived in three to six different cities. In addition to curriculum coordination, Sandra Brent regularly facilitated the foundational sustainability principles course and the final studio design course, both of which were part of the larger certificate program. In the interview she told me she was from “all over the place.” She has lived primarily in Canada, but also in Australia and the US, and had travelled extensively. Anna Lakefield, facilitated the sustainability leadership course, and on occasion, the sustainability principles course and the studio course. She worked overseas for several years. David Franks, a sustainability consultant who facilitated two courses in the certificate program, attributes his high degree of mobility to influencing his career choice. He believes that the experience of travelling, essentially “touring,” even in early life affects the development of the brain.

My background in the concept of sustainability probably goes back all the way to the time that I was a child. . . . As a kid, I spent a lot of time outdoors. Both my parents were professors in biology and Earth Sciences, and so pulled me out into spaces. I . . . got to travel throughout a lot of Canada. I would spend my summers outside. They took me out of school for one year, and I traveled the world with them. I was exposed to a lot just in terms of the environment, but also through a lot of that travel you see the good and the bad, the social inequities, the environmental inequities that play out. I think that probably affected me from a pretty early age. I often get that [laughs], the question where people sort of say, “Well, you know, do you think that it was a waste? If you're two, you don't remember much of all the travels that you went on.” My response to that I guess overall is, I don't think you necessarily remember things, but it actually forms who you are. There's something to be said for that. It actually affects how you are. It forms your neural network. It actually forms your brain.
In fact, the cognitive science literature does support David’s theory, which I will explore at length in the discussion section. Ellie and I have also lived in multiple locations and travelled extensively. Clearly, participants and the facilitators were in a privileged social class that allowed them to access higher education and to experience other parts of the world either through work or through travel.

5.1.5 Motivation for entering the certificate program

Three main themes emerged as motivating factors for enrolling in the sustainability certificate: desire for a career shift, expanding sustainability literacy, and professional development. In terms of making a career shift, either the participant wanted to find work, change jobs, or somehow shift their role or position within the company or marketplace. In her profile, Amanda Kent, a technical writer at the time she took the course in 2011, said her reason for taking the certificate program was “to broaden [her] knowledge of sustainability issues.” She hoped that the course would “gently redirect [her] career path towards sustainability issues and the environment.”

Mark Connelly, a structural engineer, saw the certificate as a way to rebrand himself and signal that shift to the market place. He was directly involved in the planning, design and building of facilities for a Mega Sports Event that was to be held in British Columbia in a couple of years.

I thought, when the Mega Sports Event is over, I'm gone. I am going to go and do something else, and I thought in order to do something else, I need to actually make a dramatic shift in what I am thinking about. I can't just decide I am going to go off. No, I am going to actually spend the money and do something that significantly expands my consciousness in terms of what is going on in the world. And in terms of where this is going from an environmental point.

By taking the course in 2008, he also believed it would affect how he was perceived in the marketplace.
Sonya Chen, a biologist and 2009 course participant, had recently moved back to the province and was looking for work. She hoped to make new professional connections. Getting plugged in to the field and learning what other communities were doing was a major theme, both in the profiles and in the interviews.

Drew Woods, a transportation planner, also saw this program as helping him to shift his career at some point. The more immediate need for taking the certificate program was to expand his sustainability knowledge beyond just the transportation sector and “to take the time and consider the details.” Meixi Tang, an engineer in a large urban centre in Alberta was motivated to increase her sustainability literacy as well with a view to incorporating more sustainable practices at her workplace.

Two of the participants were relatively new to their positions and felt the sustainability program would help them shape their new roles. Trevor Martin was the sustainability manager for a small BC coastal community. He hoped to adapt his newly acquired sustainability knowledge “to the realities of small towns with limited resources.” Evan Andrews worked for a non-profit organization in the inner city. Evan was keen to bridge “the gap between the sustainability movement and marginalized, impoverished sections of the population.”

For the majority (4) of participants, the certificate program offered a way to keep current and engage in on-going professional development. As Megan Evans said, reading trade magazines and attending conferences wasn’t adequate to stay abreast of the field and keep herself motivated to move beyond the day-to-day planning tasks. Megan, a town planner in a small northern community, had enrolled in the certificate program in 2009 and took our tour course in 2013. Several other participants (4) took more than a year to complete their program due to financial and/or time considerations.
In his 2009 profile, John Galloway, a politician and real estate developer, was concerned with issues of “peak oil”\(^{30}\), climate change, world economics and social change” and how they would affect his community. He saw an opportunity for his community to become the most sustainable in the region, balancing economic, social and environmental factors. It had been ten years since he had taken a professional certificate at an academic institution. He spoke to the need to stay current.

All of the participants entered the certificate program and tour course of their own volition. Even if their organization paid for them (the case for three participants), it was their choice to enrol. If a participant is required by their company to take a course, it can be considered a barrier to application if the participant has no interest in the topic (Caffarella, 2002; Caffarella & Daffron, 2013).

In the next section, I will discuss the study participants’ perceptions of the tour format itself before going into a deeper investigation of how these features may have contributed to the learning and the application.

5.2 The Sustainability Tour Course: First Impressions

Summative evaluation forms for the sustainability tour course provide participant impressions immediately following the course or program. These initial evaluations are what Kirkpatrick (1998) calls the “happiness ” or “smile” sheets. On the evaluation forms, participants are asked to rate the following on a scale of one (poor) to five (excellent): the overall course; the content (the ideas and concepts presented); relevance (whether the information is useful and current); the format and organization; and opportunities for participation (interaction with

\(^{30}\) Peak oil is based on a theory developed by Marion King Hubbert (1956) that describes the moment when petroleum production has been maximized and the resource has been nearly exhausted. Extraction rates then enter a sharp and terminal decline. As Hubbert points out “any production curve of a finite resource of fixed amount” (p. 9), begins and ends at zero.
speakers/facilitators/fellow cohort members, discussion, reflection); the materials and handouts. Out of 78 total respondents over six years, 97.4% thought the course was Excellent (5) or Very Good (4). With very few exceptions the content category also scores in the top two; 55.1% believe the content was Excellent (5) and 37.2% believe it was Very Good (4). The relevance category has only received a score below Very Good (4) three times—it rated Good (3) twice in 2008 and once in 2011. The format and organization category was quite evenly split between Excellent (42.3%) and Very Good (43.6%). Nearly 86% of respondents thought the opportunities for participation were Excellent (5) or Very Good (4). While roughly 60% of respondents felt the course materials were Excellent (5) or Very Good (4), another 30% assigned the materials a Good (3).

<table>
<thead>
<tr>
<th>Category</th>
<th>Mark 2008</th>
<th>Meixi 2011</th>
<th>Amanda 2011</th>
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<th>Mean (all yrs)</th>
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**Scale** 1=Poor 2=Fair 3=Good 4=Very Good 5=Excellent

| Table 5.1 Tour Course Ratings on Evaluation Forms
Gillard (2016) |

Three study participants identified themselves on the summative evaluation forms, they are: Mark, Meixi and Amanda. The mean score for the three respondents is slightly higher than the mean across all six years that the course was offered (2008-2013). Likely it is skewed because two of the three respondents are from 2011 and that was the year with the most perfect scores across the board. In general, the course rates between a 4 (Very Good) and 5 (Excellent) in all categories (see Table 5.1 above).
General comments on the forms included: “Excellent all around—a nice balance of theory and comparative practices” (2008 participant); “Enjoy seeing real world examples (2010 participant); “See it before your eyes; bring the class outdoor [sic]. Very practical” (2012 participant); “Perfect follow up to the [Sustainability Principles] course—loved seeing the theories put into practice” (2013 participant). Amanda wrote, “Outstanding—even people outside of this program could benefit from the course. Makes me see the city with more hope.” Meixi wrote: “Valuable session. Able to see ‘real-life’ examples and the success stories. Eye opener.”

The evaluation forms show very high satisfaction with the course across the years (both qualitatively and quantitatively), despite shifting sites, speakers and facilitators, reduction in course length and other changes. While these forms are more “evaluative” in nature and this study is not intended to be an evaluation, the first impressions of the course captured by participants are important. The course is still fresh in their minds, so specific details may be remembered—but they also have comparative value, especially when weighed against the learning that participants may have retained and applied years later.

Many participants write of how inspired they were by the projects we viewed. That inspiration was also spoken of in terms of being “energized” and “uplifted.” A 2010 participant, who had missed the final day of the course, wrote a follow-up email to the administration team that expressed the energizing nature of the course, “Overall, I found the course to be very enlightening and I would say energizing as well.” Interviewees also refer to the “energy-giving” effects of the course and or program. Amanda said, “I didn’t feel like that after a lot of the classes . . . but in that course I just felt excited.” Megan called the tour course “refreshing.”

Next I will present findings on the course design, content and execution. It might be helpful to refer to the site descriptions in Appendix A.
5.2.1 Tour design, content and execution

The tour course design has elements in common with a regular classroom course including length, breaks, opportunities for participation, inclusion of guest speakers. However, the tour also has unique features such as modes of travel, planning for the external elements such as weather, and additional costs for transportation and usually food. In this section, I conflate design features somewhat with course execution, for example what I call tour choreography (timing and pacing) is part of both design and execution. As any program planner knows the course does not always unfold as planned, so what may have been in the design originally is adapted during execution. Content also overlaps somewhat with design and execution—it is a combination of sites, speakers, facilitators and even expertise within the group. While for practical reasons, the sites visited are all in the Lower Mainland, an effort is made to link to other projects in BC and around the world through discussions and reading materials. As content will be covered in detail in the learning section, I will touch briefly on it here, and only in terms of the structure and balance of sites chosen and their relevance for participants. First and foremost, the tour is experiential in nature, I will begin there.

5.2.1.1 Experiential tour format

In the comments section of the evaluation forms, participants emphasized the experiential quality of touring living models of sustainability and the value in seeing theory come to life in practice. “Seeing is believing! What we thought would be difficult—we see done!” (2008 participant); “It makes a big difference to step out of the conceptual and into the lived” (2009 participant); “By far the best model to see, feel and learn from the experience(s) of the projects showcased. A good blend of demos/sites to see the different applications of sustainability” (2011 participant).
There were some memory problems regarding the tour course for some participants, but after prompting with respect to sites, the participant would then go on to relay their perceptions.

In the interviews, I was given a more detailed appreciation for seeing “real world” examples but the comments were still very similar to the happiness sheets (Kirkpatrick, 1998; Kirkpatrick & Kirkpatrick, 2006). John said, “I liked the experience of walking on the sidewalk, or seeing those carriage houses, or laneway homes up close. I find that, for me, it gives me that structure.”

Others had similar comments.

I always found this after when you got outside and did more of a walk. It was really interesting... It was just hands on. You don't ever see this stuff in action. It's not just a reading or theory in a book. You’re seeing things actually change. (Trevor, 2011 course)

For me, it was more powerful to be there and hear it from the people that were there. Heritage Village or Harmony Farm, or taking us through that creek, and that school and... the inner city... It's a powerful thing. I'll remember aspects of that course more than some of the other ones, I think, because of the format. (Drew, 2012 course)

For Evan “the [tour] course was so great. Better for me than a lot of the other courses, because you were seeing stuff on the ground.” Megan also valued seeing “things that are more concrete and applicable.” Learning outside the classroom in the form of a tour and being able to see the theory come to life was seen as a valuable component of the overall certificate program, as Drew sums up.

I'm really glad there was that course. It wasn't a very academic-focused course, I didn’t come away with reams of notes, there was no assignment to do for it, and especially to do it early on as part of the overall course, and I thought that it was excellent. Actually going there and visiting places, sticks in my mind really clearly, rather than having people come in and just show you pictures on a slide show, that was excellent. But it was good that the rest, that not all the units were like that. (Drew, 2012 course)

For the participants then, it wasn’t just about any kind of experiential learning, as pair work and group discussions could also be categorized as experiential. Participants particularly noted how we moved about on tour, describing the format’s physical nature and even relating it to health.
**Travel modes.** In the course, the sustainable transportation is embedded in the format. That is, we take different modes of transportation to tour around. There were a few comments on the evaluation sheets about how we travelled during the tour, “Great to use public transit and our own feet to get around to the sites” (2011 participant); “Good healthy walking exercise” (2012 participant). There were also some concerns expressed: “Mobility an issue.” (2008 participant); “The walking tours were physically challenging, as was the ‘distance’ tour [visit to the valley farm and landfill], due to air conditioning issues” (2009 participant).

In the interviews, I generally had to prompt the participants to comment on the modes of travel, but again they emphasized the physicality of the tour.

I know we spent time walking many streets. . . . Doing things on foot for me was extremely meaningful, because I often think when people think of tours they hop on a bus and inevitably we fall asleep because it's too comfortable and the engine lulls us to sleep. You really do have to walk and smell the smells and see the sights. (Sonya, 2009 course)

The walking was definitely good, because you definitely feel like you're not just a spectator, you're part of the crowd. . . . You’ve got to be there on the sidewalk to actually understand what's going on. . . . If we're only observing from the bus, I don't think it would have the same impact. I think that worked really well. (Meixi, 2011 course)

We were walking around the inner city, weren't we? We used the coach. It was cool. Now, I remember another bit walking through the valley, the river basin, following that river. . . . That was neat, because we got dropped off, and then we walked our way through this kind of, little, well in places, like little oasis of greenery surrounded by development, and then met the bus somewhere else. That was a cool thing to do. (Drew, 2012 course)

I like that we moved around a lot. We didn't really linger too long. It was like, OK. Yeah. Let's go. Yeah. Let's move. I liked that we walked a bit. We took the bus a bit. Bikes would have been really cool. (Megan, 2013 course)

We were bodies in motion and all of our senses were engaged.

**Social sustainability focus.** When I asked the course facilitators to describe the tour, there was a definite issue with awareness about the sustainability tour course. David confused our course with the final studio design course. Anna knew a little bit about it because she had had some
contact with both Ellie and me. She had taught the Sustainability Principles course one year and also the final studio course. She framed our course as a social sustainability one, “an opportunity for the students, who are taking part in the certificate course, to visit actual locations around Vancouver . . . to find out a little bit more about social enterprises” and other social innovations. As the certificate coordinator, Sandra was quite familiar with the course. She had participated in portions of the 2008 and 2009 course, and co-facilitated with me in 2010 when Ellie was ill. Similar to Anna, she also thought our course delivered a high degree of social sustainability and would play an even more critical role now that the course on social dimensions had been cut. Not surprisingly, Sandra had the most succinct description of the tour course, which she felt went “hand in hand” with the Sustainability Principles course. “You can't just talk about the concepts, and the frameworks, and the principles” she said, “You need to get out and see examples. Understand what those look like, and how they happen. The ‘how’ is particularly important to mid-career professionals.”

**Unsanitized stories.** So while Sandra reinforced the importance of laying the theoretical groundwork in the Sustainability Principles course, as with the participants, she believes getting out there and seeing real life examples, and hearing about the actual process, including the challenges is equally important. Later she describes how distinct the tour course is from the other courses.

I think it is remarkably different from the other courses. Most guest speakers give power points and talk about their experiences. This is just an example, when we went to Millennium Town and people got to walk around. At the end we had a little debrief and said, “OK. What do you think? Would you live here?” I think that is so different from hearing somebody do a power point presentation about Millennium Town, and why it's so great. You can't actually get a real sense of whether you would live there, or whether you would consider scaling up a model unless you actually walk around.
Sandra contrasts the two approaches within the certificate, the classroom lecture style model with a variety of guest speakers that is used for most of the other classes, and the experiential format of the tour that allows you to “get a real sense” of a place.

Anna also felt that the tour format was “incredibly important,” that it “builds that relationship” allowing participants “to see the human behind” the project, something you don't necessarily get in the classroom.” Anna believes there is a sort of “tour effect” on the speakers, that we get a more authentic version of the story when we meet them face-to-face and outside a classroom.

What we all endeavour to do, is to tell the non-case study version. Right? Because when you read about any of this, then you're going to see the sanitized, easy to read, easy to digest version. . . . Our stories are much richer than that. They often provide way more insight and transformational potential and excitement and all that good stuff, way more bravery and way more whatever than a case study is going to capture. They're also sometimes harder and a little more gutsy. They've had more opposition. They've had more difficult moments and points, than the small case might project. That's the value of being somewhere or meeting someone in person or hearing them speak off the record, is that you get more of the full story.

Megan makes a similar remark in the interview, “At these conferences you go to, it's like, ‘It was a perfect process and everything was great.’ Well, what about all the other processes before that that didn't work, or failed?” By hearing the real story, warts and all, from speakers, participants begin to understand the very messy process of sustainability. As Sandra said, we learn as much from the challenges, and I would add, from the mistakes and failed attempts.

**Bonding time.** In my interview with Sandra, I brought up my theory that the tour format helps participants to gel, creating a more connected group. Sandra remarked, “[That’s] one thing that I hadn't thought of with the tour course is that unstructured open time for people to bond. That is valuable, very valuable.” Anna raised the same idea without prompting from me.

Physically walking through space, allows for informal conversations to happen across the student cohort, that don't necessarily happen in a classroom environment. That was
certainly the case, when I was working overseas, whenever we would go and visit another field project with our global team, who were from all over the world. It was the chance for informal connections, which would translate over to a stronger cohort feeling. We were a stronger cohort in terms of a network through being on bus tours and walking around together. Having a laugh and talking can be the glue that binds a group together.

As an experiential learning vehicle then, the tour format helps participants see sustainability projects on the ground, in their unsanitized form. It is not only the content that they find inspiring and energizing, but the physical movement is also refreshing. The tour format also helps to strengthen ties within the network by providing opportunities for informal relationship building between participants, speakers and facilitators.

5.3 The Sites

One of the four tour course goals set out by the academic unit is to provide a range of inspiring ‘good news stories’ and experiences of best practice applications of sustainable community development from across BC and around the world. While we endeavoured to provide a balanced mix of sites and perspectives, the ordering of the sites is somewhat left to chance each year, in the sense that it depends on who is available and when. I will now present the findings related to the ordering of the sites.

5.3.1 Ordering, contrasting and comparing of sites

Sometimes there are dramatic learning effects when two sites are visited back to back. Three people noted how the juxtaposed sites had an impact on them: “Enjoyed very much going from landfill to Golden View Farm. The contrast helped me appreciate both more!” (2008 participant); “Really enjoyed the farm and Heritage Village—both tried to incorporate the 6 community capitals in a significant way” (2008 participant). Even within a site there was contrast, “Following the creek through the industrial area was interesting to see the juxtaposition of the natural creek” (2011 participant). And in a personal email to me following the 2011
course, a participant wrote: “The linkage between the food/agriculture and the children at the school and the downtown population was incredible to see and illustrated how this is truly an issue that everyone can be involved in.”

Within the range of sites, participants appreciated seeing more mature projects and acknowledged the value of seeing how projects evolve over time. Beyond the lessons learned over time was the comparative value of sites. Heritage Village was the site that was used most frequently for comparative purposes. Ten people wrote about the heritage block in their assignments; five of them compared it with Bayside Views. While the reviews for the Heritage Village site were overwhelmingly positive, in their “recommendations for 2009/10 course,” the administrative staff wrote, “There were mixed reviews about the Heritage Village tour. Some people really liked it; others felt that it was an older example or they had already been on a similar tour.” Despite the fact that the administration team made it clear that they didn’t feel the site was a good model, we continued to argue for the inclusion of Heritage Village because of the complex story that it conveys. The debate resurfaced in my interview with Sandra, the certificate program coordinator.

Sandra: Well, I guess the one thing we've chatted about over the years, and I think this is challenging. I don't know if it's still included is Heritage Village. We've kind of clashed on that one a bit, let's be real, because to me it's a beautiful development, but it's old. In terms of physically looking at it, and going down that beautiful back lane, it’s a wonderful urban design example. But it was developed in a time when the affordable housing policy and funding context was very different from today. I find that one challenging in terms of a site visit. Because I'd like to see something that is more in tune with today’s planning reality because there's such a short amount of time in a two-day course.

Spring: What's interesting is over and over and over again it evaluates really, really well. And I think why it evaluates well is because it's a fabulous story, and tells many different stories. Community mobilization, affordable housing, density, urban agriculture, heritage, many partners, different partners that they brought in. The story, people really latch onto it. What I've also found is people in rural communities, really like it because it's something they can relate to. It's smaller; it's not slick, urban developments. So I think that's why it evaluates well. It's contrast, right? And having those different
neighbourhoods. It's an old story, same with the Asian Studies building. Old story, but tells a story that's very different from what's happening in new green buildings. It's almost like it's a jumping off point that you can then compare.

Both of our biases showed clearly here. The political nature of program planning is ever present!

Heritage Village was also compared five times with the laneway housing developments that we toured; three of those participants felt the housing in the backlanes was devoid of life and greenspace, when compared to the heritage block. While they perceived a lack of human, social and cultural capital in the lanes, one person saw an abundance of natural capital. Ellie writes to him in her comments: “I do wonder if the folks in those homes actually connect as a neighbourhood, as they seem to in Heritage Village.” In other words, she was questioning if laneway housing actually built community along with increasing density, or if it isolated people more.

The laneway housing tour had been selected because it was topical. The City of Vancouver was heavily promoting “EcoDensity” as they referred to the laneway infill units. They adopted an EcoDensity Charter in 2008 designed to loosen zoning policies and provide more options for secondary suites. For John, the laneway tour was extremely relevant to the infill work that was already in process in his municipality. He found some of the examples “were extremely good in terms of the infill, but there were others that were not transferable, or should not have been transferred.” As a result of what he saw on the tour, he was able to influence some of what was being implemented in his municipality at the time.

Clearly, the infill housing was valuable for comparative purposes, even if mainly for its “sustainability deficiencies.” As Ellie wrote in one assignment comment, “Your assessment helped me consider how that tour provided some useful input (even if primarily for its failings rather than its accomplishments).” Yet without actually evaluating the impact of the laneway
tour, we dropped it the next year as none of us felt that it “showed” well. After a while the laneway houses all looked the same.

As for gaps in the content, one participant would like to have heard the City’s perspective on some of the issues in the inner city. Another felt lost when a specific policy document was repeatedly mentioned during the inner city tour that hadn’t been covered in the context session with Daniel Lansing. In our tour of Chum Creek, Meixi would have preferred to learn more about the city’s efforts with respect to “water quality.” As we have very little First Nations content in our course, I asked study participants specifically how they felt about the gap. No one brought it up unprompted. While participants recognized it as a gap, none felt that they were directly affected by First Nations land issues in their current work. Mark already had quite a lot of experience working with First Nations. Trevor thought the content could be handled as a separate elective.

Now a brief look at the structure, timing and pacing of the tour, what I refer to as the “choreography.”

5.4 Tour Choreography

As a tour planner, I must carefully choreograph the number of sites we visit, the scheduled breaks, the travel time, transportation modes and connections, the speaker meeting sites and times, all within the designated course length. The choreography lies in the planning, but also in how the planning comes to life, and then takes on a life of its own once the tour “goes live.” The first year the course ran I received what I consider the highest compliment from one of the participants. At the end of the last day, as we were saying our goodbyes outside the institution door, she said, “The choreography was absolutely seamless.” She clearly understood how many moving parts there are in a tour, whereas this participant did not.
Ellie Campbell is a great facilitator, it seems to me that she could do the tour by herself, but I’m not aware of the planning involved. Spring could work more on connecting with the cohort. She did a great job watching the time and organizing. (2012 participant, evaluation form)

Primarily, it is me who tends to timing and pacing during the tour, but at times our roles as facilitators/planners/tour guides becomes blurred. In 2008, the first year, Ellie, Sandra and I were all concerned about how the course would unfold the first time out. “I enjoyed the collaboration between the three instructors. All three expressed anxiety about time” (2008 participant). In general across the years, people felt the tour was well organized, that the time was well managed and used effectively and that there was “nice variety and sequencing of events” (2011 participant). For others, there was a need for more pauses and reflection time. “Need some quiet breaks” (2008 participant); “Long days in the field, more classroom time” (2010 participant).

5.4.1 Course length

The topic of course length continues to be debated and it is related to the overall pacing of the course. When the course was three days, some participants thought it should be reduced to two. Yet even once the course was reduced, there were people who thought the days were too long and it should be increased to three days. “Very dense in the number of case studies we saw. Might be beneficial to cut one out and go deeper into 2 per day” (2012 participant). The debate continued in the interviews. Sonya “just wanted more. More time, more of everything, because I was enjoying it so much and I felt the day did go by relatively quickly.” While Amanda and Meixi thought that less was more. As Meixi said, after awhile “the theme continues, the story continues . . . It’s the same story again, just different location.”

5.4.2 Course breaks and the fun factor

Breaks are important too and provide time to reflect, recharge, connect with fellow cohort members and help to balance out the long days in the field. While there have been comments on
evaluation forms over the years—“Need breaks before and after lunch (very tiring)” (2012) participant—and we do our best to choreograph the pauses, we don’t always get the timing right. “Bathroom breaks needed!!!! (on second day esp)” wrote another person in 2012.

Meal times also provide pauses in the tour, but it plays a more important role than just providing a break in the day. We frequently receive feedback (pardon the pun) on evaluation forms. In 2008, Mark Connelly wrote, “Appreciated food and breaks.” It also shows up in the interviews. Sonya (2009) says, “We spent the whole morning there [inner city] and then we had dim sum.” Meixi (2011) recalls, “I remember that we went to Chinatown and bought some Chinese buns [laughs]. That was fantastic.” Food is part of the fun and social component that we incorporate into the tour.

The element of surprise also adds fun to the tour. Trevor remembers discovering a hop plant on the walk to the film studio and Amanda recalls walking through a black bamboo forest trail in Millennium Town. David Franks, one of the other course facilitators talks about the importance of including fun while educating for sustainability.

It's just a bit of a perverse system but we're trying to change a very big cultural inertia going on. In order to do that, you just need to have some fun while you're at it, too, because otherwise you burn out and then you're of no good to anybody.

While external factors such as weather and audio problems have surfaced on the evaluation forms, these issues were not raised in the interviews. Nevertheless, these external factors play a role in the execution of the course and can influence the experience, so must be taken into consideration during the tour planning. In addition, the added costs of speaker honoraria, transportation and food must be calculated into the course fees. The added costs can sometimes deter organizations and academic institutions from initiating a tour in the first place.
5.4.3 Discussion and reflection

Discussion and reflection time also contribute to the rhythm of the day. In general, the tour course does not provide a lot of dedicated time for this purpose; it tends to happen more informally. Participants do comment on the lack of discussion time on the summative evaluation forms, regardless if the course was three days or two, or if we had built in considerable classroom time for that purpose. As mentioned in chapter two, we have tried a number of different approaches (such as voting activities, and pair work) over the years and as with the course length, reviews fluctuated. There were minimal comments in the interviews regarding discussion and reflection time, which may be attributed to memory issues. As Drew says, “Yeah. I can't remember. We had a little bit of time back in the classroom, didn't we, at the end? I don't remember too much time to discuss it.” He wasn’t convinced that more discussion time was needed, although, he said, “It'd be interesting to hear what other people felt, what their key take-aways from it were as well. There wasn't so much of that.”

Knowing what other members of the cohort were learning and thinking about was important to other participants too. Several acknowledged the benefits of learning from the expertise within the cohort itself. They talked about wanting to hear their fellow cohort members’ opinions, figuring out where their viewpoint fit in. John wondered am I “a nutcase because of the way I view it [developing the ALR]?” He thought it was “worth having those dialogues.” Even though he got “good marks” and “felt good about” himself and thought he was “doing all right.” He wondered, “but am I really?” Megan voiced a similar view, “I think it gives me confidence, just hearing other people talk about what happens elsewhere and strategies to make this happen. It's kind of like, oh, so I'm not crazy.” She would have preferred more “de-briefing” of the projects especially since there was no assignment in her year. John would
have liked to start each new course with a debriefing on the previous course. While having more discussion time might have been valuable for Evan, taking more time off work to accommodate a longer course was not an option.

There was some evidence that the discussion and reflection continues in other courses. Anna spoke about Evan’s emerging urban farm project.

I know that Evan's project was bubbling up for him. He was trying to seek out, how this might be implemented. It served as a great incubator . . . I've engaged with him over the years, to some extent. . . . It seems to me it was an opportunity for him to benefit from a community that had ideas of how to put this project into practice. That's a great success story.

She also mentioned Mark Connelly and his design management work at Millennium Town.

He came at a time when they were just figuring out the Mega Sports Event and going through all of the—what is sustainable development, what is sustainable community development, what might this look like? It would be interesting to cross check with him. My feeling is that it came at a good time, in terms of him being able to bounce some ideas around.

Clearly there is value in having the tour course nested within the certificate course as the learning can develop further as the participants progress through the individual courses.

5.5 Framing

The framing of each site is dependent on a number of factors. It begins with the selection of sites and speakers and how we describe them on the course itinerary (see sample in Appendix B). It continues with the stories and viewpoints presented by the guest speakers and the points we highlight and the connections we draw as facilitators. Sometimes cohort members also have expertise related to a site and offer their insights as well and the framing may shift as a result of their input. For example, Drew and Mark both added perspective as we walked the Pacific Greenway. The sites also have a voice. While the speakers may present a certain perspective, sometimes what we are actually seeing at the site will present another view, as Sonya saw at the landfill. “I'll never forget [laughs] watching cardboard go into the garbage at the landfill and
realizing that they're not quite enforcing what we thought they were doing.” There is a ban on cardboard now, but visitors still tossed the material into the bins in the bulk recycling area there. In her assignment, she referred to this as a failure to monitor and educate. Without proper monitoring, there is also no enforcement of penalties either.

Participants clearly learned from the inconsistencies they witnessed, although there was no evidence of application other than recall. The tour is multivocal in this sense—even if the speaker may be on a “script” (as one participant said of a speaker at the landfill one year), the tour participants can observe what is going on around them and judge the authenticity of the script and the project for themselves.

If we neglect to frame properly, we also hear about it. In one instance, when we had to make a last minute change for our lunch venue, we were criticized on evaluation forms for not using a local food provider. We ate at Creekside Café in Millennium Town instead of ordering bag lunches through tAble Café because the latter was unable to deliver without a firm address (Town Square was not enough). tAble employed and trained residents of the inner city and participants liked the fact that we were supporting them. In the rush of the last minute change, we had neglected to frame Creekside as a local business that made ample use of local, fresh, and organic ingredients.

In this way the sites we visit are multi-vocal and the content of the tour course is multi-layered. In essence, we are both actors and audience in an evolving story as we progress through the days. I will now look more deeply at how we facilitators frame and shape the story.

5.5.1 Facilitators as storytellers

As facilitators we help to animate the sites, provide a different perspective, and in some cases fill in the story behind the stories. In general, participants express satisfaction with the
facilitation. “All instructors are warm and approachable. The conversational nature of presentation allowed for much greater learning opportunities” (2008 participant); “Good job of integrating the ideas from the different field trips (2011 participant). While we consider ourselves facilitators and not teachers or instructors, that distinction is not always evident to some participants, “It is not clear who is instructing what—it would be helpful to know who is the ‘expert’ for each topic” (2008 participant); “Would have liked to hear more presentations from teachers. Felt more like teachers were facilitators for the other speakers” (2012 participant). We also consider ourselves learners, as we are certainly not experts in all sustainability sectors. We learn from the participants and the speakers too.

One of the important aspects of our facilitation includes setting up the sites before we reach them. Some of that is done at the beginning of the day, over lunch, on the bus. In general, the reviews on framing were good, as one 2008 person wrote: “Excellent work Ellie & Spring to a) schedule a terrific agenda and b) framing and facilitating discussion.” While we continue to tweak the set up and framing of the sites each year as well, we are still not pleasing all the people all the time, “Would have liked more background or information on what he was talking about. I was extremely interested but kept getting confused and lost” (2012 participant, referring to the speaker at Eastern Elementary Way). One 2008 participant felt we were showing our “personal biases” too much especially when responding to student input.

In addition, the sustainability story is ever-evolving. We tell the story in different ways depending on who our audience is. The guest speakers adapt their storylines, too. In 2012, recognizing the younger cohort, we all made reference to future careers in sustainability as opposed to mid-career shifts. Sandra speaks about sustainability as an evolving process and how that has affected how we frame sites and projects during the program each year.
Sandra: It's getting harder and harder to achieve sustainable outcomes as our global population and consumption grows. Since we started this certificate in 2008, guest speaker messages have really changed.

Spring: In what way?

Sandra: Well, when we bring in somebody like Wendy Northrup who is totally focused on green buildings, her message is getting hard for people to hear. She says that when you look objectively at what we've been doing with green buildings in the City of Vancouver, for example, we have made no net reductions in climate change emissions over the last 10 years. What do we do about that? Do we pat ourselves on the back for all our LEED Gold and Platinum buildings? I think it raises a conundrum. It raises a real challenge for people who are in sustainability, because a lot of what can be done at a point in time is related to financial, political, community and other realities. It might be better to step back and say, “OK, if we want to do something really transformative, then what is that?” Wendy is the expert but I think a more strategic approach is to focus on district energy systems, together with living buildings, then scale up both. You want to understand reality and get to the truly strategic and transformative solutions. But I think it's a challenge in an educational setting, with sustainability generally, because you don't want to bum people out, right?

Spring: Bumming people out is not a good thing. [laughs]. It's the climate change people's job.

All of us in the sustainability field are storytellers and story makers. As the sustainability story evolves, we evolve with it and vice versa. The sustainability tour form serves as a flexible and adaptable mobile storytelling vehicle. We can move with the times.

5.5.2 Course reading materials and handouts

The course reading materials, handouts and the course schedule (see sample, Appendix B) also influence how we frame the sites. Despite revising the reading list each year, and sending it out a week to ten days in advance, participants continue to request more handouts on the evaluation forms and some would like the reading materials even earlier. A 2009 participant wrote: “Found myself taking a lot of notes—anyway the speakers/course instructors could provide a simple handout of the basic stats/facts before each site visit.” Amanda (2011 course) suggested a map of the overall tour would have been helpful to give her a “spatial sense of where she was.” One 2012 participant referred to our handouts as “promotional” in nature, particularly with respect to Millennium Town. He was referring to a series of articles on this model
sustainable community that was commissioned by the developers and to which Ellie had contributed. After entering the MA program in 2012, I realized it would be important to include more peer-reviewed articles. Ellie, who had just entered a PhD program agreed and we were planning to do so for the 2014 course, but the course was subsequently cut.

In the interviews, participants did refer to the great materials and books that they received in the certificate program as a whole. Several participants noted that they had passed some of the tour course materials on to colleagues. Meixi felt the Green Guide contained case studies that might influence her work colleagues. Mark Connelly mentioned the articles written on Millennium Town, but he was the person who commissioned the series. I had to prompt most of the participants to recall the Green Guide and other specific readings that we provided. Nevertheless, the course handouts and reading materials play a supporting role in the overall story we tell on tour.

As for the handouts, there was little recall even with prompting. As mentioned in chapter two, when the tour course was cut from three days to two, we introduced a sustainability framework handout as a reflective activity. Essentially participants rate the sites according to how well they align with the eight sustainability pillars (adapted from HB Lanarc, 2003). While the sites in our course are authentic in as much as they are real places and not staged in the way some cultural or historical sites might be, participants may still disagree with our representation and may not evaluate the sites as authentic models of sustainability. The handout was not mentioned on evaluation forms, nor during the interviews. Even Megan, who had just taken the course in the fall of 2013, did not recall the handout, despite prompting. Meixi felt she might have recalled the handout if it had been more visual, or if they had had to draw their responses.
The Individual Action Plan (IAP), introduced in 2013 was not mentioned on any of the evaluation forms, nor did Megan bring it up during the interview. We incorporated other reflective activities from time to time but none of them showed up in the data.

5.6 Links with Certificate Program

Although there were memory issues regarding the linkages between courses, several participants recalled connections, for example, speakers were duplicated and themes were reinforced. Interview participants generally spoke very positively about other course facilitators, many of whom had “first hand experience.” Some of the other course facilitators are remembered as inspiring storytellers too. Meixi is referring to David Franks, “I think he's a visual person as well. It's just the way he talks, he just builds this story and it's really amazing.”

Again, there were mixed reviews. While Mark Connelly seemed happy with the presenters on his evaluation form “excellent information and communication—good knowledge from instructors,” in the interview six years later he expressed a different opinion.

There were different moments, depending on who was talking to us. Sometimes I think some of the lectures or lecturers were great. Other times it was a little bit on the loose, the amateur, or the low-level side. Some of it wasn't that inspiring for me. Despite his less than stellar review about the speakers, the course and the program had a significant effect on him, as we will soon see.

There were a number of ways that the tour course linked up with other courses in the certificate program. Amanda said: “I think it linked up a lot because it was the course that was the most applied.” She felt there were similar themes across the certificate, as did Meixi. “Yeah, all the courses connect together. It's all about reducing energy consumption, keeping communities together instead of dispersing them . . . giving people the option to work at home rather than commuting.” For some participants, specific sites transferred over into other courses.
John used The Bottle Depot as a “non-profit concept” in assignments. Others needed a lot of prompting and the connections weren’t as clear.

**Spring**: Did Heritage Village come up in any of the other courses, like the housing course that you did?
**Megan**: I think so. Yeah. It did.
**Spring**: I imagine Millennium Town came up.
**Megan**: Yeah. Yeah.
**Spring**: There was some crossover.
**Megan**: Yeah. Definitely. I’m not sure if Harmony Farm did, or if I’d read about it elsewhere.

In a couple of the other certificate courses, they went out on a similar tour of the inner city near the campus. Amanda recalls going out more than once in other courses and preferred travelling further afield as she was already familiar with the neighbourhoods in the vicinity. Several people mentioned that as they were very familiar with Millennium Town, they didn’t really enjoy going there more than once. However, Sonya saw the value in duplication, for her the walk enhanced the talk.

There was a fellow, an economist from the Green Business Centre, I remember him giving us specific examples of some social enterprises that were happening in that area and I know for me, it helped having walked some of that neighbourhood to help me visualize and relate better to what he was saying for sure.

When I asked Sandra if tour sites pop up in her Sustainability Principles course or the studio design course, she replied.

Not so much this year. No, not so much. In previous years, more so. . . . Again, I think that comes back to, in the past when there actually were funds for curriculum coordination, it was me having chats with people individually.

I was surprised by what Sandra said next; it was news to me.

The other really practical factor in terms of linkages between the Sustainability Principles and the tour course is that we've said that people can do an assignment drawing from either course now. We're starting to see the cohort get younger. If they don't have as much work experience, going on the tour course and seeing examples, they can choose one of those examples for their assignment.
We agreed it would be valuable for Ellie and me to see these assignments and perhaps to mark the ones that pertained to the tour sites.

While Anna and David weren’t sure that there was any direct transfer from the tour course into their courses, they allowed that there could be a tangential reference. Anna said:

People may be drawing on those examples in their own heads. They're not necessarily pulling them out for this specific thing. . . . When you have two days and you have a lot of material to cover, the interactive component of the class, tends to be focused on the participant's work, where they're at now. Yes, examples can come up tangentially, but they may not be central to the discussion. They may not be the things that first pop to mind.

Facilitators and participants thought the other courses could benefit from adding more tours to them. Although Amanda cautioned that a tour needed to be properly framed to be effective. She talked about two tours she had participated in in other certificate courses, “Some of the touring seemed like we were just doing it so that we were out or something.” She claimed when they were walking around no connections were being made. “It just seemed like when we were on the tour course, we were learning. You guys had really done your research, and, “This is how this applies and da-da-da-da-da.”” She saw the effort we make as facilitators to frame the sites and provide multiple perspectives.

There is very little contact between the course instructors because we are all independent contractors. As Sandra explains in her interview, the challenge is that the facilitators are independently running their courses and that there is no longer any formal funding for curriculum coordination. As a result, she says, “I may be the only one that pulls the threads in, having seen some of the places that you go.” The lack of contact between the instructors, does lead to some duplication in speakers and even sites as some participants pointed out. All of the facilitators I interviewed felt it would be very beneficial to have more cross pollination, explore case studies, key themes, and even debrief with each other after our course and before their
course. In that way we could make concrete links across the courses, and identify emerging themes that could be picked up in a following course.

In the next section, I will look at a number of key learning and application themes that emerged in the findings.

5.7 Learning and Application

A number of key themes emerged in the findings with respect to learning and application, including: sustainability literacy, sustainability leadership, network building, social sustainability, the change process, skills acquisition, and communicating sustainability. Throughout this next section, it may be helpful to refer to the site descriptions provided in Appendix A.

5.7.1 Sustainability literacy: Tools in the box

As we saw in the previous section on the tour format, participants comment on the informative content, the balanced mix of sites that we visit and the varied scale of the projects. Participants also clearly express that the tour raised awareness about particular projects and innovations and their associated issues. In 2012, one participant wrote, “This course opened my eyes to so many creative projects around the city. Just amazing.” For Sonya who took the course in 2009, there was “a nice smorgasbord of sites and places to visit.” Drew felt that the 2012 course contained “a good mix of different things. It wasn't all the same.”

Participants cited ways in which they have been able to draw on “examples and insights from the tour” and apply them in their own work. Amanda and Sonya refer to this increase in awareness as gaining more “tools in the box.” Anna Lakefield, the facilitator for the sustainability leadership course, reinforces this awareness-building quality of the tour course and the advantage of having easy access to the “stories.”
As we gain experience in social change, we carry with us in our back pockets the stories of all the change makers that we've heard about, whether we've read about them or we've met them in person, or we've heard their tears or we've heard their successes. We carry them around in our front pockets, back pockets . . . backpacks. [laughs]. If we have in our back pocket a whole lot of social change examples, we're able to better extrapolate from our own specific example, to other cases and experiences. We need to continue to build our repertoire, so that we see the particularities of our own case, but then we're able to also see, that it fits within a whole system of activities that are happening. That's a long way to say that is what I think is incredibly valuable about having seen things in person.

Raising awareness about specific sustainability initiatives is an important first step in the participants’ learning process and contributes to their sustainability literacy. Amanda, who hadn’t known “the examples,” was heartened by seeing projects and initiatives that “had actually been completed” and to which she could refer others. She had been somewhat cynical about Vancouver’s plan to be the greenest city in the world, but seeing all of the “real life examples” gave her a better “feeling about the city.” She was deeply struck by Chum Creek and the walk through Ridgedale Ravine and “will see that area differently now.” In the interview she related what a profound effect that part of the tour had on her. She returned to it several times, “I didn’t even really know that that was possible. That you could, you know, that someone could get the idea, that let’s restore this.” She is referring to the fact that the creek has been daylighted in part.

The toolbox came in handy for Amanda in her volunteer work too. Through my co-facilitator Ellie, who worked at The Environmental Group, she began volunteering as a receptionist there. Amanda told me that she had been raised in the suburbs, and had not known much about sustainability. She now had a range of concrete examples that she could provide to callers who she described as just like her, with a “suburb mentality.” She cited several of the ways she might refer to a tour site over the phone.

So when you have people that are sort of interested in the environment, but not really, they’ll ask you questions and be able to say, “Oh, you know, they have actually a composting program in a school at Eastern Way.” It's like, you're not just saying, “Oh, yeah, let's compost.” You’ve got an example that there are people who are making
changes in their community. . . . Now I have that in my artillery or whatever you want to call it so that if people ask for an example.

By visiting the sites and hearing first hand about the projects, Amanda felt confident and well versed enough in her knowledge to give concrete examples to callers who contacted The Environmental Group. She was increasing her sustainability literacy and passing on her learning.

Other participants passed on their newfound knowledge too; most of the interview participants talked about referring the course to others and lending course books to colleagues. Others discussed the course content and specific sites with friends and family. Evan said, “At least when I’m having casual conversations with friends. . . . Like just being able to talk the language and have opinions, about those things.”

The Eastern Elementary site was important for Trevor on the home front, particularly the waste management aspect, which he shared with his wife Sharon who had an interest in composting. Sharon subsequently set up a composting business in their town. I provided some free consultation to them post course, but did not know how it had evolved until Trevor filled me in.

When I came back from the course. We talked about the composting. [Sharon] started her company . . . That’s been going strong for two years now. She's expanded and found a partner. Builds garden beds, and herb boxes, talks to people about chickens, and builds compost bins. They have a compost facility now. . . . They collect it from a couple restaurants. . . . They have 50 clients for household pickups.

The first layer of learning then involved an increased awareness of specific projects, which contributed to participant fluency in the language of sustainability. In these cases, the learning from course participants spread to those around them. These models are now in their toolbox or “backpack” as Anna so beautifully put it, ready to access at any time. The next theme that emerged was leadership.
5.7.2 Guest speakers as sustainability leaders

True to one of its goals, the tour course provides opportunities for interaction with leading sustainability experts and champions. Participants generally found the facilitators and guest speakers to be inspiring role models and leaders. A 2010 participant thought, “the caliber of the speakers/guides [was] excellent.” Another participant felt “the speakers [were] informed, transparent about their biases/positions and passionate about their interests.” Daniel Lansing and Robert Pullman from the inner city tour were thought to be knowledgeable and great storytellers.

Going to that bottle drive, for example, and realizing that this one individual who had overcome his addictions was responsible for spearheading this very successful ground level social enterprise, and how it's lasted through the years. (Sonya)

There was an upward spike in the numerical ratings on the evaluation forms when we brought in Robert Pullman, the founder of The Bottle Depot to speak in 2009.

Tour course participants began to identify the qualities of leadership as modeled by the guest speakers whom they found “inspiring” “passionate” “courageous” and “good storytellers.” They were described as having tremendous energy, “a lot of patience,” “tenacity” and were able to persevere despite obstacles and challenges. They also identified qualities they did not admire, Megan felt former city planner, Daniel Lansing was “too emotionally attached” to his work; John thought the agrologist was not “open-minded” enough. In an assignment comment, Ellie reinforced the need to be tenacious, weather failure and to continue to build relationships. Drew made a similar comment:

This stuff I read about leadership and entrepreneurship, being, it’s not the smartest cookie that will do it. It's just the person who just has the wherewithal, or the guts, or whatever it is just to try something and see if it works or not. Obviously, it's that people are stuck in there with the way of doing things or they think they're powerless to make a change.

The leadership at “small start ups” such as Harmony Farm and Eastern Way Elementary encouraged Drew, demonstrating that “you can start something you don't need big resources, or
whatever to start something up.” At both sites, there was a strong, passionate project champion who dared to experiment, even with limited resources and persevered despite obstacles and challenges.

Several participants questioned the sustainability of having one or two champions driving a project, because if they leave, the project may collapse. Evan expressed concern that Robert Pullman, his mentor at The Bottle Depot, was the lone leader.

Robert was doing it off the side of his desk. He was doing meetings and stuff at night and basically lived in that bottle depot. It was more him doing it. I think if you grow, it's hard for the organization to be effective in that way if it's just one person.

As we heard previously, Mark Connelly was not impressed with the quality of the speakers throughout the certificate program and he expanded on the subject in the interview.

**Mark:** We joked along the way, and said, oh the course feels like it's for people in their Birkenstock's. [laughs]. It felt like the course was dealing with people who were just starting to think about this, and they were coming to the table, beginning to learn about it a little bit. It was fairly immature in terms of its audience.

**Spring:** Are you talking about the whole certificate, or just the tour-based course?

**Mark:** No, no. All the courses.

**Spring:** All the courses, right.

**Mark:** They were all reasonably simple.

**Spring:** Right. Introductory is what you said.

**Mark:** It was not sophisticated stuff.

His statement points to the challenging balancing act we have as program planners and facilitators in a course that has such varying levels of sustainability knowledge and expertise as well as different motivations for entering the program. One of the reasons, Sandra appreciated Millennium Town is “because it caters to some of the people that are more into sustainable communities from a physical, or an urban planning, or urban design angle.” However, with such a mixed demographic, we will never accommodate all interests.

The increased awareness of leadership qualities and deeper understanding of what it took to be a leader transferred into participant work roles and careers where they began to test out
their learning with respect to leadership. The application of this learning manifested as role shifts including career changes, which I will discuss next.

5.7.2.1  **Shifting roles**

Participants were also examining their own role as leaders within their organizations and communities and pondered approaches they might take to mobilize other people. For some, it was about being more strategic in where they placed their energy. “I started to see more where to use my energy,” said Sonya, “how I could effectively use my energy, rather than banging my head against the wall to do stuff that wasn't going to happen.” During the course, Amanda learned to soften her “militant attitude,” and be more accepting of where people were at in terms of living sustainably. At the time, she was struggling to set up a compost program in her apartment building. Even the “easy sells” weren’t “buying it,” fearing an infestation of rodents. A classmate had mentioned that the Metro Vancouver multi-family composting program would be rolled out within the next year or so. Amanda decided to “wait it out.” She backed off the composting project and began to search for a different place to focus her energy. So participants realized that a sustainability leader must be strategic about where to start to work. They recognized that to help effect change a leader must be able to identify leverage points.

Meixi moved into more of a facilitator role at her work place, delegating work to others, “empowering them to come forth.” She began to surround herself with like-minded people within the national company and share the work. “The best thing I can learn from this is that, don't do it all by yourself, there's other people who can definitely do it just as well.” Her job title even changed as a result of taking the certificate, she is now “a sustainable design specialist.”

The course and certificate program helped Trevor to shape his role at work too. Prior to taking the course, he had only been in his job as community sustainability manager for a year; it
was a new position at the local government office of the small coastal town. He said the course helped to “define” the job particularly with respect to “the social and partnership pieces.” He elaborated on how “his outlook” changed and how the learning affected the way he operates on the job. He saw his role as “to backstop and encourage community organizations and individuals to make change for themselves.” His focus was on “connecting people, building relationships, breaking down barriers.” He felt that society’s lack of awareness about sustainability was one of the barriers to achieving it. In this way, he was both facilitator and, educator. Educating the public about why certain bylaws exist was part of the on-going community conversation. Sometimes the conversations are challenging, as they were during the recent town road reconstruction.

It was really tough for a lot of the businesses, so having to be out there daily again just to talk to people and remind them. And then, to have them come back a few months later and say, the people that were yelling at me, to thank me for having vision . . . because most of their businesses have gone through the roof.

Trevor realized that build trusting trust was at the foundation of relationship building. Other participants also began looking to partnerships “because there's no way one planner in one town could make something go.”

For some of the program participants, the leadership learning went even further and impacted their lives and career path in a profound way. When Amanda arrived for the interview, she informed me that she had been laid off her job in the last week. She had been in the position for more than a decade and the lay off had been sudden and unexpected. She was very distraught about it as her husband did not have steady work and they were house hunting. As mentioned, in her profile, Amanda had intimated that she was looking to change careers. In the interview, she confirmed that her motivation for taking the course was to “change [her] line of work.” However she was not happy about being “forced into” it. A couple weeks after our interview, I received an
email from Amanda announcing that she had just accepted a full time job at The Environmental Group where she had been volunteering. In addition she and her husband had just moved into their new home. Her desire for a new career had been realized even though the way it happened was not quite a gentle redirection.

There was significant learning about how to lead by supporting community members and groups. The learning wasn’t just about having a lot of energy to put into projects, but also about conserving energy and being strategic about where to put your energy. Forming partnerships helped study participants to distribute the workload more evenly.

5.7.2.2 Barriers to application

Participants also saw some of the barriers they might encounter on the road to implementing change in their spheres of influence. In a 2009 assignment, one participant spoke of the importance of “cultivating community champions in order to improve planning processes,” but that the time commitment can be a barrier. He was also frustrated by his work situation where he felt he was not given “enough opportunity to take part in the implementation of [his] plans.” As Ellie said in her comments, that lack of opportunity “cut[s] off a big portion of a potential learning curve.” So while participants may have acquired leadership skills during the course, they may not have been able to practice them in the workplace; application of learning would then be prevented.

David Franks, a sustainability consultant who facilitated two courses in the certificate program, also felt the barriers to application had lot to do with the workplace culture and where you fit within the organizational hierarchy. “When you are a junior planning technician . . . you’re told draft this, do that, do this. You’re not even asked your opinion. So while learning may
occur in the course, the work environment or “climate” needs to be supportive in order for the new knowledge to be applied.

5.7.3 Building the network

As shown in the leadership section above, participants were learning that building relationships and partnerships, forming a network, was an important part of creating more sustainable communities. The cohort model was a critical component of building their network. Even before they entered the certificate program, participants believed that much of their learning would happen through their fellow cohort members. In his 2012 profile, Drew wrote: “I am really looking forward to meeting everybody and learning from each other’s experiences. Participants commented frequently on fellow cohort members and the influence they had on their learning. They benefitted from the wisdom of their fellow practitioners who had “on the ground” experience. Several also spoke about the value of having former certificate cohort members speaking to the current class.

While participants admired and learned from their fellow cohort members, they also commented when their cohort hadn’t been conducive to their learning. Several participants mentioned that because they took more than a year to complete the program, they got “stuck” in another cohort. Amanda was very vocal about not connecting with the second group because they were in her mind a much younger demographic with a lot less experience. There were behavioural issues with two participants in the 2013 tour cohort and, as Sandra reported in the interview, they grew increasingly disruptive as they progressed through the courses. However, Sonya benefitted from the younger participants: “They're younger than me, and they knew more about social change than I did, so I was very glad to be swept up in that.” So the cohort (diverse or not) was seen as both an enhancer and an inhibitor with respect to learning.
In addition to learning from their cohort colleagues, some participants had subsequent business dealings with each other. Mark had done business with two fellow cohort members. Amanda secured volunteer work through her connections with both Ellie and myself\textsuperscript{31} that gave her valuable experience in the sustainability arena and eventually led to a paid job at The Environmental Group. Megan had asked fellow planners for advice. Sonya has stayed connected to “a handful of people.” Trevor met with several cohort members and valued “actually getting to meet and get cards.” He claimed there wasn’t “a lot of expertise at places like [his small coastal town of] Esowista” and appreciated being “able to meet the engineer or the planner who is working on a project.” While he hadn’t yet made any calls, the contacts gave him a place “to turn to” when he needed advice.

In Evan’s case, his prior experience, the tour of the inner city and the people he connected with there, intersected with the rural farm tour and an idea that was brewing in his mind. At the time of the 2008 course, Evan was working as the sustainability manager at The Bottle Depot, a container recycling operation in the inner city that employs marginalized residents of the area. “That day just happened to touch on a whole bunch of things that I was interested in. When I came to the inner city I was either going to move to a farm, or work, do something of service.” He went on to illustrate the effect the tour had on his life.

We met Bob Prince [from a business improvement association]. Eventually Bob would become a good friend. There was that whole group of green businesses and practitioners, whatever you want to call them, that were in the . . . area at the very same time. From that course, there was all this energy that started to . . . It wasn’t just that course, but . . . There was a whole bunch of people that were working on different projects. I met Bob, and I met James Walter from the Green Business Centre. We went to that farm, which I was interested in personally, outside of my work. . . . Eventually Bob and James each became instrumental in the initial planning, and finding the land for the first farm. Through Bob, I met . . . some other [people]. That course helped me tap into this network

\textsuperscript{31} On Ellie’s recommendation, I brought Amanda in to help me on a composting contract. As a technical writer she had expertise in formatting and she was able to draw on the contents of the report later when she took the studio course.
that existed in the neighbourhood. We all started working on projects. Eventually, all these different projects came out of that. Harmony Urban Farm came out of that group of people... So that particular day had quite an effect on the trajectory of what would happen in the coming years.

Green entrepreneurship was being cultivated by the neighbourhood business improvement association and the City also supported the green economic development in the inner city by relaxing some of the bylaws, reducing sometimes costly barriers. Subsequent to the course and in this supportive environment, Evan co-founded Harmony Urban Farms that started out as one location and grew to several. The farm employs marginalized workers to grow and sell the local produce to local restaurants and at farmers markets. We tour one of the sites each year with Evan as guest speaker. Prior to the course, he had immersed himself in the subject of the green economy, “I was reading a ton of books on the subject” which he believes is “why it ended up being this project and not something else.” Evan’s story is the most concrete example of application in the form of building a network.

Some participants built deeper connections with the academic institution itself. Sonya and Evan began attending other events organized by the university. Not only did Evan include the university as part of his new expanded network, but he felt it had become almost a partner supporting and promoting his project. He saw it as mutually beneficial, given that he is also one of the certificate program “success stories.” In a similar way, he also formed a strong tie with his credit union, a project funder, tapping into their networks. He saw the value of building his network and relationships in a multi-disciplinary, multi-sectoral manner.

As facilitators we also make professional connections and build our own networks. David Franks talked about getting more linked in to the “Vancouver sustainability community.” He was brought into the certificate program through his connections with Anna Lakefield. Personally, I have also built relationships with some of the key players in the sustainability field through
inviting them to be guest speakers. We also draw on participant expertise within the course and scout out potential future guest speakers. In our course (and other certificate courses) both Mark Connelly and Evan Andrews became speakers. Subsequent to the course, Drew Woods was brought in as a consultant on a new sustainable transportation certificate that the university was developing. In this way, we too are building the broader sustainability network through the tour.

Clearly all participants had made friends or business connections and had maintained those relationships beyond the course. Both participants and facilitators expressed a desire for some formal vehicle for on-going networking. David Franks believes the network is being “underplayed” at the moment and is “one of the most valuable assets: that could be tapped into by the program.” The tour course is helping to build an intricate web of relationships—a network of sustainability leaders.

5.7.4 Seeing the social side of sustainability

As we have seen, participants saw the power of sharing expertise, forging partnerships and building networks as a means to “broaden the scope and reach of efforts towards sustainable community development,” as Ellie says in one of her assignment comments. Participants learned that building the network wasn’t just about reaching out to like-minded individuals, but also to those outside their comfort zone. So they valued seeing concrete strategies and tangible examples of successful social enterprises such as The Bottle Depot and Harmony Urban Farms. They were buoyed by the inclusion of marginalized voices in the planning and development of the inner city. Amanda had not known about the green economic opportunities being created for marginalized populations prior to the tour.

I didn't really know that there are all these programs that people were doing for people that were hard to employ like at The Bottle Depot. . . . Also, at Harmony Farm . . . I didn't know that there's people who are specifically trying to make opportunity for people that have had barriers to employment.
Participants understood that sustainable community development starts with people and meeting them “where they are at.” Sonya was very struck by the notion of empowering people, “There's so much untapped power, and energy, and talent in people.” There was acknowledgement of the power found in communities themselves and that they harbour a wealth of talent and expertise just waiting to be accessed. In these models they recognized that the emphasis was on the community-building as opposed to the development building. The social side of sustainability was being foregrounded here.

Heritage Village was seen as a vibrant site that was full of people and activity that sharply contrasted with both Bayside Views and Millennium Town (refer to Appendix A for detailed site descriptions). When the latter two developments were first constructed they were devoid of life, virtual ghost towns. There were no shops or restaurants; no one lived in the communities yet. Ellie wrote to a 2009 participant that “community development is better done with real people involved” which wasn’t the case with Millennium Town. Evan clearly understood the value of human capital. For him, it was essential to not displace people as we are creating our “sustainable developments.” In his assignment, he reminded us that not one person was moved off the site during the renovation of Heritage Village. Sonya recalled that feat as well.

While some participants wished aloud that they could live at Heritage Village, or that there were “more living opportunities like this,” they learned that the reality of living there was not as perfect as it might appear. Two participants, including Evan, had lived or were currently living in the development. Amanda talked about getting the real scoop on living in Heritage Village from one of her classmates, mentioning that the suites were extremely small. A 2008 participant struggled with her mixed feelings about Heritage Village in her assignment. Part of
her wanted to live in the community, part of her was annoyed that it didn’t measure up in terms of her vision of “sustainable.” Clearly she was disillusioned by the reality of the day-to-day living in the community. As Ellie noted in her assignment comments, there is a “difference between the one-time decisions made about how to renovate the place, and the ongoing decisions that are made by those who live there, about how they will—or won’t—engage in the ongoing building of social and human capital.”

A community development approach was seen as key to effective sustainability leadership, and a way to balance out the sustainability pillars. For example, one participant thought Heritage Village was a clear demonstration of “how to provide housing for low-income but at the same time increasing density and preserving cultural capital (strategies).” Participants were very surprised that this one block development housed as many people as the nearby high rise apartment building. There were five comments in 2012 about housing and the fact that urban densification “can take many forms.”

Despite some misgivings, Heritage Village was referred to frequently as a model of social sustainability. Meixi praised the community for its inclusivity. She presented the development to her work colleagues as an example of rich yet affordable community living. While the “importance of social and cultural connectivity” was strongly conveyed through this site, one 2009 participant felt the project was a “textbook example of [Roseland’s] Community Capital Framework,” intimating that all six capitals (see Figure 3.1) were in evidence.

Participants were learning about the projects through multiple avenues, through the sites, through the speakers and through the personal experience of their fellow cohort members. They were beginning to discern the difference between sustainable community development and sustainable community development. The social side of sustainability had come to life.
5.7.5 Making change happen

The change process itself was a key component of the learning. For many participants it was a realization that change does not happen in a straight line—that there are many stops and starts, twists and turns. Some participants expressed frustration with the bureaucratic red tape and hoop jumping. This participant’s sentiment captures the essence of several comments: “The political and economic hurdles that impede the adoption of what appear to be ‘no brainer’ approaches to sustainable communities.” For example, there were a number of expensive licenses required to undertake larger scale composting in the city which made setting up the infrastructure prohibitive for small social enterprises or nonprofits.

For Megan, the idea that change didn’t happen in a linear fashion—that it was a process—was reassuring.

It's like that acknowledgement that these things aren’t easy and that they change midstream, and that they alter to suit the course of the project. In planning school, it's a very linear process. It's not like that. It's not this clean-cut thing. It's going to wind its way around.

Heritage Village was one project Megan would like to have investigated further, to uncover the “roadblocks,” “the process” and “the tipping point.” For example, she wondered if project coordinator Peter Blake had won over one politician first in the battle to save the block. Peter was not available to speak that year and Ellie and I had provided the content at the site. Clearly showing my bias in favour of this project, I replied that Peter does tell an incredible story of struggle with the City and park board, of diverging agendas, and ultimately partnerships and funding relationships that really moved it forward. I concluded with, “Now it’s this really prized neighbourhood in the city.” To which Megan replied, “Yeah. It’s funny, because I see that a lot at the local level. People coming forward with an idea . . . have a hard time convincing even
town employees, or politicians. Once it becomes a good project, everyone really likes it.” It was clear to participants that people may come on board at different points in the life of a project.

In addition to dynamic leadership, participants were seeing recurring steps for each of the projects, a kind of recipe for change: choose a project you are passionate about, start small, persevere, and build relationships with strong project partners. A 2009 participant wrote a variation of that formula for success relating it to one particular site: “Heritage Village represents a solid demonstration of the three ingredients for success that were presented to us: leadership, creativity, and refusing to take no for an answer.”

A past participant presented their view of the sustainability competencies required for leadership on the academic institution’s website.

Perhaps the best lens through which to view the future of the sustainability profession is that of the sustainability executive as explorer, or perhaps better yet, the scout. They must have a solid business sense, typically having served on the front lines of some aspect of the business. They must have an immense and nimble curiosity, able to immerse themselves in a wide range of new issues and topics as they arise, whether from inside the organization or from outside. Finally, they must be translators and collaborators as they enlist resources from within their organization while extending their influence and reach beyond the boundaries of the company, typically including suppliers and customers. In short, they must be willing and able to traverse uncharted territory and shifting circumstances, all the while interpreting the current state of affairs to others, and watching the horizon for the unexpected.

The quote is an excellent summary of the key capacities required for the sustainability professional including systems thinking skills such as anticipatory thinking and working collaboratively, often in ambiguous circumstances. This quote emphasizes the need to enter issues with a sense of curiosity, exploring possibilities, rather than laying out prescriptive solutions.

Through the examples of these leaders in the context of their project sites, participants were learning about the role of leaders in the change process. They also understood that the
process is inherently non-linear, unpredictable, fraught with challenges and surprises, and that actors may come and go at different stages.

5.7.5.1 The balancing act

Participants also learned that change often happened through a series of compromises—a balancing act—as we saw with Heritage Village and the efforts to achieve density, retain heritage, and provide social housing. There were many questions around competing interests and how to balance the different capitals in a sustainable community. For example, how to achieve “density while maintaining green space.” Others wondered about addressing housing, poverty and addiction issues. Yet, another wrote, “Aside from social housing and a few examples of social enterprises, is there any policy/strategy in place to help people work and overcome addictions?”

The art of compromise was particularly relevant for those who work in politically charged municipal environments. As John said, “Being a politician as well, there's a lot of challenges. Of course, a lot of people want, want, want, but also don't want to pay [laughs].” John struggled with the tension between social and economic capital. He brought up The Bottle Depot as his first unprompted mention of a site. In his assignment he provided a detailed analysis of the deteriorating and unsafe working conditions, “Crowded isles, passageways, peeling paint, low light levels, no appearance of fire suppression materials, no smoke detectors, appearance of mold on ceilings.” He summarized his concerns in each of the areas in table format, and suggested possible solutions for each of the violations. He recounted a similar level of detail in the interview.

In his assignment, John was questioning whether or not there was “a fair and equitable distribution of rules and regulations between non profit and for profit although they may serve to
meet the same end?” Five years later, he was still wrestling with what he perceived as a “double standard.” As a businessman he was disturbed by the allowances accorded to a non-profit by the City and he kept returning to this project throughout the interview, “Is it fair that we make concessions for that non-profit that we would not make for the profit side of things?” While he was still operating very much from his business silo, he recognized that The Bottle Depot was doing important work. The learning was often deepest when the tensions were greatest.

5.7.5.2  **Controversy stimulates learning**

We also saw how controversy could provoke learning when we visited South Rock, a rural site intended for a sustainable community where compromise would play a key role if the project were ever to get off the ground. For decades, various developers had wanted to develop the site (read the site description in Appendix A). The latest owner was in the throes of negotiations with the community and township. While the site was not in the ALR, it was part of the regional green zone and earmarked for agricultural activities. The visit was preceded by a presentation from a former BC ministry agrologist, Ed Wilson, who was against the project. At the site, the developer then laid out his vision of a sustainable community, one that would house a non-profit education centre and demonstration farm. The non-profit was already operating on the land and the Executive Director also provided her perspective. As both a planner and landscape architect, she could clearly see the benefits of collaborating with the developer. The discussion focused on the proposed plan, developing the “urban edge” and a relatively new phenomenon, “agricultural urbanism.\(^{32}\)”

General comments that year on the evaluation forms included: “Having 2 speakers at the Farm was good to get the story from 2 silos.” Despite the fact that the developer gave a solid

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\(^{32}\) An emerging planning, policy, and design framework for incorporating sustainable food and agriculture systems into communities (de la Salle & Holland, 2010).
15 to 20 minute presentation and then responded to questions, one participant wrote: “Liked the speakers, nice ideas, but would have liked more presentation from the developer.” In a post course email to Sandra one 2010 participant wrote:

I found it very valuable to see and experience the issues first hand around agricultural land preservation. It makes perfect sense to support Ed Wilson in his views of taking an aggressive stance on protecting what agricultural land we have left, but it is easy to see the benefits of a project like South Rock Farm. I guess it all amounts to finding the right balance and always keeping an eye on the bigger picture.

Sandra was co-facilitating with me that year while Ellie was off for medical reasons. The farm site impacted her and the certificate program. We spoke about it in our interview.

I think South Rock Farm is wonderful, because it's controversial. It’s just got so much. There's a lot of grey areas in sustainability. It's what I really like about that one. Course participants went out there and saw a really messy example of sustainability. I love the way that one was set up, because here we have the guy who is hardcore, “Preserve that ALR at all costs. I don't want to see anything innovative happening.” Then you have the developer and the Joseph Dunbar perspective that says, at the urban-rural edge, what we've been doing with the ALR hasn't worked, so maybe we need to be doing something innovative. Frankly, it's hard to get your head around what they’re proposing simply because it’s so different. So it’s amazing just to go out there and to hear the developer's story. In fact, I have actually used some of what I learned on that tour in my lecture that I do, in the sustainability principles course. . . . I think this has so many cool angles to it, and many students have used South Rock for their assignments. Lots of people have used that [in their assignments].

So the controversial farm site appeared to provoke the desire for more study, with participants writing about the site in their assignments.

There was a general understanding that “sustainable community development is inherently messy.” Participants were clearly aware of the multiple, competing agendas involved in creating sustainable communities and the balancing act that was required for effecting change. There are three other sub-themes that are related to the change process including “nothing is perfect,” “context” and “timeline.”

33 A professor who heads up a design unit at a BC University.
5.7.5.3 Nothing is perfect

While participants were engaged by the projects, they were also frustrated at times, realizing that “no one has it all figured out.” The “nothing is perfect” message was critical for Drew and a warning to not get stuck in perpetual planning. In his one-minute essay he wrote: “Don’t wait for the ‘perfect’ project before starting something. Get something/most things right + go for it. Harmony Farm was inspirational, even if it’s not ‘perfect’.” In the interview I asked Drew to clarify for me why this point had been muddy for him at the time.

It's easy to criticize things, isn't it? If you waited for the perfect thing, you'd never do anything. If you can get most of the stuff right, and you know you're going to be helping people, and going in the right direction, let’s do it. . . . Whether it be Harmony Farms or something else. It's all great, great, great, great. Maybe there are some things that aren't quite so great, which makes it a little bit more muddy. Thinking about it, it's like, “OK, but there still shouldn't be a reason not to do it.

Throughout the certificate program, Sandra reinforces the message to participants that sustainability is an ever-evolving process and that there is no perfect picture. “A number of years ago, to do a LEED platinum building was enough. Now we know it's not enough. We need to be doing living buildings and district energy systems.” Making change happen often involves living and working in imperfect conditions. Also, the project almost never unfolds according to plan.

5.7.5.4 Context matters

Participants were well aware that sustainable community development is contextual: what works in one place won’t necessarily work in another for a variety of reasons including political climate and available resources. Participants on both the evaluation forms and in the interviews spoke about sites that held personal relevance for them in terms of scale and how the project might be applied or adapted to their town or context. In general, participants thought that there was an appropriate range of project scales shown. “I think the examples were good and portions of each tour were relatable to all types of municipalities” (2011 participant). However, some
participants grappled with scale and the rural/urban divide surfaced in comments. Megan wrote in her one-minute essay that she wasn’t clear about: “Translating lessons from the projects to a smaller scale where there may not be the same political support as Vancouver.” Financial resources are a major consideration for small communities.

Vancouver was seen as having an amenable political climate due to City Council’s green agenda. That was not the case for many small town communities and large developments such as Millennium Town were completely unrealistic. Megan said, “[It] was interesting, but to me, the scale of it, we just don't have that. [laughs]. It's one of those mind expansion, ‘Wow, this is out there, but not going to happen.’” She felt she could read about a development like that in a textbook and would rather “go see a community garden or a brownfield redevelopment, or how someone's using a school that's been abandoned and shut down.” The scale of Heritage Village made more sense to Megan, which she described as “fantastic” and “definitely something that could be transferred to a small community.” She found the course a bit too Vancouver-centric, requiring a lot of local knowledge.

Meixi felt like an outsider at times as well, as she lived in a large urban centre in Alberta and didn’t always understand the Vancouver area references. However, she felt her outsider perspective was a real contribution to the course, bringing in a “different geographical sense.” She had insights into “the oil and gas culture,” explaining that it is a way of life in the province. The political and economical climate in Alberta was much different than in BC and particularly in Vancouver. She felt that some of the solutions shown would be considered too disruptive to current practices within the “oil and gas culture.” If the changes required to apply the learning

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34 The City of Vancouver has set out a number of goals in order to become the greenest city in the world by 2020.
are too “unrealistic and too disruptive to present practice, actions, and/or beliefs” (Caffarella, 2002, p. 212), it is a barrier to learning application.

So for some of the rural participants in particular, larger projects were seen as unrealistic in their scope and therefore not applicable to their own circumstance. Other participants found inspiration in the projects and extracted “a kernel of an idea or a new way of looking at things,” as Trevor said, that could be tailored to their own situation. He didn’t expect rural examples in a course offered in an urban setting. He mused about offering an elective for the program in one of the smaller communities near to Vancouver.

Participants understood that context was critical when it came to making change happen. They were able to evaluate what would be applicable or not in their context. Political, economic and workplace “climates” were seen as both enhancers and inhibitors when implementing projects. Learning occurred when the cohort members compared and contrasted their own “stories” although, as there wasn’t a lot of formal discussion time, that learning may well have taken place beyond the tour course.

5.7.5.5 The long view

Participants articulated the importance of taking the long view when trying to effect change. Trevor spoke to the patience required to “accommodate change” against a backdrop of an extended timeline. They also understood that projects must be evaluated over time and that priorities shift in that process. As Sonya said about Millennium Town, “time will tell how well their initial plans have panned out.” And time did make a difference. “Walking around that place three years ago was very different from walking around it today,” said Sandra. “I think some of the comments that we heard early on were, ‘It seems vacant. Where is everybody?’ Now when you go down there, and you see many more people.” She also underlined the value of assessing
projects over time, which as facilitators we can do, returning to many of the sites year after year.

Opinions can change over time as well, as they did for Evan with respect to the landfill.

At the time it was interesting, but now, over time having . . . I consult sometimes with Metro Vancouver on their compost stuff. It's just, if you want good compost, you have to control inputs, it doesn't matter what the system is—it's just a fact. There's other models in other cities that are doing it so much better.

Ellie addressed “time frames” in four of her responses to assignments, emphasizing that the time line can shift the analysis and perhaps justify the economic value of a project. For example, some participants felt the capital investment to daylight a creek was prohibitive, but it may be viewed more positively as urban density increases and “nature in the city” is decreased. In one of her assignment comments, Ellie reinforces the need for long-term thinking as opposed to evaluating programs on a “quarterly basis.” Interestingly, Mark Connelly also talks about the “quarterly report” mentality in his interview when he is describing his vision of a sustainable community development. He laughingly describes these reports as “one of the greatest evils known to man” because of their focus on the bottom line for each quarter, eliminating “any sense of the future.”

Timelines figure largely in learning about how change happens. In another comment to a participant, Ellie speaks to the value of examining history, while adding the bells and whistles of modern day as a strategy of engagement and to “draw people forward.” So clearly having older models on the tour is important for this purpose; they also have comparative value as we saw previously with Heritage Village, Millennium Town and Bayside Views.

Participants appear to grasp that sustainability is an ever-evolving process. We had an example of the process nature of sustainability demonstrated within the course. For both Mark, and Drew, there was very personal relevance when we walked the Pacific Arm Greenway. In Mark’s case he “had been heavily involved in the development of [the greenway]. That whole
concept was developed by [him] and one of the local policemen.” Despite a very rocky experience in the planning stages, Mark was heartened to see that “the street is packed with people. They’re all selling stuff and doing things.” As he watched the scene, he thought to himself, “that is my street.” Mark provided some commentary on the greenway as we walked part of it that first year with former city planner Daniel Lansing. He also did his assignment on the greenway, which he felt encompassed and considered all six community capitals, but acknowledged that “time will tell whether this experiment is successful.”

Several years later Drew was working on another greenway, part of a rezoning project in a neighbouring municipality. He was surprised to discover that the City no longer saw the Pacific greenway as a “best practice” model. He wasn’t exactly sure why, but speculated that it had something to do with the flow of bike traffic at intersections. Nevertheless, valuable lessons were
learned with this early greenway project and it continues to inform subsequent greenways in the city, and adds complexity to the discussion while on tour.

Overall, participants were optimistic. They recognized that the change process is complex, that they must adopt a long-term view in sustainability work, and that patience was required to make change happen. Important lessons can be learned from examining projects over time and identifying where the challenges became opportunities. When faced with challenges, participants saw that sustainability leaders required creativity, “the ability to innovate” and “think out of the box.”

5.7.6 Skills acquisition

Some sustainability courses are designed to teach technical skills, such as how to rate a green building, or calculate a carbon footprint (the counting and measuring side of sustainability). While the tour course shows some “engineering” solutions, the learning appears to lie more in the soft skills or affective domain that is concerned with “changes in attitudes, values, beliefs, and or feelings” (Caffarella, 2002). Interestingly, even while we were showing the green infrastructure, what participants were learning was still about building relationships and partnerships and the social side of sustainability. In essence, they were learning between the lines.

While Meixi referred to the Chum Creek daylighting project as “impressive” on her evaluation form, in the interview, she called it an engineering solution. Showing my bias in favour of this project, I pressed her for a comment on the leasing arrangements the city had made with retailers along the creek that ultimately funded the daylighting. She then acknowledged the importance of getting “the big box store company involved, because they are part of the
“community.” So with some prompting from me, she recognized the vital community engagement component.

Unlike Meixi, Megan did not feel that Chum Creek was “just an end-of-pipe solution.” She was struck by the relationship building that was required within the city planning department in order to execute this project. She spoke of the divisions within her own small office and how critical it was to get support from engineering and public works. She believed a project such as this one would meet with a lot of resistance in her community and could only happen incrementally through building relationships. The economic realities of a small town are very different from an urban centre as well.

5.7.6.1 The softer side of green infrastructure

Millennium Town is the site that allows us to present a lot of the green infrastructure contained in a sustainable community. As facilitators, we have had the good fortune of being on site from construction through to completion. Participants, especially in the early years, were able to see “the guts” of the buildings and marvelled at the green infrastructure throughout the development. General comments over the years include, “amazing design, engineering, architecture and construction with true sustainable foundations” (2011 participant); “Very good to see application of sustainability at a large scale and also to hear about constraints due to time pressures/finances” (2011 participant); “Good coverage of all elements involved in the design. Integrated look at the link between residential open space, traffic and community life” (2011 participant). Most participants agreed that the technology was “really cool.”

Sonya had a lot to say about her visit in 2009 and “the amazing privilege we had to wear hard hats and be able to see the unfinished product with Mark Connelly.” The details were still sharp in her memory despite the passing of five years. She recalled the “deliberate walkways” in
buildings that were “more like motels” designed to “enhance the interaction of people.” She remembered the rooftop gardens, and the use of passive airflow, and “how the grocery store heat was going to be funnelled to the seniors building, so that they had more of a closed system of energy use.” She recollected some of the features that didn’t work too, for example, how the sun’s rays struck the metal finish on one of the buildings and blinded us as we stood in the adjacent building. Some of the finishes in the social housing units were shocking to her as well, especially the “granite countertops” “stainless steel appliances” and “marble in the bathroom.”

I remember thinking, “My place in Mill Inlet doesn’t have this.” [laughs] Yes. Then somebody said, “Oh come on, Sonya, don't you realize that they want this social housing experiment to fail? This will all become market housing anyway.” I naively said, “What?”

While the original intent may have been to create an inclusive sustainable community with both affordable and social housing, participants saw that the development was quickly becoming an exclusive, “suburb for rich people” as Amanda called it. She pointed out that “the people in the community housing . . . couldn’t use the fitness facilities.” She lived in the community and while she acknowledged that she was “part of the problem,” and “this community is not like the perfect example,” she believed it was still a viable model to which other cities could look. Despite being familiar with the site, she thought the energy plant was “super cool” and was happy to “see parts [of the community] I did not have access to” on the tour. Participants appreciated the “insider” access to sites.

Like many of the other participants, Trevor struggled with the social inequities, but marvelled at the green design. While he lived in a small town, there were still aspects of Millennium Town that he felt were transferable to his coastal community, namely, “the rainwater stuff, and how they deal with some of the wastewater” as well as “the reclamation of the waterfront.” When I traveled to his community to interview him, I thought I saw some echoes of
Millennium Town in a new street design, such as a public seating and gathering area. He confirmed that the course had indeed influenced some of the design, such as “wider sidewalks” and “places for people to sit.” He was working on one section of the roadway during the course and was “encouraging bike racks, bike lanes, connections to the water, developing the stairs down to the bottom, to the harbour so that our downtown is connected to our waterfront,” all reminiscent of Millennium Town. However, he also acknowledged that the design had been a team effort, “You're part of a group, of a network, or team. You talk through these things, you work through those things and if an idea comes from you or it doesn't come from you. It's that part of a thing.” In other words, the street design idea was a product of a network. As sustainability manager, Trevor was also in a position of power and therefore a strong influence on whether or not a project would be implemented.

For Mark as the design manager of Millennium Town, a participant in the first year’s cohort and now our regular guest speaker, there was acknowledgement that the development was influencing people from around the world. He still regularly conducts tours with visiting groups. Clearly the development held very personal relevance for him and he was committed to continuing to give visitors a direct, insider experience of the site. There may also have been some personal redemption in having an opportunity to tell his side of the story, “what you can do and what you can't, what works and what to look out for, and how to avoid the politics.” Mark was embroiled in controversy and “the politics” when the development company went bankrupt following the Mega Sports Event and the City had to buy them out. Through his candid storytelling, participants gained valuable insight into the complex and political planning and design process, against the backdrop of a mega sports event and a hard and fast deadline.
5.7.7 Unbottling the emotions

For Meixi, who was immersed in technical solutions in her work and already “knew a lot . . . on the engineering side of things,” it came as a bit of a surprise to be acquiring the soft skills. “When I first started the course, I was thinking like an engineer, that is, what other technical application I can use. But what I got even more out of the courses . . . was the softer skills.” Meixi felt she already knew the theoretical and technical sides of engineering, and while the course reinforced what she knew, it was the softer skills that she unexpectedly acquired.

Soft skills learning appears to be directly related to the engagement of the senses and heightened emotions, or embodied learning. While several participants refer to the “energizing” effects of the course overall, no other sites evoked so many emotional responses as the inner city tour. The inner city (including all stops) received the most site mentions across assignments, one minute essays and interviews—a total of 59 mentions. Heritage Village comes in second at 16 overall mentions and Harmony Urban Farm is third at 14.

While much of the learning on the tour was focused on social capital—the root word “social” appears 12 times on the formative evaluation forms—it is the inner city tour that sparked the most comments. On the evaluation forms over the years, participants describe the inner city tour many times as “eye-opening,” “inspiring,” “emotional,” “informative,” “positive” and that it shed light on complicated inner city issues such as racism and addiction. For many it was heartening to see that there were some things that were working well in the inner city. Several participants found this section of the tour to be the best part of the course and “a bell-ringer” in terms of social sustainability. As Roseland (2012) says, “social capital constitutes the ‘glue’ that holds our communities together” (p. 15). It is also “the shared knowledge,
understandings and patterns of interactions that groups of people bring to any productive activity (Coleman 1990; Putnam 1993)” (p. 15).

For one 2011 participant, his *aha* moment happened on the inner city tour. He wrote an email to Ellie:

> By the time I was walking the streets of the [inner city] with a group of reasonably affluent peers . . ., my sense of embarrassment and frustration peaked. How could I have missed this? How could I have driven through this so many times and not felt anything? With an engineer in my background, how can I fix this? As a human being, wtf?"

He subsequently reconfigured his business and personal life to emphasize the social side of sustainability, sitting on local boards and volunteering with his children in the small BC interior community. “My personal values had experienced an upheaval and my career path and direction have been permanently altered.” Through the inner city tour, his eyes had been opened to social equity issues in his own backyard.

A big part of the learning in the inner city involved overcoming stereotypes and breaking down barriers. Both Sonya and Meixi speak about their sheltered and privileged lives and how their fear dissipated and was transformed into compassion once they learned people’s stories. In her interview, Meixi kept returning to the inner city tour and the feelings it evoked. She provided graphic descriptions involving her senses, “Just to see how people live, and how to understand the community and be in touch with them, that really captured my imagination. Still today, I still remember the smell of it, the sound.” All of the senses were engaged for Meixi. The smells, the sounds, brought into vivid life what she thought she knew about the area.

I've always heard about the crime, and the drugs, and the substance abuse, addictions. . . . I knew there were clinics available to help people in that area. But never seen it, always driven by, but never walked the streets and smelled the smells, hear and see people around me. . . . Yeah, so that was really powerful.

When I ask Meixi if she recalls The Bottle Depot specifically, she said: “Oh, yes, that's when I said about the smell. I remember the smell, the clinky sound of the bottles.” Her description
strongly resembles a piece that I had written for a data analysis course [see Appendix D]. Meixi says that the sensory experience taught her “to dig, to look under the iceberg and see what's really going on underneath.” She believed by engaging community, involving them, a purely technical solution could be transformed into a truly sustainable one. When I asked her the single most important lesson she learned from the course, she replied in a similar vein.

Single most, like I said, it's just to understand and listen, to be compassionate . . . What I've said in the past, the [tour course] really made me stop and think and really take the time to understand what's going on within the community, because it's the people who make up the community.

Meixi allowed that not everyone had the privileges she had growing up and understood that the world was made up of a diverse population. At times, we are approached by local residents, which can also cause fear to arise.

The project that made me the most nervous to visit was the inner city. . . . I was very aware of my fear response as we toured the inner city, even given the relative safety of walking with a ‘student herd’ 💆 and being able to hide, in a sense, under and behind umbrellas on that rainy day. As inner residents approached our group, I felt my discomfort levels rising. (2009 participant)

Even the safety of the group couldn’t shield her completely from her emotional response. Her intense response here caused her to reflect on how she operates within a comfort zone.

The weakness in my range of abilities (i.e. my ‘silo’) lies in my discomfort with engaging with the marginalized on their own turf, in their own community. I am very comfortable sitting behind a desk, undertaking research, planning innovative projects, communicating by phone and email . . . but ask me to work on the ground in community engagement initiatives and my weakness is exposed. (2009 participant)

She subsequently attempted to face her fear by volunteering for a month at The Bottle Depot. However, the volunteer work available was still in her comfort zone, so she decided not to pursue it.

For Sandra Brent, who came along on the tour in 2008 and then co-facilitated with me in 2010, this site still carried meaning, and for her rated well in terms of sustainability.
The Bottle Depot, for whatever reason, is one that stands out to me. . . I just think it's a great example of where different aspects of sustainability are really coming together. Here's somebody who set up an enterprise which is making some money, but it's also allowing people who live marginally to get extra income. It also has great ecological benefit, increasing the rate of recyclables not ending up in a landfill. To me, when I think about that one, it's a winner.

The Bottle Depot appears to have evoked the most powerful learning. Even after time had passed, the site was still impactful for the interview participants. It was the first unprompted site mentioned by four of the interviewees and appeared a total of nine times in the top three first unprompted site mentions. For participants, the “fear factor” played a role in embodying the learning.

5.7.8 Communicating sustainability

Many participants comment on their learning with respect to communicating sustainability and the creativity and passion that entails. Ellie writes to one 2009 participant in her assignment notes:

You have a touch of poet in you! (Not everyone describes beauty at the landfill.) My humble suggestion is that sustainability needs champions, especially those able and not afraid to express emotional values intertwined with functional ones. Use your insights and your communications skills—you may answer your own question about how we make people care.

There were three subthemes to this category. They are framing, storytelling, and the role of art and culture.

5.7.8.1 Framing

Participants learned that in order to successfully communicate sustainability messages, they also needed to frame them according to their target audience. Megan speaks about how she has learned to reframe sustainability so that it made sense to taxpayers. She uses the term “healthy community” rather than sustainable community to avoid “misunderstanding and overuse.” John believed that framing through dollars and sense was the way to sell the
sustainability message to his constituents, because “Money talks, right?” He believed presenting “the cost and the benefits” would have a better result than just saying, “You should do this, just because it's a good thing to do.” Framing the message in financial language had a particularly powerful effect on Mark too.

We can talk about all these things that are done, but you have to be able to establish the economic value of them. Otherwise, it's nice the city, daylight of the creek, it's nice. But what actually helped us get there? What was the financial framework behind that whole deal in order to allow that to happen? The problem is the focus gets to be on what kind of grasses should we have planted and was the bank high enough? A lot of detailed stuff but not the much larger issue.

For Mark, framing the message went even further and became his entire marketing plan for his new business enterprise.

In 2008, we included a stop at a film studio. I believed this was an excellent example of a business trying to go green in the early days of net zero carbon footprints. In addition, the film studio had a leasing arrangement with the city that allowed them to close off a street. The funds from that lease allowed the city to daylight a portion of Chum Creek. While I was a fan of the film studio stop, it was generally panned on the evaluation forms. Participants found it “of limited value” and not a “good example of a green business.” Even Ellie gave the site mixed reviews. In one of the assignment comments, she wrote: “I agree with your comments about the Film Studios—seems hard to imagine how the industry overall could ever be considered “sustainable.” Yet many of us are customers—so we’ll have to figure it out somehow!”

In response to another assignment, she writes that she agrees with their negative assessment of the film studio, but defends them in part, for their “willingness to be ‘seen’ as taking action on sustainability,” believing small steps can lead to “a deeper commitment.” Despite the fact that three people wrote about the film studio in their assignments and one person focused a large part of her assignment on the film studio, commending them for being green
leaders in the entertainment business, the film studio was dropped for the next year. I was taken by surprise then when Mark Connelly mentioned this site first.

We went to the film studio, and I thought to myself, “What the hell are we doing going to a film studio?” And I came away thinking, “Oh, this is interesting.” These guys are actually marketing their products on the basis that they had an environmental framework behind it. . . . So it was like, OK, so what's the film . . . and I clicked in my mind, in thinking to myself, there's a marketing value exercise going on here, in terms of, how do you take sustainability and find its market value? Why does it have market value and how do you bring that market value to the table? Because if it doesn't actually make money for somebody, it won't happen. You have to find that angle. That really struck me in the film industry. That's what they were doing. They were actually telling actors, come out to Vancouver because we do environmentally friendly stuff. Actors are going, “I'm environmentally friendly, so I'll come to Vancouver.” [laughs] This really struck me that day.

I admit to feeling vindicated for choosing the site. Someone understood! During the interview, Mark told me he was just writing a proposal to a client who had been in his cohort in 2008. He handed me a copy of a brochure that he had developed on his new sustainable building program that emphasizes conserving energy, eliminating carbon and reducing costs for the customer. He felt his job was to convince his customers that buying into sustainability was good for business. The film studio was Mark’s *aha* moment and he credits it with his ultimate rebranding in the marketplace.

That was a significant moment. . . . There were many times I felt like, what am I doing this for? But I realized that there was a value because it was going to begin to change. I had to be able to say to the marketplace, I've actually changed my thinking. People would have to understand that I had done something to do that. Otherwise I really didn't have, Mark, you're an engineer. Would you go back to being an engineer? In a way it was a deliberate effort to change the way that I was perceived as well.

In Mark’s case his motivation for entering the certificate, his worldview, prior experience and learning all combined to create a significant transformation in his thinking and ultimately his business approach.
5.7.8.2 Storytelling

Storytelling is another method used to convey sustainability messages, a theme that surfaces repeatedly in assignment comments as well as in the interviews. However, there was some confusion over where the content originated. Of course each guest speaker tells a story and participants recognize them as well as facilitators as storytellers. But, there were storytelling components in Ellie’s communicating sustainability course, as well as in the social sustainability course, in one of the green economy courses, and in Anna’s leadership course. Meixi talks about how much storytelling resonated for her.

What I learned from this course, is how to get people to listen to you. There are different ways to tell a story. . . . Whether they're writing things down or they're speaking or they're drawing.

However, later when I asked her which speakers stood out for her, she talked about a speaker from another course, which I discovered was the social sustainability course. Nevertheless, what she says ties in with the powerful way she described her experience in the inner city and the emotions that story evoked in her.

The way we were taught about telling stories is that you want to tell stories that engages the senses. The smell, the hearing, so you build a story around that that people can relate to. Because a lot of times, especially from a very technical person, people lose that and you have to. . . . Lose that concentration and even the connection, and when you start talking about engineering, you have to, OK, bring it down to life story, more realistic. What he said that stood out in my mind is that people are not interested in facts anymore. You can do a survey and say, “OK, what do you think about climate change?” Then 50 percent will say this, 50 percent will say that. All that doesn't really matter, because facts, people can go and look for it now. It's all about how you convey your emotions and your story to convince them otherwise. So. . .because, in the past I always have lots of arguments with my own colleagues about climate change, and then it seems like we're at a gridlock about what our understanding is. We basically agree to the point that you can waste less, you can use less energy. We all agree about that. Do the good things, but we did agree that we didn't agree on climate change theory. The fellow from WWF [World Wildlife Fund] basically said that. People are sick about facts. It's all about telling your story. Since then I've been trying to build some story banks.
While people sometimes joke about engineers having no feelings, their training does involve more “left brain” activities and rational, analytical and logical thinking—what Meixi calls “realistic.” This technical person then saw the value of reconnecting with her emotions. For her, storytelling had an emotional connection and was related to her propensity for visual learning.

I'm a very visual learner. I need to see things, I need to feel things. . . . When you say, “Draw a sketch” that was really easy, it comes to me, because visually even when I read a story in a book, I don't think in words, I build the story, I build the landscape in my head. I build the image in my head, that's how I learn.

Sonya also ties storytelling to visual learning and the deeper learning that occurs when other senses are engaged.

I would say for many of us, we are very much visual learners. Traditional learning is so audio-focused but when you bring that visual element in, I think it's inevitable that it's going to be that much more powerful. And then the tours are always accompanied by stories. Stories are very powerful, particularly when they’re shared by the individual who is experiencing or had experienced the story. Storytellers make the facts and figures come alive and together, it’s almost a kinetic type of learning experience. I'll never forget the tomato story and I'll never forget going to the landfill. You just don't. Walking through these neighbourhoods, now when I read about them they really come alive for me, because I have seen them up front, in person, so to speak. I think even when you look back on your elementary school days and had those field trips. I'll never forget the fish hatchery and the camping at Strathcona and the Bamfield Marine Station. Those are some of the most memorable and powerful memories from that educational period.

While I did not formally test the participants, nor did I ask them what learning type they were, four participants mentioned that they believed they were visual learners.

What became clear to me through this study is that the tour is a kind of mobile storytelling, it shows and it tells. What I mean by “showing” well, is the site’s ability to tell a story in a multi-vocal way. One 2009 participant captures this storytelling ability in her assignment.

The most inspiring project that we toured during the course was Heritage Village. Considered in relation to the others, it certainly wasn’t the largest scale (Millennium

35 Tomatoes were grown in pots on sand creating a veritable hot bed as well as providing good drainage.
Town would take that one!), and it wasn’t the project that impacted the most people (arguably the . . . Landfill would win that distinction), but for me, Heritage Village was inspiring because it tells a story of ‘the people’ winning against ‘the system’.

In 2008, Ellie writes in response to another participant regarding Heritage Village and the many layers of story that it provides, “it includes social housing, community gardens, car-sharing, communal outdoor spaces, all aimed at building a sense of community.”

Some of the sites offer up rich layers, others may be perceived as superficial as the film studio was by some, a co-opting of the sustainability message for self-serving purposes. However, Ellie even gives “greenwashing” its place in the larger context of storytelling in response to one of the 2008 assignments.

It is true that it can be hard to assess the real impact, or “trustworthiness” of some initiatives. Ultimately this is sometimes an issue of getting people started down a path through simple first steps like light bulbs, and hoping this leads to wider knowledge, engagement, and commitment. But time will tell!

Small, incremental changes within networks can be adopted by other networks and ultimately lead to sweeping change.

5.7.8.3 The role of art and culture

Like framing and storytelling, art can be a powerful way to communicate a message too. In some sustainability frameworks, such as Roseland’s (2012), cultural capital is a separate pillar, defined as “the product of shared experience through traditions, custom, values, heritage, identity and history (p. 17). A few participants remarked on the art and culture contained in the tour. In the assignments, one person wrote specifically about the lack of cultural capital in “some of the projects,” but cited Heritage Village as “uniquely rich.” This participant believed that “in coining the name of the neighbourhood from historical research on the area’s pioneering residents,” that Peter Blake, the project leader, had “created a geographic ‘brand’ that residents and project
proponents could identify with and fight for.” The participant believed it was “an example of place-based cultural capital.” Drew also mentioned the power of naming a place.

One aspect of the inner city tour focused on Chinatown. We walk by the fresh food markets spilling onto the narrow, busy streets. Our guest guide, former city planner, Daniel Lansing points out some of the murals and mosaics that commemorate Chinese-Canadian history as well as a monument that gives tribute to both the thousands of railway workers and Chinese Canadian soldiers who fought in World War II. We culminate the tour by walking through a classical Chinese garden, a calm oasis in the heart of the busy inner city. We emerge in the plaza of the Chinese Cultural Centre and have a brief discussion about cultural values and the debate that had occurred here over paving the square or providing green space. In the end, the wishes of the Chinese community prevailed and the square was paved and peppered with mosaic tiles. In the assignment responses, Ellie wrote to one 2009 participant about the importance of culture in a sustainable community, “Thanks for your interesting comments about . . . the Chinatown statue . . . I agree that cultural relevance and connection are critical to a sustainable society—perhaps because that is what engages and excites us, or has meaning.”
Sonya and Meixi, both of Asian heritage, appreciated learning about the history of Chinatown, “Really experiencing things that I hadn't as a child, which was kind of sad. It was sad to realize that I missed that part.” Megan found it “exceptionally interesting,” although there is not a “big Chinese population” in her town, they do “have a First Nations population.” While she couldn’t make any “direct links,” she thought, “Wow, here's a community and they’ve showcased what they do.” She was clearly entertaining possibilities for her own community. The site didn’t please everyone though, a 2011 participant felt the “Daniel Lansing [inner city] tour was too long and [didn’t] see the point of a Chinatown tour.”

There are other parts of the tour that include public art. Trevor and Sandra mentioned the freakishly large bird sculptures in the village square at Millennium Town. Trevor said his kids love them, while Sandra explained them as a clever urban design trick to make the buildings look
smaller. Sonya brought up buildings as art, specifically the two designed by a well-known local architect that were “supposed to look like ships, and so they have this very unique shape to them.” She remarked on how “impractical” they were because as Mark Connelly (our guide that year) had said, “Every pane of glass was a different shape so when it came to making the blinds in the passive temperature control technology, they had to custom do every single blind.” She was obviously perplexed by the loss of function over form, “Really? This is where the whole art thing takes over common sense.”

One year, we were standing outside the Science Centre, pointing out the various modes of travel at that hub: train station, subway station, water taxis, buses. It also happens to be the site of a public art project that I initiated. The Solar Bike Tree was sited at the conjunct of three cycling paths. This stop was done on the fly that year and I was surprised when Amanda mentioned it in the interview.

I remember also when you pointed out that you’d worked on that bicycle rack. And I mean I don’t think that was meant to be really a central part, but in a way, that actually really had a strong effect on me, because it was like, oh, she did that. . . . I remember you saying it took a long time, there was a lot of process, but it was like, there was this physical proof that something had gone from the beginning to the end and had actually worked.

For Amanda, it was really important to be seeing the successes in the face of seemingly so little progress on the sustainability front. The tour afforded those spontaneous moments, too.

As a huge fan of functional, public art, I was shocked that the Neighbourhood Energy Utility (NEU) did not receive any mentions in the data. By turning a potential public eyesore into an art piece, the designers introduced the utility without any push back from the community. The NEU recovers energy from the sewer to provide heat and hot water to Millennium Town. The five exhaust stacks that rise up beside a key city bridge were styled as fingers manicured with LEDs that light up according to the level of energy use. Blue indicates low energy demand, red is
high. In this way, the community was held accountable to living sustainably by the larger community, a network within a network.

So learning the language of sustainability and how to frame issues, how to tell compelling stories, even using art to convey messages was part of the learning on the tour.
As we saw in the findings, there were a number of key learning themes and ways in which participants applied what they learned. Through visiting a range of sites, participants increased their sustainability literacy and knowledge about sustainable community development in the region. There was particular interest in social sustainability issues (such as housing) and programs, especially those that employed marginalized populations. Participants saw the benefit of adopting community development approaches that value diversity and acknowledge interdependence. There was also significant learning about the change process itself; that it is messy, nonlinear, and requires an extended timeline to evaluate. They learned about the various
roles a sustainability leader can take in that process and the importance of building partnerships and expanding networks in order to get a project off the ground. Participants understood that context is critical: what works in Vancouver is “just not applicable to a town like Yellow Ridge.” They also realized that to effect change sometimes required working in imperfect conditions and almost always demanded compromises. While I acknowledge that in most cases the learning from the tour course cannot be clearly separated from the learning that occurred throughout the rest of the certificate program, some of the participants did connect their learning and subsequent application of that learning with a particular site or with the tour as a whole.

There were no real surprises in terms of barriers and enhancers. The usual influences (Ottoson, 1997b; Caffarella & Daffron, 2013) were mentioned: limited resources (both time and money), lack of power, authority and opportunity. The scale of the project needed to fit the context, and the political and economic climate had to be supportive if the project was to move ahead. The cohort itself was seen as both a barrier and an enhancer to learning depending on the membership. There was an occasional comment about mobility or inability to hear the guest speakers outdoors, but these “barriers” did not appear to inhibit learning. The application literature does underline the importance of having supports after the course, such as a help line, coaching, job aids in the form of check lists. Both participants and facilitators mentioned they would benefit from having further contact through social media.

Following the adult education tradition of assessing program effects, I will employ multiple lenses in this discussion to discuss two strong overarching themes of application that occurred in the findings: network building and communicating sustainability. I will begin by explaining how the connections between motivation for entering a program and application of learning can be made visible through Kirkpatrick’s Four Levels evaluation framework.
6.1 Connecting the Dots

The first impressions participants have about our course are recorded on summative evaluation forms just before the close of the final day. These “happiness sheets” as Kirkpatrick (1998) calls them are useful for identifying the “interest, attention, and motivation of participants” (p. 38) as potential indicators of the learning that follows. Participant “reactions” constitute the first level in Kirkpatrick’s (1998) Four Levels evaluation framework. The other three levels are learning, behaviour and results.

As we saw in the findings chapter, participant reviews on the evaluation forms did result in some sites being dropped over the years. If the overall reviews were consistently poor, the future of any program would likely be jeopardized (Kirkpatrick & Kirkpatrick, 2006). Although in our case the cancellation of the tour course was not related to the reviews, which were predominantly favourable. Rather, it was a response to more competition in the marketplace and, I assume, an attempt to find a niche through offering more specialized courses such as sustainable transportation and social innovation.

Generally, there was high satisfaction with the program content across the years, 55% believed the content was Excellent and 37% believed it was Very Good. In terms of whether or not the content was useful and current, what I call “relevance,” again 55% found it excellent, and 31% found it very good. While Kirkpatrick (1998) recommends developing forms that quantify results at this first level of his four level training evaluation program, the summative evaluation forms that we used for our course also provided space for comments. Qualitative data can augment the quantitative data, and sometimes reveal the application that may not have been visible through the numbers alone (Ottoson, 1997b).

Participant reactions to the tour course were very positive. They found the experience
“energizing” “inspiring” and “refreshing. Many of the quotes contained on the forms speak to the appreciation for the practical as opposed to the theoretical. “Enjoy seeing real world examples (2010 participant); “See it before your eyes; bring the class outdoor [sic]. Very practical” (2012 participant); “Perfect follow up to the [Sustainability Principles] course—loved seeing the theories put into practice” (2013 participant). Meixi wrote about the inner city and the two speakers: “Excellent, inspiring, authentic, passionate about their work.” Amanda wrote about Chum Creek: “Interesting, will see that area differently now.” When a site wasn’t relevant, that was also expressed. For example, Meixi tuned out during the Millennium Town tour because she had been there previously and knew the site well. Meixi and Sonya found the tour of Chinatown culturally relevant due to their Asian heritage.

We can discern from some of the comments regarding specific sites and speakers what was personally relevant to the participants. As Wlodkowski (1997) points out, “personal relevance [is] a key ingredient in developing a positive attitude at the outset of a workshop. Participants are extremely sensitive to the degree to which they can identify their perspectives, needs, and values in the content and processes of the workshop” (p. 25).

In profiles submitted ahead of the course, we also learn of participant motivation for entering the certificate program in the first place. As Wlodkowski (1997) says, “engagement in learning is the visible outcome of motivation, the natural capacity to direct energy in the pursuit of a goal” (p. 20). Participants were looking to make a career shift, or move their organization more into sustainability, or get current in the field. Intent or purpose resides in these reasons for enrolling (Ottoson, 1995). As Ottoson (1995) says, “purpose is a necessary, but not sufficient, component of application” (p. 22). Initial reaction is “a measure of customer satisfaction” (Kirkpatrick & Kirkpatrick, 2006, p. 21), but it is also clearly related to one’s original purpose
for entering the program. If participants do not respond positively on the smile sheets, they may not be motivated to learn. So motivation and relevance are linked to learning—they serve as precursors to application.

Through the profiles, we also learn more about the program participants themselves, and begin to identify some of their “predisposing influences” (Ottoson, 1997a, p. 98) that may affect their ability to apply what they learn. The reason for entering the program in the first place, the attitudes, opinions, values and beliefs they held coming in to the program, their prior knowledge and experience, culture, self-perception, perceptions, all of these factors “are linked to what is being learned” (Caffarella, 2002, p. 212).

Recall that Dewey (1998) describes the developmental learning process as the “continuity of experience” (p. 12). “Every experience is a moving force. Its value can be judged only on the ground of what it moves toward and into” (Dewey, 1998, p. 31). In Dewey’s view, experience sets ideas and desires in motion, and reason (in the form of observation and judgment) provides direction for the subsequent action (Kolb, 1984). Kolb also bases his experiential learning theory on the premise that the learning continuum depends largely on the participant’s prior experience and predisposition. In systems thinking, the process would be viewed as a nonlinear one. Capra and Luisi (2014a) echo Dewey and Kolb when they describe the unique individual pathways that are formed by living organisms.

At any point on this pathway, the structure of the organism is a record of previous structural changes and thus of previous interactions. In other words, all living beings have a history. Living structure is always a record of prior development. (Capra & Luisi, 2014a, p. 136)

Nevertheless, it is challenging to evaluate tangible results of application or transfer because there are too many mitigating factors (Caffarella, 2002; Caffarella & Daffron, 2013; Kirkpatrick, 1998; Kirkpatrick & Kirkpatrick, 2006; Ottoson, 1995). “From an application perspective, adult
educators receive neither all of the credit nor all of the blame for whether and how learning is applied following an educational experience. Other influences on the process and outcomes are recognized” (Ottoson, 1995, p. 28) including program funders, the employers, the learners themselves, etc. In this study, we have the mitigating influence of the other certificate program courses, where ideas continued to “bubble up,” as Anna said. A particular site visit during the tour may have been the triggering event, but there was a period of reflection, incubation and mutual specification in subsequent courses before the application emerged in a detectable form. However, there are at least two cases where the application can be linked directly back to a triggering event on the tour. For Mark Connelly, that trigger was the film studio, and for Evan Andrews it was the inner city tour.

As Kirkpatrick (1998) suggests, his four level framework can help us to make connections between the first impressions of a course captured on the evaluation forms, what is learned as a result of attending and participating in the training program, and ultimately what is applied. In a formal course evaluation using these four levels, participant learning would be measured with pre- and post-tests, as well as performance tests. Before applying the framework to Evan’s case of application, I will give a brief description of Kirkpatrick’s four levels.

6.1.1 Kirkpatrick’s four levels

We saw above how the first level (reaction) in Kirkpatrick’s framework concerns itself with first impressions immediately following a program. At that level, we can potentially start to connect the dots with respect to relevant program content, motivation for entering the program and the learning that follows. Level two in Kirkpatrick’s (1998) system evaluates “learning.” As Kirkpatrick (1998) points out, “evaluating learning is important. Without learning, no change in
behavior will occur” (p. 47). At this second level of evaluation we are looking at knowledge, attitudes and skills, essentially the three learning domains in Bloom’s (1956) taxonomy.\textsuperscript{36}

Level three measures “behaviour,” specifically the change in behaviour that occurred as a result of the program (Kirkpatrick 1998; Kirkpatrick & Kirkpatrick, 2006). In Kirkpatrick’s interpretation, learning precedes a change in behaviour and that change constitutes transfer. In other words, did the knowledge, skills and attitudes that surfaced at the Level 2 stage “transfer” to the job? While there was no pre/post test and no observation on the job following the tour course and I relied on participant perceptions and self-appraisals of behaviour change, evidence strongly suggests that there was transfer, particularly if we employ the sidestream approach to transfer which is less concerned with fidelity to the original program (Ottoson, 1997a).

Level four, is concerned with tangible “results,” that is on the job evidence of the impact the training program had on participants. In Kirkpatrick’s framework, when the learning manifests as a behaviour shift in the workplace, that is considered transfer. When there are longer term impacts as a result of that behaviour shift (i.e.; productivity increases, reduction in workplace accidents), Kirkpatrick calls these effects “results.” Kirkpatrick admits it is the most challenging level to evaluate, he advises us to look back through the other three levels at this point to connect the dots. So at the first stage, we are looking for the motivation and relevance (Level 1) that led to the learning that the participant focused on (Level 2), then how their behaviour shifted (Level 3) and finally what the outcome or results of that behaviour shift was (Level 4).

In the box below, I will take one case in the tour study in an attempt to connect the dots. I document Evan’s process from reaction through to results using Kirkpatrick’s four level

\textsuperscript{36} Cognitive, affective and psychomotor. Cognitive or mental skills are understood as “knowledge.” Feelings and emotions are considered affective skills and psychomotor skills are physical or manual in nature (Clark, 2015).
framework. While we are looking at transfer here, the lens makes some clear connections between the motivation, prior experience and the ultimate “application.” Keep in mind that I am using the sidestream approach to transfer of learning, that is the thing transferred, does not have to be a precise replica of what was learned on tour, it may well have been adapted for the new context, as it was for Evan.

**Evan builds a network and turns it into an urban farm**

**Level 1: Reaction** (motivation/relevance/prior experience). In Evan’s profile we learn of his interest in the green economy, particularly with respect to marginalized communities.

I want to work on bridging the gap between the sustainability movement and marginalized, impoverished sections of the population. I hope to discover opportunities in the green movement for the less fortunate and apply what I learn to my job at The Bottle Depot and the residents of the inner city.

We also learn of his current employment, coordinating “sustainable, environmental enterprises that create jobs for inner city residents.” Evan’s past experience is interesting and worth summarizing here to see the many connection points with the project he would eventually develop.

Evan grew up in Alberta against the backdrop of the oil and gas sector. He was raised in the “save the whales, the polar bear” era. His uncle was a grain farmer, which “made me not want to be a farmer” because “all you do . . . is sit on a tractor all day.” He worked on a cattle farm as a kid, which “was kind of nice” despite all the slaughtering. He attended theatre school at the University of Alberta and then moved to New York City to study drama at the American Musical and Dramatic Academy. He “was a struggling actor for about a decade before he started working” in the inner city and also founded a non-profit theatre company there. He believes working in the arts scene gave him a facility to work with diverse populations “and not ever feel completely out of place in any given situation.” He went on to manage nightclubs in Vancouver. He credits working in the hospitality industry with giving him his business acumen. When he started Harmony Urban Farms, he discovered there were similar players and transferable skills such as “understanding cash flow” and “holding inventory.”

He had been living the party life, but when he had kids, he decided to switch gears and get “into the sustainability thing.” When I came to the inner city I was either going to move to a farm, or work, do something of service [laughs]. He was “reading a ton of books” on sustainability and the green economy before and during the course.

So at this level, we identify the motivation, his area of interest (relevance), the prior experience and the skill set that will eventually be transferred to the new context.

**Level 2: Learning.** Evan’s learning focused on the people he met on the inner city tour and the related projects.

That course helped me tap into this network that existed in the neighbourhood. We all started working on projects. Eventually, all these different projects came out of that. Harmony Urban
Farm came out of that group of people. . . . There's a whole bunch of projects that came out of that group. . . . So that particular day had quite an effect on the trajectory of what would happen in the coming years.

Evan credits the tour course with connecting him initially with the network that helped to make it happen. He was also personally interested “outside of my work” in the valley farm. “That day just happened to touch on a whole bunch of things that I was interested in.”

**Level 3: Behaviour (shift).** The urban farm concept took shape during the certificate program. Anna spoke about how the idea was “bubbling up” in her leadership course. The project was incubated at The Bottle Depot, which had a number of sustainable enterprises under its umbrella at the time. As Evan developed his model, he also began to see the “many holes in the arguments around sustainability, especially around the development.”

Like if we develop and do this, we'll get to this green utopia. It's not, it's a fallacy, common sense-wise. When you read that, “Wait a second, it's all based on the control, business-as-usual model.” There's so many reasons it doesn't make any sense. Agriculture and land use is the biggest polluter, period. If you figure out the food problem, you figure out the environmental problem, in my humble opinion. All those ideas were gestating in my head, so I think that's why it ended up being this project and not something else.

Through the process of implementing his project, Evan’s idealized vision of sustainability was disrupted. He began to see the practical and imperfect realities on the ground. Although still somewhat cynical about sustainability, he developed a view of a sustainable community that he could believe in. His vision was modeled on the green heart of Holland, an agrarian vision wherein “waste from the urban parts go into the centre.”
**Level 4: Results.** For numerous reasons, after a couple years, the farm separated from The Bottle Depot and now operates under a separate charitable entity. Today, Evan is the co-founder and co-executive director of Harmony Urban Farms, a social enterprise that converts vacant city land into urban farms that grow fruits and vegetables that will be sold at farmers markets and to restaurants.

Evan became one of the core speakers for the sustainability tour course (and other courses) the year after he took the course. Each year he inspires other cohort members. Again, speaking about the combination of the inner city and the rural farm, he says, “Eventually that particular day [laughs] ended up having a huge impact on my life, generally, which was kind of weird.” The tour of the inner city and the connections he made there, interacted with his prior experience and the “tons of reading” he had already been doing on the green economy and sustainability—all mutually specifying the form his project ultimately took.

### 6.2 In the Flow

What is interesting about Evan’s example above, and that of Mark Connelly and his new business venture which was triggered by the film studio, is that both participants took the course in 2008, during the lead up to the Mega Sports Event, which helped accelerate the green agenda in Vancouver. More and more “governments are seeking to achieve public policy objectives
using the sport mega-event as a vehicle to do so” (VanWynsberghe, Derom & Maurer, 2012, p. 185).

The emergence of the concept of social leveraging is important to understand the involvement of host governments in attempts to amend, fast-track, or generate new public policy, curriculum, community programmes, and demonstration projects. (VanWynsberghe, Derom, & Maurer, 2012, p. 185)

The government social leveraging of the Mega Sports Event also opened up opportunities for businesses and nonprofits to advance their own green mandates. This was not business as usual—much of daily life was disrupted in the lead up to the event, rerouting of traffic around the site is one such example. The city was in a liminal space itself—out of ordinary time. We see here how critical context is in the change process. “The resultant coupling creates a new transcendent unity of action and identities that could not have been achieved independently by either participant” (Fenwick, 2000, p. 261). In other words, Evan and Mark (the individuals) may not have been able to apply what they learned if the timing did not coincide with the Mega Sports Event (the context). There was mutual specification between the individuals and their environment. The event helped to create flow and ultimately emergence of novelty. Flow in terms of social innovation, describes that period when momentum has built to such a degree that a project or movement takes on a life of its own. People come on board, doors fly open, obstacles disappear, synchronicities are commonplace (Westley, et al., 2007). Sustainability leaders are able to recognize and use flow as leverage to advance their sustainability agendas. So not only did the Mega Sports Event have a liminal effect on the city, there was an intense communitas effect here too. The relationships that were formed in the tour were compounded by the relationships that were forming as a result of being in the liminal context of a mega event, which was driving a green agenda—a system within a system.
6.3 Building the Sustainability Network

While Evan was perhaps the most outstanding example of a network builder, all study participants built their network in some way, certainly within the cohort, but also beyond. Mark made business connections. Megan reached out to fellow planners for advice. Trevor conferred with fellow cohort members. Meixi aligned herself with like-minded co-workers. Amanda made a career shift through connections she built with facilitators in the course. What began as a volunteer job with The Environmental Group evolved into a full-time position for her. In essence, they became “network weavers,” leading members of a network who are actively and consciously building connections with familiars and strangers (Krebs & Holley, 2006; Scearce, 2011; Westley et al., 2007). Network building in and of itself then is an example of application of learning. As the definition of sustainability leader for the purposes of this study was someone who builds their network, it follows that study participants are sustainability leaders because they built their networks. In terms of achieving the overarching certificate program goal then, the study evidence indicates an expanded network of sustainability leaders throughout the province.

6.4 A Co-Emergent Curriculum

In terms of program content then, what is relevant to one person is directly connected to their motivation for entering the program as well as their prior experience and disposition, etc. and their particular environment/context. In this way, it is impossible to predict what will trigger one person and not another. Even when a site was deemed “ineffective,” it still had the potential to trigger someone as the film studio did for Mark Connelly. The experience in the film studio connected with his motivation and relevance and set off a series of reactions throughout his network that resulted in a new business concept. The film tour was a “significant moment” for him, the trigger that he credits with his successful rebranding in the marketplace.
On the other hand, people may have really enjoyed a site and rated it extremely well and even been keen to take initiative in their own sphere of influence, but it may not have resulted in application. We saw this with the participant who wanted to volunteer at The Bottle Depot, but when she investigated further, the opportunity available to her did not match the type of more practical, hands on experience she desired.

If it is impossible to predict relevance, one could almost say that the content doesn’t matter, as long as it is “on topic.” This statement is reinforced by the fact that the sites vary from year to year, even the ordering was not critical. In this way, Davis and Sumara (1997) found in their own teaching practice, that learning was more “occasioned” than “caused” (p. 115). While at times, back-to-back sites provided good contrasts—“Enjoyed very much going from landfill to the Golden View Farm,” “the contrast helped me appreciate both more!”—and were valuable for comparative purposes, participants compared sites regardless of where they were placed within the tour. Heritage Hill, a mature site, was consistently compared to newer developments such as Millennium Town and Bayside Views. As Davis and Sumara (1997) say, “controlling learners and achieving pre-set outcomes must be set aside in favor of more holistic, all-at-once co-emergent curricula that are as much defined by circumstance, serendipity, and happenstance as they are by predetermined learning objectives” (p. 122). The tour creates abundant opportunities for just such serendipities and happenstances.

It doesn’t mean that the tour should not be carefully planned, framed and choreographed, just that from an educator’s or program planner’s perspective, participant learning is unpredictable because it is linked to his or her prior experience, dispositions and motivation for entering the program. They may learn despite how the tour is constructed, or which sites are
included, even through stumbling into surprises. It also suggests that the tour has a life of its own, it is a system in and of itself (a travelling one) and learning happens between the lines.

6.5 Cultivating Phronesis

Kirkpatrick’s four levels program evaluation framework is widely used in corporate, government and academic training environments (Kirkpatrick & Kirkpatrick, 2006). In many of these settings, the skills that are being taught are more technical in nature, so performance can be measured before and after training to gauge improvement. For example, a new procedure might be introduced in a medical or factory setting and employees must be trained with precision as lives may depend on it (Ottoson, 1997a). However, as Ottoson (1995) purports, more than technical know-how or “techne” is required to apply knowledge, we also need practical wisdom or “phronesis.” Let us look at how the sustainability tour may have helped participants to cultivate phronesis.

6.5.1 The soft skills

Meixi entered the course anticipating that she might enhance her technical engineering skills, but was surprised by what she learned instead.

When I went to the course, I was thinking as an engineer, I was thinking more of the theory side, thinking about, OK, what other technical application I can use. But what I got even more was that, put aside the technical, because the technical stuff is already what I already knew. But it reinforces what I knew. But it was the softer skills that I got out even more without even expecting it.

Meixi’s learning was primarily in what she called the “soft skills,” or affective domain, as it was for other participants. She realized how important it was to consult with and involve community in the large infrastructure projects her company implemented. Amanda’s attitude towards other classmates and neighbours in her condominium became less “militant.” Both Sonya and Meixi became less fearful, less judgmental and more compassionate as they learned more about the
inner city residents. So community engagement and softening of judgmental attitudes were acknowledged as valuable soft skills that had been learned. The first test of whether or not these soft skills would be retained is when the participant crosses the boundary from tour course to home or work.

6.5.2 Boundary crossing

Trevor’s wife was very receptive to the information he shared about the composting system he saw at Eastern Elementary, and began to incorporate ideas into her emerging business. However, another participant was not given “enough opportunity to take part in the implementation of [his] plans.” So while the participant may easily cross boundaries, the thing (new learning) may not. As Ottoson (1995) says, “the genteel metaphor of the permeable membrane may be a less accurate one of boundary-crossing between education and application contexts than dashing across a crowded freeway at rush hour” (pp. 25-26). In systems thinking, the context must also be a willing participant.

For a town planner such as Megan, we saw that boundary crossing was not simply slipping across the hall into the engineering department and suggesting they add a community engagement process to “an end-of-pipe solution.” As Ottoson (1995) says, “Crossing boundaries from one context to another requires the learner to translate the language of the thing to another culture. Such translation requires both an understanding of intent and a creative element that fits the [new] context” (p. 26). The idea or new knowledge may be adapted as it passes through the cultural boundary—in that sense the boundary serves as a kind of conceptual sieve (Ottoson, 1995). However, as the object is introduced to the new culture it too adapts (or rejects the thing). Again, there is mutual adaptation.
These new patterns of acting could not be contained by classroom walls, nor the temporary cultural boundary of the tour. Davis and Sumara (1997) found a similar “spilling over” when they undertook a year long study in an elementary school classroom. “The complex weave of classroom activity had spilled into other communities through what appeared to be a mix of deliberate communication, casual conversation and unconscious imitation [of teaching methods]” (p. 115). All of the study participants crossed boundaries, sharing their newfound knowledge and resources.

This boundary crossing process requires what Ottoson (1995) calls survival skills in addition to “the skills of translation, negotiation, adaptation, and decision-making” (p. 26). These skills echo the advanced communication skills required for the sustainability professional and which we saw participants exhibiting in various ways.

6.5.3 Communicating sustainability

There was critical learning with respect to communicating sustainability. First of all, study participants learned the foundational, theoretical concepts in the sustainability principles course, just ahead of the tour course. This is the explicit, episteme or know-what knowledge as described by Gonzalez (2015). Participants recognized that for sustainability to be successful, multiple sustainability pillars must be addressed. Sonya sums up this learning.

I think honestly after the first class I realized that I couldn't just fight for the green stuff. You know hug the trees, if I wanted them to last. Because if you don't have that healthy, vibrant local economy together with a healthy social infrastructure, nothing's going to last. Nothing's going to stick. You have to have all of those essential pillars of sustainability in place to make things endure.

Through the tour course, participants then saw the practical application of those theories on the ground, increasing their awareness and knowledge about sustainable community development through a range of projects. The learning here would be in the domain of both know
what and know how (Gonzalez, 2015). Although, depending on their prior experience, they would likely need more technical instruction (techne or know-how) if they were to implement some of the projects we were viewing (such as installing solar panels or a geothermal system).

Participants learned about a variety of sustainability initiatives that subsequently became “tools in the box” that they could draw on at will. The subsequent increase in their sustainability literacy allowed them to converse more fluently and confidently. For example, as a volunteer receptionist for The Environmental Group, Amanda was able to give callers examples from her newfound repertoire: “Oh, you know, they have actually a composting program in a school at Eastern Way.” For others, the new knowledge was fodder for conversations with family, friends and colleagues. Several participants passed on course materials or recommended the course itself, dispersing them throughout their various networks. These materials and resources in essence became boundary objects, helping them to translate their learning from one context or culture into another. Now that participants felt more confident conversing in the language of sustainability, they could begin to frame and tell their own stories.

6.5.3.1 Framing & storytelling

How a message was framed and tailored to a particular audience was seen as important to “selling” sustainability. For example, Megan and John both had taxpayers in mind and framed the sustainability message in dollars and sense terms. Megan spoke about healthy communities and avoided the term sustainability altogether as she felt there was too much confusion around the concept. Meixi was busy building her “storybanks” both for fellow engineers and the communities where their clients’ projects would be built. Mark based his new business enterprise on the marketing approach that he learned in the film studio.

OK, so this whole game is all about marketing. [laughs] If you can't market this effectively, if you can't convince somebody that these issues, these environmental issues,
have value, they'll just be environmental issues for the rest of your life. We'll never get traction.

Even though he wondered, “What the hell are we doing in a film studio?” he zeroed in on the marketing approach to sustainability. His learning was focused on how to frame and market a sustainability message. In essence, framing, marketing and storytelling are one and the same, it is all about how we are communicating the concept of sustainability.

6.6 Tour as Storytelling Vehicle

Evidence from this study suggests that the tour is an effective storytelling vehicle. I will now examine its specific features that make it so.

6.6.1 Multi-vocal storytelling as critical discourse

As Alvarez and Rogers (2006) found on their “Farming the Future” tour, being “out there,” allowed for more of the complexity of sustainability to be conveyed. “It was a more accurate reflection on the way sustainability was being captured, co-opted, utilised and developed to delineate the best ways to live and flourish in a place” (Alvarez & Rogers, 2006, p. 179). A tour-based course allows for the non-case study version, as Anna so aptly described.

What we all endeavour to do, is to tell the non-case study version. Right? Because when you read about any of this, then you're going to see the sanitized, easy to read, easy to digest version. We see that often our stories are much richer, than that. They often provide way more insight and transformational potential and excitement and all that good stuff, way more bravery and way more whatever than a case study is going to capture. They're also sometimes harder and a little more gutsy. They've had more opposition. They've had more difficult moments and points, than the small case might project. That's the value of being somewhere or meeting someone, in person or hearing them speak off the record, is that you get the story.

Tyler (2009) refers to the scripted, sanitized stories as “sculpted and practiced” (p. 138), “the performed storytelling of product launches, conferences, shareholder gatherings, and all-hands meetings” (p. 138). We might also add traditional classroom lectures containing power point presentations to this list, political campaigns, as well as the packaged cultural storytelling we see
at a tourist site such as the Polynesian Cultural Centre in Hawaii (Werry, 2008). This type of story has been “sanitized” as Anna said, cleaned up to “support the dominant narrative of the organization and that may be told with persuasive or manipulative intentions that will shut down, rather than open up, the sort of discourse that is our goal” (Tyler, 2009, p. 138).

As Werry (2008) points out, there is a performative aspect to any tour, as they are designed to both entertain and educate. In this way, the tour immerses us in an environment, much like an ethnographic study of another culture would. She also cautions that because of the “scripting” we must enter these touristic realms with a critical stance.

While tours can also be scripted and “performed,” most of the sustainability tour speakers are unscripted, and tell their stories in uncensored fashion. As we have seen, in general, the majority of the speakers were hailed as inspiring storytellers. Their stories “may emerge as messy and nonlinear as some of the events that they convey” (Tyler, 2009, p. 138), but they reveal much about the experience, which is ongoing. Participants learned many behind the scenes details about the politics surrounding Millennium Town for example, and Mark’s continued quest to tell his side of the story as the design manager. While the city’s version of the story, and the developers’ perspective may have been widely available through the media, Mark was not afforded the same opportunity to air his opinions. As Alvarez and Rogers (2006) found on their tour as well, “It was these local embedded understandings, experiences and knowledge that students were given access to and gained so much from during the course” (p. 178). Insider access is one of the assets of going on tour.

Even if “preferred readings” are imposed by the facilitators and guest speakers, the site itself cannot be contained and neither can the students’ own interpretations (Kelner & Sanders, 2009). The speaker may be on a script, but we are immersed in the environment, which is also
telling a story. This was the case at the landfill when Sonya spotted all the cardboard being thrown into the garbage instead of the recycling bin. The tour contains checks and balances, a way for participants to cross reference what is being seen and heard and ultimately judge whether we are witnessing weak or strong sustainability\(^\text{37}\), and the authenticity of the speaker and the project. Recall that while the participants found the developer to be authentic\(^\text{38}\) and credible at South Rock farm and his argument compelling, after walking the land, they almost unanimously voted against the proposed development. When learning in a classroom, students are removed from the “socio-environmental context” (Alvarez & Rogers, 2006, p. 178), which means that some perspectives are invisible or even edited, out, particularly the perspective of the land or site itself. I was very conscious of being on unceded territory and yet the First Nations perspective was largely missing from our discussions. It was a gap I had planned on addressing by bringing in First Nations speakers in future versions of the tour.

Participants also bring their content expertise and personal biases into the tour with them, which can help prompt critical reflection within the cohort about their own views. As a transportation planner, Drew added significantly to the walk along the Pacific Arm Greenway, as did Mark, one of the greenway project initiators. Participants also brought in viewpoints based on where they lived, rural or urban, which may have affected the way in which they viewed sustainability. Meixi was from a province that was built on the oil industry and in this way brought in an “outsider geographical sense.” In this way, the storytelling is a collaborative process that is reminiscent of dagu wherein all the nomads are gathered around the watering hole.

\(^{37}\) “The ‘weak sustainability’ paradigm states that man-made capital is more important than natural capital (Neumayer, 2003). ‘Strong sustainability,’ on the contrary, is based on the idea of non-substitutable natural capital (Dobson, 1998)” (Davies, 2013).

\(^{38}\) I acknowledge that authenticity is a constructed concept. In this instance, it refers to whether or not participants felt they were being “greenwashed” by the developer.
telling each other what they’ve seen and heard, the modern equivalent would be the water cooler or coffee station (Westley et al., 2007).

An advantage of live storytelling is the power inherent in groups of listeners gathering together to situate themselves in the experience of the teller as they are conveyed in the story and to begin to understand it through a process of collaborative exploration” (Tyler, 2009, p. 141)

The tour delivers a way for participants to gather information, critically reflect on what they’ve seen and heard, make sense of it all, and evaluate for themselves as to the “sustainability” of a site or project. Storytelling in a real setting enhances the texture and complexity of the story.

Stories are a natural approach to communicative learning based as they are in language, which renders them highly symbolic. Their rich texture of images, moreover, moves listeners to see beyond a skeletal structure of problem (or crisis) and dénouement, of cause and effect, to see the points at which the personal experiences of tellers and listeners intersect, diverge, and overlap. These points hold rich potential, but they require exploration, travel through the choppy waters of unexamined assumptions, and the undertow of defensive routines. (Tyler, 2009, pp. 136–137)

Storytelling, in this instance via touring, is one way to open up critical discourse (Tyler, 2009).

Stories “on tour” then are told in multi-dimensional fashion. As they are both show and tell and feel, they come closer to popular theatre, an arts-based learning approach that uses theatre to tell stories often related to social issues, struggle and oppression. Butterwick and Lawrence (2009) believe such embodied practices, tap “into knowing that is not yet available to us at a conscious level” (p. 36). In sharing the stories publicly, “space can open up for ourselves and others to reconsider the meaning of our experiences” (p. 36).

In addition, unplanned stories can be sparked when we come upon an unexpected sight during the tour. Such serendipitous events provide teachable moments. This happened when we came across the Solar Bike Tree en route to our next destination. I spontaneously told the story of the public art project I conceived, developed and installed. While it was not part of the planned tour, the story had an impact on Amanda. “I remember also when you pointed out that
you’d worked on that bicycle rack. . . . that actually really had a strong effect on me, because it was like, oh, she did that. . . . I remember you saying it took a long time, there was a lot of process, but it was like, there was this physical proof that something had gone from the beginning to the end and had actually worked.” As practitioners in the field, we facilitators were modeling how projects were initiated and implemented as well.

There were other art sculptures that conveyed stories on the tour. Both Sonya and Meixi commented on the statue in Chinatown that commemorated the participation of Chinese in World War II. Trevor and Sandra mentioned the large birds in Millennium Town square. However, I was surprised that the “hand sculpture,” part of the neighbourhood energy utility was not identified. Arts-based pedagogies such as theatre, poetry, photography, and dance “can enhance learning and create spaces for transformation to occur” (Butterwick & Lawrence, 2009, p. 35). In addition, “the arts can be a very powerful tool for teaching systemic thinking” (Capra & Luisi, 2014a, p. 357). They can “enhance the emotional dimension that is increasingly being recognized as an essential component of the learning process” (Capra & Luisi, 2014a, p. 357). I will discuss emotions in more detail beginning in section 6.7.2 below.

In summary, the tour serves as a container for multiple perspectives to interact and from which may emerge different patterns of interaction and other innovations. “Knowledge then, was not some sort of object that was created during or in the interaction; rather, the ongoing, ever-evolving interaction was itself the form and substance of the collective knowledge” (Davis & Sumara, 1997, p. 115). This tour feature of multi-vocality is one way to ensure critical discourse with respect to sustainability.
6.6.2 Storytelling and leadership

As we saw above, the story “pattern” is being influenced by the speakers, the facilitators, the participants, the site itself, the art and culture contained within the site, as well as the surprise elements we encounter along the way. All of these “moving parts” contribute to the organic, evolving story that is created during the tour. If, as many say (Berry, 1988; Capra & Luisi, 2014a; Gilman, 1985), we need a new story, particularly a new way of telling the sustainability story (Stibbe, 2009), then the ability to tell a story, to be a good storyteller, is also a critical competency for the sustainability leader.

Tyler (2009) makes the link between storytelling and leadership. In order to be a good storyteller, one must be brave and unhurried, a risk taker and willing to experiment. Her description echoes some of the sustainability competencies we have already heard and the conditions we must cultivate as leaders within a network. The telling of stories “is an act, a process, a dynamic” (Tyler, 2009, p. 138). The tour format provides scaffolding for a storytelling experience. As it is an immersive experience, we might even call it mobile storytelling, and view the tour as a vessel capable of exploring complex issues, crossing boundaries and navigating maze-like networks. And as with any exploration, or navigation, it is helpful to have a guide.

As facilitators, we also help to sculpt the stories that are told during the tour, we are after all, the tour “guides” even if we do not walk backwards in order that our “student-tourists” can see the sight as we approach it. In our facilitator/guide role, we are first and foremost communicators “assisting participants to name what is unfolding around them and inside them, to continually rename these changing nuances, and to unlock the tenacious grasp of old categories and restrictive or destructive language that strangles emerging possibilities” (Fenwick, 2000, p. 263). I believe we could have done more work in this area, particularly with respect to
discussing the feelings that arise in response to emotionally charged sites on the inner city tour. The reduced course length also left few opportunities for formal reflection and debriefing.

Second, as “story makers” we help “trace and meaningfully record the interactions of the actors and objects in the expanding spaces” (Fenwick, 2000, p. 263). Ellie and I both attempt to draw the connections between sites and guest speaker viewpoints. As Amanda pointed out, we do our homework. Third, we must be interpreters, helping “learners to make sense of the patterns emerging among these complex systems as well as to understand their own involvement in these patterns” (p. 263). In this respect, we must also be clear about our own biases and vested interests. The way we decide to tell a story is influenced by our predisposition and prior experiences. Our biases come into play as we write the descriptions on the course itinerary, when we invite certain speakers and include specific sites, when we select the reading materials. My insistence on the inclusion of Heritage Village year after year is a case in point, or my repeated emphasizing of the financial strategies employed by the City to daylight Chum Creek.

The multi-vocal storytelling quality of a tour is part of the “tour effect” if you will. The multiple perspectives imbue the scripted curriculum content with added transformational powers that has the potential to influence application of learning. I will take a look through one final lens, examining what is happening in the brain when a participant is “on tour” which will help delineate some of the other tour features that contribute to the tour effect.

6.7 Your Brain on Tour

As we saw in the literature review, there is a growing body of research that shows how the brain is a communication network that continually changes as it learns (Jensen, 2005; Stein, 2005; Taylor & Lamoreaux, 2008). David Franks made the connection between travelling at an early age and his own brain development. Travel, he said, “actually affects who you are. It forms
your neural network. It actually forms your brain.” As it turns out, he is right. Taylor and Lamoreaux (2008) examined what is happening in the brain through the four stages of Kolb’s (1984) experiential learning cycle, revealing “how signals flow in the brain, from sensory input through various integrative functions to finally result in motor output” (p. 3). Given space concerns, I will only examine the first stage, reflecting on the tour as a concrete experience. I remind the reader that it is not my intent here to prioritize the brain. In the systems view, cognition is a bodily undertaking. However, peering into the brain on tour provides insights into the mind-body connection and helps bring to light specific features of a tour that may enhance learning and application.

As Brookfield (1998) noted, “experiences don’t happen to us, events happen to us” (as cited in Taylor and Lamoreaux, 2008, p. 53). After some filtering, sorting and connecting to prior experience, the brain then responds to that sensory input, transforming the event(s) into an experience. In other words, “the brain’s physical responses to the sensory data are recorded—literally, embodied—as experience” (Taylor & Lamoreaux, 2008, p. 53). The sustainability tour is then a concrete experience, and the individual sites are experiences clustered under the overall experience of the tour. Recall that my definition of a sustainability tour is “an educational program in which the curriculum is constructed as a direct and immersive learning experience outside of the classroom, consisting of a series of exemplary and multivocal sites that represent sustainability in practice.” Individual sites may serve as catalysts or triggers, and depending on how fertile the ground is—that is, what the participants’ prior experience has been, what their motivation was for entering the program, and what their state of readiness was (for example, whether or not the participant had all of the procedural knowledge to move ahead with a project) is all at play.
As a strategy for creating experiences then, the tour is certainly effective. Participants expressed their satisfaction with the tour format, in particular, they appreciated “seeing things on the ground.” As Trevor said, “It was just hands on. You don't ever see this stuff in action. It's not just a reading or theory in a book. You’re seeing things actually change.” For Drew it was, “actually going there and visiting places, sticks in my mind really clearly, rather than having people come in and just show you pictures on a slide show, that was excellent.” As we saw in the literature review, learning by doing is more effective than sitting in the classroom where a professor deposits information into your brain through the lecture and PowerPoint. Peterson et al. (2015) found that learning in the classroom was primarily cognitive [understood here as more episteme] in nature, while experiential education programs expanded the learning potential into “affective, perceptual and behavioral” (p. 229) domains. So the tour is first and foremost an experiential program in which participants participate in the learning by doing.

6.7.1 Tour as embodied learning method

We are also physically moving through space for much of the tour, it is a kinaesthetic experience. Travelling on foot and by transit helped to immerse participants in the experience as well as engage them more deeply.

Doing things on foot for me was extremely meaningful, because I often think when people think of tours they hop on a bus and inevitably we fall asleep because it's too comfortable and the engine lulls us to sleep. You really do have to walk and smell the smells and see the sights. (Sonya, 2009 course)

So movement played a role in the learning and the body in motion is also connected to brain activity (Jensen, 2005). Movement increases the flow of oxygen to the brain, flooding it with nutritional chemicals, raising heart rate. As we learned in the literature review, physical exercise helps to create new neural circuits in the brain (Jensen, 2005), but it may also account in part for

39 The term kineasethetic describes an embodied experience whereas kinetic is connected to latent energy. VanWynsberghe, Kwan, & VanLuijk (2011) use kinetic energy to describe community capacity.
why participants felt “energized” and “refreshed” by the end of the tour—the exercise alone has helped to release endorphins and other mood enhancers. I will speak to the emotional connection in the next section. However, I will first address a point raised by Sonya above how hopping on a bus can put you to sleep. Werry (2008) points out that modes of travel, and certainly charter buses, can in fact serve to “insulate from engagement with quotidian or ‘in between’ spaces (p. 23). The feeling of safety on the bus could also contribute to the relaxation that occurs. How we travel from place to place then can contribute to the “spatial enclaving” of the tour group. The enclaving phenomenon increases as negative emotions rise, which I will elaborate on below.

6.7.2 Arising emotions

Participants talked about their feelings and emotions related to the tour. According to Jensen (2005), emotions play a significant role in learning and neuroscience supports the fact. “Damasio distinguishes between emotions, which can be triggered and displayed unconsciously, and feelings, that are emotions made conscious” (Capra & Luisi, 2014a, p. 269). Feelings are the “conscious experience or mental image of an emotion” (Capra & Luisi, 2014a, p. 269). Participants were certainly “inspired” by the sites and the passionate speakers.

At a more superficial level, the annoyance with the lack of air conditioning on the tour bus, or the stormy weather conditions may have affected the learning and showed up as displeasure on the evaluation forms. But at a deeper level, we can see how standing in The Bottle Depot was linked to the rise of emotions, and emotional states such as fear. The “fear factor” played a critical role in learning as I will discuss in a moment. Changes in emotional states are measured scientifically through “skin responses, heart rate, blood pressure, and EEG activity” (Jensen, 2005, p. 70). Jensen (2005) describes emotion as “an important learning variable” (p. 68) and purports that this “affective side of learning is the critical interplay between how we feel,
act, and think” (p. 68). Depending on the sites that are included and the storytelling ability of the speakers and facilitators, the tour can serve as an affective learning environment.

Emotions are not centered in one part of the brain, they are distributed through many areas and “drive attention, create meaning, and have their own memory pathways” (LeDoux, 1994 as cited in Jensen, 2005, p. 69). In addition, emotions “regulate behaviors, and they help us organize the world around us (Damasio, 1994, as cited in Jensen, 2005, p. 69). It is no coincidence that we remember the death of a friend or a field trip more than a lecture (Jensen, 2005, p. 72). Recall Sonya’s “most memorable” times from her early educational years, “I'll never forget the fish hatchery and the camping at Strathcona and the Bamfield Marine Station.”

Positive emotional states are associated with “improved flexibility in behavior and judgement [and] greater flexibility in the brain’s executive attentional system” (Jensen, 2005, p. 75). The executive brain resides in the frontal cortex where problem-solving takes place, where we make meaning and decisions (Taylor & Lamoreaux, 2008). As we saw previously, reasoning arises from our bodies and brains, and our bodies and brains determine our ability to reason (Capra & Luisi, 2014a). As emotions influence brain function, emotion and reasoning go hand in hand.

6.7.2.1 The fun factor

We saw examples of several positive emotional states being activated through the tour. Participants may well already be in a positive frame of mind because they are out of the classroom. The tour provides an out of ordinary time experience. It creates a “liminal space by physically removing people from their home environments and placing them into a travelling community” (Kelner & Sanders, 2009, p. 138). The holiday feeling stimulates “anticipation and curiosity” (Jensen, 2005, p. 77), which whets the appetite and sets the table for learning. Jensen
describes this priming as “appetitive” because of the way the mind leans into the learning.

“Strong evidence shows that positive expectancy robustly and consistently influences the formation of new knowledge” (Jensen, 2005, p. 77). In this way, the tour format whets the “mental appetite” (Jensen, 2005, p. 77) and sets the stage for fun as well.

The fun factor is at play, not only because of the out of time experience of a tour, but also because of interacting with interesting new colleagues and friends. Several participants recalled with laughter some of the surprising and fun elements we encountered, such as the black bamboo forest or the hop plant growing along the creek. Food was mentioned repeatedly, “We had dim sum”, “I loved having lunch from the tAble Café” and “We went to Chinatown and bought some Chinese buns. That was fantastic!” Relaxing with good food and friends activates the joy and pleasure areas of the brain, triggering a release of dopamine in the process. Studies show that the chemicals released into the brain during both physical and fun activities “enhance long-term learning” (Jensen, 2005, p. 79). These combinations of pleasure and pedagogy provide: “the immediacy of embodied presence and sensuous immersion, the aурatic charge of being there, makes for a vividly memorable experience endowed with great personal value by its participants” (Werry, 2008, p. 18).

On tour, we also receive visual and auditory prompts from the sights and sounds that in turn heighten the brain’s attention getting mechanisms. Several participants described how their visual and auditory senses were engaged. Meixi said she “smelled the streets, saw people . . ., heard the sounds of it.” Trevor spoke of the noise in The Bottle Depot. These prompts have the potential to enhance the joy/pleasure centres as well. When these centres are activated, the learner is better able to focus on the most relevant aspects of a presentation (what the speaker is saying) and block out the less salient features in that moment (a loud group of people walking
past) (Jensen, 2005). It may also explain why hurricane conditions did not appear on the evaluation forms one year; participants were engaged with their learning environment.

As David Franks points out, having fun is critical for sustainability practitioners, “We're trying to change a very big cultural inertia going on. In order to do that, you just need to have some fun while you're at it, too, because otherwise you burn out and then you're of no good to anybody.”

6.7.2.2 Sadness and shame

Negative emotions can also play a role in learning of course. In fact, negative emotions carry an even more potent depth charge, lingering longer in the body. Pain and sadness register in the brain, and generally in the lower half of the brain, mediated by stress hormones such as cortisol and norepinephrine (Jensen, 2005, p. 76). Participants experienced sadness over the state of the inner city, witnessing first hand the conditions people live in. Shame also played a role here.

By the time I was walking the streets of the [inner city] with a group of reasonably affluent peers . . . , my sense of embarrassment and frustration peaked. How could I have missed this? How could I have driven through this so many times and not felt anything? With an engineer in my background, how can I fix this? As a human being, wtf?”

I also have experienced shame, but more in the touristic sense, when our privileged group is walking around in the inner city observing the resident inhabitants as if they were creatures in a zoo. These chance encounters with “the other” often render “starkly visible differences in power and privilege” (Werry, 2008, p. 20), which can also elicit a shame response in the “tourist.” Feminist theorists argue that while shame is usually associated “with failure, guilt, and self-condemnation” (Werry, 2008, p. 17) it has more to do with rejection, or a lack of reciprocity. That is, “when interest care, joy, or a desired connection is inhibited or goes unreciprocated” (p. 17). Shame arises then “from profound and genuine interest” (p. 34). Werry (2008) found that
when her students met informally with other students during their tour, they were placed on equal ground. Without the touristic frame, they “were filled with a voracious, entirely mutual curiosity” (p. 34). Werry (2008) believes that by embracing shame we can enhance transformative learning, and “rethink how we wish to live in proximity to others” (Probyn, 2005, xiv; hooks, 1994, as cited in Werry, 2008, p. 17). Another emotion that emerged through these “risky encounters with difference” (Werry, 2008, p. 34) was fear.

6.7.2.3 The fear factor

When the brain senses a threat, fear rises, activating our primal fight/flight or freeze response. Several participants experienced fear in the inner city. Sometimes this fear was evoked through chance encounters with local residents. These “tourist-local interactions” (Kelner & Sanders, 2009, p. 138) are not always welcomed by those who find themselves objects of the tourist gaze (e.g. Boissevain [1999]2004 as cited in Kelner & Sanders, 2009, p. 138). In the usual touristic practice, tour routes, spaces and activities are structured in such a way as to avoid or limit “spontaneous interactions with locals or uncontrolled encounters with quotidian local life (Edensor 1998, 149-180 as cited in Werry, 2008, p. 22). As we saw in chapter three, mass tourism sites such as Waikiki beach in Hawaii or Varadero in Cuba have a peculiar “fortress-like urban spatiality” (Werry, 2008, p. 22) that not only “isolates tourists from the city, but internally segregates and organizes the movement of its different echelons of tourists” (p. 22). So, at the really high end resorts on the beach, tourists never have to leave the safety of their infinity pools. “Tourist and educational enclaves both create zones of seemingly free and safe sociality, frequently experienced as refuges from the anomie (or squalor) of urban modernity” (Werry, 2008, p. 23). However, in the inner city, we are definitely off the beaten track in terms of the usual tourist sites in Vancouver. For the most part, we also do not insulate our participants from
engagement with “the locals” through modes of transport—we are on foot, or on local transit. Local residents often join our tour and ask us what we are doing. Not everyone welcomes these potentially humanizing encounters when we step “out of, or to the margins of, not only the touristic frame, but also the pedagogical one” (Werry, 2008, pp. 32-33).

The project that made me the most nervous to visit was the inner city. . . . I was very aware of my fear response as we toured the inner city, even given the relative safety of walking with a ‘student herd’ 😊 and being able to hide, in a sense, under and behind umbrellas on that rainy day. As inner residents approached our group, I felt my discomfort levels rising. (2009 participant)

This protective clustering is a common reflex not only for tourists, but also for students and expat communities. When I lived in Quebec, I hung out with all of my English-speaking friends and as a result my French speaking abilities suffered. As Werry (2008) points out, there is a “reproduction of class and ethnic divisions in tourist spatiality” (p. 23).

Despite the enclaving, Sonya and Meixi both talked about how their fear was transformed into compassion. The fear factor explains the deep imprint made on so many of the participants in the inner city. The inner city tour received the most mentions (59) of any other sites. Recall that Meixi (as well as many of the others, including myself) was highly aware of her surroundings at The Bottle Depot and could still describe the experience in detail. All of her senses were engaged. These fear-based emotional states provide an added depth charge that deeply affects the learning. Although, the depth charge is still not a guarantee of application as we saw with one participant who did not wind up volunteering at The Bottle Depot. The setting must also be willing. But it is clear that engaging the emotions can result in potent learning.

However, I do feel that we could do more on our tour to debrief after these emotional encounters.
6.8 Engaging the Emotions

There are ways that emotions can be engaged in order to influence learning (Jensen, 2005; Gonzalez, 2015). Emotional responses can actually be taught. Jensen suggests asking compelling questions, as well as role-modelling particular behaviours, which the tour employs very effectively through guest speakers as well as facilitators. Storytelling is another way, and in particular “telling a true story” (Jensen, 2005), which is what the speakers are doing on our tour, at least telling their story from their point of view. As we have seen, the multivocal storytelling nature of the tour is extremely powerful. “Engineered controversy” (Jensen, 2005, p. 79) is another effective way to engage the emotions.

Gonzalez (2015) purposefully introduced conflict as a way to keep the students in his sustainability leadership class off balance (in liminal space). By creating these challenging experiences, he hoped to expand the students’ capacities for staying in ambiguous circumstances. Learning to be present with and to not dismiss or repress the accompanying emotions (such as fear, anxiety and anger) was a way to gain a deeper somatic awareness (Gonzalez, 2015).

Expanding our somatic tolerance for difficult emotions not only helps students better deal with conflict, it also translates to an increased capacity to remain present and engaged in ambiguous and paradoxical situations (Goldman Schuyler, 2010). Many of the most difficult challenges that leaders face require that we stay open and work within an experience of not knowing (Antonacopoulou & Bento, 2011), which for most of us is incredibly difficult to practice as we tend to jump to ready-made solutions that give resolution to our anxieties. (Gonzalez, 2015, p. 146)

No one really enjoys the limbo state, but the more we can learn to “stay” as Pema Chödrön (2010) refers to sitting in ambiguity and uncertainty, the better able we will be able to serve as guides and interpreters. Of course, each student had their own tolerance levels and required the instructors to be constantly assessing the disequilibrium of both the cohort and the individual students. Gonzalez acknowledges that they did not always get it right and that the outcomes can be quite unpredictable. During a discussion of free choice, when Gonzalez made a calculated,
provocative remark about one of the students, the student threw a water bottle at him. Nevertheless, Gonzalez (2015) felt the action perfectly illustrated “a counter-dependant relationship dynamic with the authority figure” (p. 194). There were always debriefs after these emotional encounters, and the teaching team helped the students make sense of their emotional responses and interpreting what had occurred.

The Bottle Depot site proved controversial for John. He was bothered by the perceived double standards there that allowed the non-profit group to operate in dilapidated, risky conditions where a regular business may have been shut down by the City. It is likely when he witnessed the surroundings that his stress levels rose, driving the learning deeper. He reflected on the “double standard” in his assignment, and five years later he still wanted to discuss it. Clearly he had not yet resolved this discrepancy in his mind. He still didn’t think it was fair to give advantages to non-profits over for profits.

Sandra recognized Southrock farm as a powerful site because it was so controversial.

There's a lot of grey areas in sustainability, it's what I really like about that one. . . . I love the way that one was set up. Because here we have the guy who is hardcore, “Preserve that ALR at all costs. I don't want to see anything innovative happening.” Then you have the developer . . . perspective that says, at the urban-rural edge, what we've been doing with the ALR hasn't worked, so maybe we need to be doing something innovative.

She went on to use that example in her foundational course because of its complexity and varying perspectives. Other controversial sights, such as the marble countertops in social housing, could also explain the incredible level of detail participants were able to recall even years later (Jensen, 2005).

6.9 On Tour, in the Now

As I said in chapter three, I believe that a tour, by its very nature, puts us “into the now”—into presence, a state of intense focus or consciousness (Tolle, 1999). Being on tour, in
an unfamiliar, liminal space, heightens our attention. The opposite is also true, being on familiar ground may dull attention. Note that Meixi tuned out at Millennium Town because she had been there before. The site “didn't really stand out, because I knew a lot about Millennium Town on the engineering side of things, so that I just drift through it.”

There is also a clear connection between movement and attention (Chang, 2013; Jensen, 2005). Perhaps ironically, the connection is particularly evident when movement is slowed down. Slowing ourselves down physically, also helps to slow down the mind. When we are in a hurried state, our thinking is fragmented (Easwaran, 1994). There is a connection between oxygen intake and concentration as well. Interestingly, when we get agitated we are often told to “take a deep breath.” When we are angry, fearful, or gripped by greed, Easwaran (1977) advises us to take a fast walk, repeating a mantram.40 “You will find that the relationship between the rhythm of your breathing, the rhythm of your footsteps and the rhythm of the mantram has a deep influence on your consciousness” (p. 151). Use of a mantram to focus the mind and particularly in combination with a fast walk or even jog, has the power to transform negative emotions, calming the mind. It is not about suppression of emotion, but rather harnessing the power that is trapped in the emotion and transforming the energy into a positive force. For example, turning anger into compassion and fear into courage (Easwaran, 1977).

6.9.1 Just breathe

Breath is also used as a centering device in the practice of some forms of meditation. The process of meditation, the focusing of attention on an object, the breath, that returning to the self is what Jung (1931) calls the “inner sacred domain, which is the source and goal of the soul” (as cited in Kolb, 1984, pp. 102-103). In that wide unbounded inner space, insights arise, learning

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40 A mantram is a short phrase or prayer word found in many spiritual traditions. It is sometimes used in meditation, but in Easwaran’s Eight Point program, it is used as a meditation companion tool that you can access throughout the day.
happens in a mysterious, non-formal way. Kolb (1984) notes that this ability to centre is a common trait among effective leaders. Anyone who practices yoga or tai chi will understand the relaxation effects.

Meditation not only slows us down, but also helps us to reintegrate our fragmented thinking. Slowing down allows us to bring our attention into the body, releasing calming neurotransmitters and “supporting a state of concentration” (Jensen, 2005, p. 65). Interestingly, Tyler (2009) says that effective storytelling “requires attention and slowing down” (p. 137). So the storyteller must be fully engaged in the moment in order to fully engage others.

It is not just mind and body that we are concerned with here, but also the soul. Capra and Luisi (2014a) spend considerable time discussing the connection between body and soul, which they link to the breath. Since ancient times, the conceptual boundaries between soul and spirit have been blurred, but the language used to describe them was the same, all used the metaphor of the breath of life (Capra & Luisi, 2014a)

The words for “soul” in Sanskrit (atman), Greek (psyche), and Latin (anima) all mean “breath.” The same is true of the words for “spirit” in Latin (spiritus), Greek (pneuma), and Hebrew (ruah). These too mean breath. (Capra & Luisi, 2014a, p. 256)

As the concept of cognition “goes far beyond the rational mind [to include] the entire process of life” (p. 256), Capra and Luisi (2014a) adopt “the breath of life” as a metaphor for cognition. Early Greek philosophers, including Aristotle, saw the soul “as the ultimate moving force and source of all life—“the agent of perception and knowing, and as the force underlying the body’s formation and movements” (p. 257). Closely associated with that moving force, which leaves the body at death, was the idea of knowing. From the beginning of Greek philosophy, the concept of the soul had a cognitive dimension. As the individual soul was “both the source of movement and life” and “that which perceives and knows” (p. 5), it was also “thought to be part of the force
that moves the entire universe, and accordingly the knowing of an individual was seen as part of a universal process of knowing. Plato called it the *anima mundi*, the ‘world soul’” (Capra & Luisi, 2014a, p. 5).

The idea of breath connecting us all is embodied in the mathematical hypothesis put forth by American astronomer Harlow Shapley. David Suzuki referred to this theory in his Legacy Speech entitled Force of Nature. I attended his 2010 presentation at UBC’s Chan Centre. Part of the speech is captured here in an article by Guy Dixon in the Globe and Mail newspaper (October, 2010).

Every man through the ages—from Jesus to Joan of Arc to you and me—ultimately breathes the same air, specifically atoms of argon gas, which our bodies don't store and which we release through our breath widely to all other living things. “So, air is more than just a physical component of the biosphere. Air is a sacred element,” Suzuki says with wonder. This is part of his argument that all living things are bound together by scientific laws and the elements, just as every particle since the Big Bang holds a minute pull on every other particle. It's a scientific explanation for the physical force “that some people call love,” Suzuki adds, in his calmly authoritative voice, “and that attraction is built into the very fabric of the cosmos.” (Dixon, 2010)

We can hear the systems view of life echoed in his words, and reminding us of the interconnectedness of all things.

Perhaps the tour is best described as a storytelling vessel then. It is not simply a container into which learners are dropped, but a cell-like structure that houses a travelling community. It is a moving force. The vessel can accommodate multiple perspectives, travel great distances, even cross boundaries into foreign lands, seas, and airspaces. It carries important cargo in the form of ideas, concepts, and documents. As we tour through rich and informative sites, our learning is stimulated by inspiring stories, sights and sounds, which we take home with us and share with our friends, neighbours and colleagues. As we travel, share our stories and contribute to others’ stories, innovations begin to bubble up and become visible. Over time and perhaps even long
after the tour ends, the learning takes shape in the form of a project or initiative—the learning application is a souvenir of the journey.
This exploratory study set out to investigate the concept of learning application through the case of a sustainability tour. It first pursued participants’ perceptions with respect to what they learned through that educative experience and how that learning may have been applied at home, in the workplace or community. The study also sought to identify the specific features of the tour that may have contributed to the learning as well as ways in which the tour format (or other contextual factors) may have inhibited application. My guiding questions for this study were:

- What do participants perceive that they learned in a sustainability course with a heavy emphasis on touring exemplary sites?
- To what extent do participants apply what they have learned?
What factors within the home/societal/organizational context of participants are thought to enhance or inhibit the application of what they learn?

What are the features of this sustainability tour course that are perceived to be responsible for the learning and application? Which design features (if any) are perceived to inhibit learning and application?

In most cases, it was difficult to directly connect the learning with only the tour course. Application is not a linear cause and effect process, as with any change process, it is decidedly nonlinear, with many contributing factors. In response to the first three guiding questions above, the findings and discussion chapters thoroughly describe the learning, the application and the barriers and enhancers to application. For that reason, I will not summarize them here. I will however take up the fourth guiding question, which relates specifically to the tour features and in the process report on the key findings of my study. I will conclude by outlining the theoretical contributions and implications for practice as well as opportunities for future research.

7.1 Key Findings

There were three key findings in my study which indicate that the tour format, as an experiential, embodied learning strategy, is uniquely suited to sustainability education and may enhance learning application. I present those findings next.

7.1.1 Key finding #1: The tour effect

The first key finding of my study is that sustainability tours share features with touristic tours. While this may not be new to those studying the sociology of tourism, it is likely new to many in the field of adult education. Those features are multivocality, ability to generate communitas because of its liminality. The tour format’s inherent multivocality aligns with previous research on touristic tours (Alvarez & Rogers, 2006; Cheng & Ho, 2012; Kelner &
Sanders, 2009; Werry, 2008). The tour hosts multiple perspectives through guest speakers, facilitators and the participants. Within this temporary mobile community, there are multi-disciplinary levels of expertise. In this way, the tour facilitates cross boundary conversations. The ability to cross boundaries is seen as a key competency for the sustainability leader. As participants also have expertise that can be drawn on, they are much more than audience, they are actors contributing to the story that is being created on tour. The sites themselves also have a voice and meal choices and modes of travel can also add to the narrative. Planners must carefully select the site, one that shows and tells its own side of the story.

The multi-vocal nature of a tour lends itself well to storytelling and can contribute to the ever-evolving sustainability story. For that reason, the guides, facilitators and speakers should be adept at storytelling. They should feel free to tell the “unsanitized” version of a project story with all its roadblocks and tipping points. In this way, participants learn much about the messy and nonlinear nature of the change process. If the speaker is on script, the site itself may well contradict that script as Sonya noticed at the landfill. The multi-vocality allows for a kind of “cross-checking” of stories and verification of authenticity of both the project and its champion. If a speaker is unavailable one year, the scene is still before us and is bound to provoke stimulating conversations.

The second feature of the tour is its ability to generate what the tour literature calls “communitas.” The tour format supports network building, one of the primary goals of the certificate program. While the cohort model itself cultivates the network through learning from and connecting with peers, the tour provides enhanced opportunities. Informal conversations that occur spontaneously as we walk or ride to our next destination can enhance bonding. Participants also make connections with facilitators, guest speakers, the academic institution, and their
respective networks. In order to provide “insider” access to both sites and speakers, which participants found valuable, tour planners must be well connected in the sustainability community, or have a facility with networking.

The third feature of a tour is its liminality. As we have seen, being in liminal space accomplishes a number of things, including helping the cohort to bond and even produce a kind of “collective effervescence.” So communitas and liminality are intimately bound. Certainly there are similarities between tours and regular classroom presentations such as course length, meals and coffee breaks, even inclusion of guest speakers and opportunities for participation through group discussions and activities. However, the findings confirm that tours have a rhythm that is different from courses based in classrooms. First, tours have an inherent fun factor because students are released from the confines of the classroom with the perceived labour and discipline required for learning. Tours enter the realm of “leisure,” as they are found to be both entertaining and informative by participants.

There are a number of other factors that contribute to the interactive liminal learning environment. We are transported outside the classroom into new settings via various modes of travel. The different “beat” if you will, contributes to the out-of-time, out-of-ordinary experience. While timing is more critical on tour as we need to allow for travel between sites and must be considerate of meeting speakers on time and at a predetermined location, it is still important to let the day flow. Too many sites in one day can leave participants exhausted and closed to any new information or experience, so sometimes a site may have to be dropped.

It is important to stay open to the element of surprise. A well-planned route can be unexpectedly detoured by an urgent need for a bathroom. Getting caught in a torrential downpour can enhance or negatively affect the quality of the experience. Wet socks may dampen
the spirits, but crowding into a warm coffee shop can build communitas. Stumbling upon a black bamboo grove or a solar bike tree can cause a delay and at the same time open up a teaching moment. Unexpected encounters with “difference” open up opportunities for rethinking “how we wish to live in proximity to others” (Werry, 2008, p. 17). In this way, learning is “occasioned” and the tour guide is more responsive choreographer than educator or program planner.

The tour format places the participant on unfamiliar ground. Being in this liminal space heightens the intensity of the experience and further contributes to communitas. Being out of ordinary time with none of the familiar landmarks places us more into the present moment, with our brain’s attention centre on high alert, watching for signals to fight or flee. The physicality of the tour also stimulates cognitive functions, which may result in a more memorable experience. When deeper emotions arise, as they did for all of the participants in the inner city, the emotion drives learning deeper. The further a site was outside the participants’ usual realm, that is, the more liminal the space—the more the site was capable of provoking deeper emotions such as anxiety and fear. This emotional engagement was demonstrated time and again on the inner city tour and in particular at The Bottle Depot. We saw the affective learning that took place there, beautifully described as turning fear into compassion by both Meixi and Sonya. In this way, the tour can be used as a focusing agent, capable of capturing attention and engaging participants emotionally. However, the content must be relevant for them and not repetitive or too familiar as it was for Meixi at Millennium Town when she tuned out. This study underlines the fact that learning has an emotional component.

I feel justified in calling my sustainability tour a tour. Any differences between educational tours and touristic tours are minimal. I am also convinced that there is a tour effect, the combination of all of the aforementioned tour features—its multivocality, its ability to foster
communitas, its inherent liminality, its storytelling potential—including its performative, even theatrical aspects, constitute a tour effect. The subsequent embodied learning potential can actually be seen in the brain, in itself a network.

7.1.2 **Key finding #2: Tour as pedagogical vehicle for social sustainability**

What is interesting about the participant learning that took place during this tour is that social sustainability was a dominant theme throughout. Meanwhile the course devoted to social sustainability struggled and was ultimately dropped due to very poor evaluations year after year. Social sustainability with its many complex issues such as homelessness, poverty and addiction, is difficult to convey through traditional educational methods. These issues must be fully experienced with all of the senses and accompanying emotions to be understood, in other words the learning must be embodied. So a tour format can be particularly effective in conveying complex concepts such as social sustainability.

In the social sustainability realm, we are also navigating in grey areas and much of the learning here happens “between the lines.” By its very nature, the tour format immerses the participant in the grey. We are already out of ordinary time and space, then specific sites and environments can plunge us deeper into ambiguity and uncertainty. In this way, the tour gives participants practice at being in liminal space.

7.1.3 **Key finding #3: Sustainability leadership competencies = Application of learning skills**

The third finding was a rather surprising discovery that I made while attempting to integrate application of learning within systems theory, against a backdrop of sustainability education. The sustainability leadership competencies required for living in this unpredictable new world and the skills required for application of learning are much the same, both requiring
artistry and practical wisdom (see table 7.1 below). While the ability to analyze, synthesize and evaluate are still important skills, we will need survival skills, as Ottoson (1995) describes them, such as the ability to cross boundaries, to persevere in the face of adversity, to be flexible and adaptable as new situations arise. As we cross boundaries, we must be able to translate what we know into new cultures for which we need advanced communication skills. We must know the political landscape, anticipate opportunities, facilitate partnerships and convene meetings with both familiars and strangers.

The art of orchestrating these skills requires the knowledge of phronesis . . . knowing when, how, why and with whom application occurs. It is knowledge that grows from the context of application. Such knowledge depends as much on spontaneity as on planning, flexibility as control, shared sovereignty as individual sovereignty, and the contextual as much as the intellectual. (Ottoson, 1995, p. 26)

In order to sustain life on this planet, we must be able to apply what we learn, and depending on the context, may require more art than skill.
<table>
<thead>
<tr>
<th>Sustainability Competencies</th>
<th>Application of Learning Skills</th>
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<tbody>
<tr>
<td><strong>Types of Knowledge</strong>: episteme, techne, phronesis, know who (self-awareness)</td>
<td><strong>Types of Knowledge</strong>: episteme, techne, phronesis, know who (self-awareness)</td>
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<tr>
<td><strong>Systems Thinking</strong>: non-linear (network); identifying patterns; seeing relationships and interdependencies; diversity; mutual dependence; mutual adaptation (change process)</td>
<td><strong>Systems Thinking</strong>: non-linear (network) – no one cause for effect; context is critical; mutual adaptation (change process)</td>
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<td><strong>Survival Skills</strong>: critical thinking: identifying leverage points; using flow; perseverance; knowing when to quit or redirect</td>
<td><strong>Survival Skills</strong>: critical thinking: assess the cost of application amid competing priorities; persevere in face of obstacles; know when to quit or redirect</td>
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<tr>
<td><strong>Advanced Communication Skills</strong>: facilitation skills, political savvy/power dynamics; convening; partnerships; network building (building up and nurturing network of communications)</td>
<td><strong>Advanced Communication Skills</strong>: negotiation: “the ability to negotiate for space, opportunity, resources, and support to put a thing in practical contact” (Ottoson, 1995, p. 26); “political skills of understanding power distribution and its aid or resistance in getting a thing applied” (Ottoson, 1995, p. 26)</td>
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<td><strong>Climate</strong>: create “climate of trust and mutual support” (Capra, 2010, para 22); manage emotional component of change; empathic understanding</td>
<td><strong>Climate</strong>: must be supportive in order to apply; have “the touch to apply with sensitivity” (Ottoson, 1995, p. 26); taking others into consideration</td>
</tr>
<tr>
<td><strong>Culture</strong>: foster learning culture through questioning; reward innovation; create optimal conditions, rather than being directive or prescriptive; use “power of authority to empower others” (Capra, 2010, para 19)</td>
<td><strong>Culture</strong>: shared sovereignty; “not the skills of control” (Ottoson, 1995, p. 26); translation: “translate the language of the thing to another culture … an understanding of intent and a creative element that fits the context” (Ottoson, 1995, p. 26); language may be adapted</td>
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<tr>
<td><strong>Decision making</strong>: adaptive; practical and flexible in the moment</td>
<td><strong>Decision-making</strong>: “application requires a mixture of decision-making and courage to figure out whether an idea might be applied, adapted, or abandoned” (Ottoson, 1995, p. 26)</td>
</tr>
<tr>
<td><strong>Creativity</strong>: facilitate emergence of novelty; create a vision; explore new territory; hold space for community to create anew (Capra, 2010)</td>
<td><strong>Creativity</strong>: more art than skill</td>
</tr>
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Table 7.1 Sustainability Competencies and Application of Learning Skills
This exploratory study indicates that the tour effect can deepen the learning, and thereby enhance the potential for application of that learning. While I do not have the space to provide a program planners guide here, I provide a number of guiding principles through the following story.

7.2 A Tour of Social Justice

I recently took part in a social justice tour of an inner city neighbourhood during an adult education conference in Victoria, BC. Throughout the tour, I was reminded mostly about what you should not do as a tour facilitator. First of all, while our tour guide clearly knew her material and shared a lot of her background with us (including that she had developed the tour), she didn’t get to know us. There was no “ice breaker,” no round of introductions, we did not wear nametags. She did not ask us about ourselves, who we were, what we knew about social justice, what our prior experience was, even though there was plenty of opportunity to learn who her audience was. The first occasion was when we gathered in a circle outside waiting for stragglers before setting off from the university campus to the downtown core. The second opportunity was en route, when our tour group of about 10 or 12 people congregated in the back of the bus.

While this woman—I will call her Mable—had much lived experience of social injustice, she set herself up as the only expert on tour, the only holder of wisdom. She asked us only rhetorical questions and was not interested in dialogue or group discussion. As it turns out, there was quite a lot of expertise in the group as I gathered through very brief encounters with my fellow travellers. For the most part, our guide was preaching to the converted but did not take the opportunity to draw on the expertise of the group. Instead, Mable launched into a three hour long monologue, essentially a moving lecture. Nevertheless, the sites also told a story.
Some of the sites Mable chose to stop at were well chosen, providing a great backdrop to her narration. For example, outside a multi-storey car park, she talked about how, tragically, many street youth had jumped to their death there. Down a back alley, hidden from the tourists’ view, was a safe needle disposal box. The City, in concert with the Vancouver Island Health Authority, has set up boxes in discreet locations, although they do not advertise the fact on their website. There was nothing about the ordering of the sites that stood out for me.

The site that had the most affect on me was a drop-in centre that we walked through. People were eating at tables, reading, talking in small groups. A few were sleeping, having lined up several chairs side-by-side, converting them into beds. One couple slept together, entwined in each other’s arms on a “double” bed of chairs. I felt the shame rising as we toured through what was essentially the living room of Victoria’s homeless. But, importantly, I felt, I saw, I experienced. The experience was an embodied one. I could smell the food from the kitchen; feel the different moods in each of the spaces that we moved through, including a beautiful computer education room with free classes offered by Camosun College. Patrons were quietly working away at the computers. At the wall of photographs, Mable shared some of the people’s stories, bringing the photos to life.

I was very struck at the drop-in centre that the site had a voice, and a strong one. It reinforced my conviction and the findings of my case study of the importance of putting people in places where they will experience something, even if the facilitators or guest speakers don’t say a word. In fact, sometimes the less said in these spaces is probably better.

_The Sounds of Silence._ I was longing for silence on this social justice tour. There was little relief from the narrative. Finally, thankfully, out of respect for the patrons, the monologue mostly stopped inside the drop-in centre, so we could just observe and experience the place. I realized
that the silences, the pauses, give tour participants a little time to look around for themselves, to
notice and experience the site and sights. For example, I was very struck by the giant Hudson’s
Bay Company sign looming above us as we stood in Bastion Square discussing the lingering
effects of colonialism. Surprisingly, Mable did not make the link. Breathing room, especially as
we travel from site to site gives time for reflection. I also realized how much we do as facilitators
to make these kinds of connections, as Amanda said, we do our homework. We often inject
backstory, make links between sites, and provide an alternate perspective to what a speaker or
site might be conveying. We encourage discussions and ongoing reflection throughout the day.

Close Encounters. Our guide also did not take advantage of the surprises that occurred on tour.
At one point, a homeless man crouched beside our group. He was poorly dressed and shivering
in the cold, wet, late autumn day. He wore thin, torn pants and his legs were covered in open
sores. He seemed to know our guide, but she did not engage him or try to introduce us. I was very conflicted during this moment, I felt as if I should approach him, ask if he needed help. But I did nothing, waiting for a cue from Mable. I felt ashamed that we were on a social justice tour and I did nothing.

We often have local residents interjecting as we tour the inner city and they become part of our ongoing dialogue, sometimes joining our tour for a time. I can see how we could use those moments of acute dissonance more, even invite them in, and most importantly debrief with the cohort afterwards. They are the moments of extreme discomfort, when many emotions could be arising for participants: fear, shame, confusion. Mable told us many stories of how she helps and counsels people on the street and I’m sure she has helped many. However, she did nothing when this young man, obviously in pain, appeared on the scene. He waved to her when he left, gesturing that he had to go. He limped away with his belongings in his arms, the flimsy cart they were in had lost its wheels. There may have been an important reason why she did not engage with him, but she did not tell us the story and there was no opportunity to reflect on the emotions that were arising for us. It was a missed opportunity for a humanizing encounter.

An important connection Mable did make related to the cold, wet weather we were experiencing. As we too shivered in the cold, she made the point that homeless people get very little relief from the elements. At the end of that day, I could go have a nice meal in a restaurant with friends and then return to my lovely hotel room, take a hot shower using pretty smelling soaps and shampoos, then crawl into a king-size bed with a firm mattress, clean sheets and far too many fluffy pillows. I was very aware of my privilege and again felt ashamed that we were touring around, talking about social justice, peering into the lives of people on the street, but not connecting with them in any real way.
*It’s about the relationships.* Mable was a somewhat commanding personality. She had already reprimanded me when I fell behind the rest of the group while chatting with a colleague about what we were seeing. So, when I had to leave a little early to meet friends, I found myself a little afraid to announce my departure. As others started to leave too, I seized the opportunity. But then, a very awkward moment occurred. Mable insisted on hugging us as we left. This gesture of bondedness felt very odd and I realized that *communitas* had not really been cultivated during those three hours. No relationships had really been built, because there was so little space built in for the bonding to occur. I didn’t feel connected to my group because there had been so little interaction. The tour guide plays an important role in creating a welcoming, inclusive environment and facilitating communitas.

In addition, Mable had not arranged the site visit with the drop-in centre ahead of time. A staff member was surprised to find a group wandering through and asked Mable who she was. They had never met. I realized how important the relationship building was, not only during the tour, but also in the planning process. Having solid connections in the field makes the planning easier too. Respectfully engaging with the site and the speakers is part of the exchange for this insider access that is allotted us.

*On the move.* Another painful realization that I had on this tour was not to stand still for too long—to keep the group moving. In our tour, Megan liked how “we moved around a lot” and “didn’t really linger too long.” But on this tour, we frequently stood for long periods at uninteresting locations that had little connection with what our guide was telling us. I was reminded of how I ask my guest speakers in advance of tour day to not stand in one place for too long. I tell them to make a few points and then move the group to the next key site within the location. People get very tired standing in one spot, and their interest starts to wane. Even during
our tour, I sometimes have to remind the speaker to move on as they get caught up in their own story.

**Wrapping up.** As I left early, I am not sure how the day was summed up, or if any group discussion was encouraged then. There were no handouts or reading materials to provide additional context or perspectives. Despite the fact that the tour guide was not an expert, and I was somewhat bored at times during the tour, the experience has stayed with me. I realized that even if a tour is conducted poorly, there is still something about “going out there”—there is still a tour effect. The experience of this recent tour helped me to synthesize the key findings for my study.

While a sustainability tour isn’t just about “going out and walking around” as Amanda pointed out, there may still be a tour effect as there was for me on the social justice tour. However, a well-designed tour is likely to have greater impact. Tour planners need to do the research in order to properly frame each site and layer in the multiple voices that will show and tell a well-rounded story. In order to immerse participants in the best possible experience, tour planners must approach the planning as mobile storytelling.

In the remainder of this concluding chapter, I discuss the theoretical contributions, implications for practice, as well opportunities for future research.

### 7.3 Theoretical Contributions and Future Research

This study made a number of contributions to the theoretical literature. First of all, it addressed a gap in the pedagogical field trip literature by clearly distinguishing sustainability tours from field trips and educational tours. However, it also points to a need for a typology of tours with clear definitions for each of the many forms. While there was no clear indication that the handouts or reading materials were a valuable support to the tour, perhaps a future study
could compare one tour with support materials and another without to see if there were different learning effects.

As I indicated in the introduction, programs designed to promote social change are not widely discussed in program planning literature, particularly with respect to learning application. My study adds to the literature on program planning and social change. A program planners guide to planning tours would also be a valuable contribution.

While the change process is clearly described as both learning and development within systems theory, application of learning is not distinguished as a separate process. I situated Ottoson’s (1995) concept of application within systems theory, and in the process, reinforced the fact that learning is in fact distinct from the application process. “Applications” emerge through the interaction of the learner with his or her environment or context. We saw evidence that application comes in many forms including, passing course materials on to friends and colleagues; sharing new knowledge with the public, family and friends; implementing a project in the form of an urban farm, or rebranding a business. I believe I also helped to clarify the confusion between other terms such as transfer and implementation.

My study was not intended to be an evaluation, although it did have an evaluative perspective. I relied on evaluative data, both formative and summative. I realized through the analysis process that a formal evaluation would provide extremely valuable feedback for the ongoing development of the course and certificate program. Had we analyzed the evaluation forms more carefully and compared them with the assignments for example, that could have influenced which sites were retained each year, particularly for comparative purposes. It is not enough to do post-program assessment, but rather necessary to include formative and even
developmental\textsuperscript{41} evaluations that measure impacts along the way and when possible, long after the program ends, continually feeding the program. It is my hope that my findings may affect evaluation practice by reinforcing the fact that learner, ideas and context are mutually adaptive over time (Ottoson, 1997a; Hawe et al., 2009).

7.4 Implications for Sustainability Education and Practice

If “systems thinking” is a key sustainability competency, then we must design our sustainability programs and courses accordingly. Every cohort is a network within a network. Stronger links could have been made between the certificate courses through ongoing curriculum coordination and interaction between the facilitators. We must not only help learners understand how to weave and maintain their own networks, but as educators we must be conscious that we too are weaving networks ourselves within the belly of academia. As David Franks said, the network is being underplayed at the moment. We need systems in place, post course that continue to build the network, such as follow up sessions, chat rooms and social media, on-going coaching and mentoring. Of course these systems have a cost attached both in time and money, so adequate resources must be allocated.

The frameworks we use to build our sustainable communities and to guide our course development and instruction must also be questioned. As I found through my examination of the different approaches to sustainability, the frameworks themselves are weighted towards the built environment, many of them concerned with measuring and weighing, quantifying results, a product of the old story. If we are serious about creating thriving interconnected communities, then we must emphasize community development as opposed to community development. I hope my study may influence the debate within the various sustainability discourses.

\textsuperscript{41} See the J.W. McConnell Foundation’s Developmental Evaluation Primer for social change innovators. http://www.mcconnellfoundation.ca/de/resources/publication/a-development-evaluation-primer
Like many others, I feel it is time to move away from the old story. While technical knowledge is important and continues to make a necessary contribution to sustainable development, it will not be enough to sustain life on the planet. Sustainability educators are playing a vital role in helping to create a new story by adapting curricula and instructional design to promote *phronesis*, the practical wisdom that complements technical know-how and a key component of adult education. As this study found, tours are one such pedagogical vehicle that can promote practical wisdom while at the same time enhancing the potential for application of learning.

The results of this study also reinforce the trend in higher education towards the flipped classroom. I believe that taking students outside the classroom is vital to sustainability education. Through immersion in the environment, seeing real life models and hearing the messy stories of sustainability, the tour helps to create sustainability leaders and expand the network of practitioners.

### 7.5 Inner Journey: Future Research on Sustainability Practitioners

I have indicated areas of further research above, but in this section will discuss several areas that revolve around sustainability practitioners. In general, participants were highly educated, well travelled, from diverse sectors and backgrounds, with a range of levels of sustainability expertise, and they led green lifestyles to varying degrees. The participant demographics offered no real surprises. The lack of cultural diversity in the environmental and sustainability movements is a known fact. However, it was surprising to see the predominance of Scottish heritage in this small sample. This outlier may not warrant an entire study but could be part of a larger race, class and sustainability study.
There are two areas of future research that could be pursued with respect to sustainability practitioners. The first involves learning style preferences and mobility. I was struck by the fact that half of my participants self-identified as visual learners. I was initially using Kolb’s (1984) experiential learning cycle as my framework and briefly considered having all of my study participants assessed through his learning style inventory. This would have added a stronger quantitative component to my study. As mentioned, all but one of my participants had lived and worked in multiple cities and travelled extensively. Examining learning styles and mobility could be a fruitful research direction, and could establish a link to a preference for learning through tours. The visual learning preference might also be a function of learner age, predisposition, or perhaps even sustainability.

The second research area involves the idea of sustaining self. It is obvious in these pages that I am interested in cultivating “know who” (Gonzalez, 2015), the type of knowledge that comes from such practices as meditation, yoga and reflective journaling, or simply spending time in nature. These practices can help us sort through difficult emotions and navigate challenging waters. The practices are self-sustaining in that they help to refresh and rejuvenate us. I was very interested in what my study participants did to “sustain self” and prevent the burn out experienced by many activists. Prompted by a study done by Joan McArthur-Blair (2004) for her Doctor of Education at UBC, entitled, “The Inner Life, a conversation with leaders in BC Post-secondary education,” I asked one question in my study regarding “inner life:” A lot of people in the sustainability field burn out, what do you do to sustain yourself? Most of the participants said they sustained themselves by working with like-minded people and having some fun while doing the work. Some participants talked about work-life balance and leading healthy lifestyles. Only one person mentioned a spiritual dimension, which was going to church. I believe the following...
line of inquiry could be very interesting: How do sustainability leaders sustain themselves? Building on the work of Gonzalez (2015), a study of this nature could address a serious gap in the field of sustainability education and could influence the introduction of practices such as meditation and “mindfulness,” as well as yoga. Being more centered in ourselves also helps us to better manage our own emotions. We need to slow down the mind and the body in this fast-paced world to give reflective space and time for our inherent wisdom to arise from deep within.

Dag Hammarskjöld, the Swedish diplomat and former secretary-general of the UN, once remarked that we would never make progress towards becoming a sustainable world until we all “walked the longest journey—the journey within.” Like Hammarskjold, I believe that outward progress on sustainability will manifest through inward progress. Inspired by Kolb (1984), who used a Tibetan mandala to represent his concept of integrative learning, I have captured my own inner journey through this thesis in the form of a mandala (above). With breath at its centre and surrounded by fragments of my study participants’ visions of sustainable communities, the mandala is my souvenir of this sustainability tour and represents the moving force within us all. May your inner journey contribute to the new story.
References


Easwaran, E. (1989). *The compassionate universe: The power of the individual to heal the


Appendices

Appendix A  Sustainability Tour Sites (With Dates of Inclusion)

**Asian Studies Building.** Opened in 1996, this is the first green building in Canada. Located on a BC university campus, the building has won numerous awards for its sustainable design, including features such as grey and blackwater recycling, reuse of materials, passive lighting, and composting toilets. We toured with the former director of the campus sustainability office. 2008.

**Bayside Views.** A dense urban high rise development along Vancouver’s downtown waterfront. 2008

**Brewers Walk.** A high density midrise development built on marginal industrial lands and a former brewery site. 2008

**Chinatown.** Canada’s largest Chinatown. The neighbourhood still contains traditional restaurants, bakeries, tea shops, stores and clinics, but it is being eroded by new development, despite efforts to revitalize the area. 2008–2013

**Chum Creek.** For the water and sewage sector, we focused on one creek that had been mostly paved over in the last several decades. Following an enhancement plan, considerable efforts had been made by community groups, municipal and regional governments to restore this creek and by 2012 salmon had returned to the stream for the first time in 80 years. The first year we walked along paved portions of the creek as well as newly daylighted sections. We focused on the big box stores with which the City had made various leasing and permitting arrangements. For example, the City had agreed to block off a street to give a film studio private access for an annual fee. The leasing revenues then went into the restoration of Chum Creek. The Film Studio was part of the tour in the first year of this tour. 2008–2013
**Eastern Elementary School Garden**: school curricula, communal space, and waste reduction are combined in this integrated sustainability effort. A highlight is the Earth Tub mid-scale composting system. Jay Brent teacher and co-chair of a municipal food policy advisory group and leads this project, which is funded by a health authority. An alternate speaker was the co-founder of an urban farm and project partner with this composting operation. 2011–2013

**Ecodensity Tour.** In June 2008, Vancouver City Council adopted the EcoDensity Charter. We toured a number of “infill” developments. A local urban planner was our guide and the discussion focused on the city's green building and site rezoning policies as well as backyard/laneway housing; more options for secondary suites; and removal of barriers to green building approaches. 2009

**Film Studio.** The largest film production studio outside of Los Angeles. The studio was is the first carbon neutral production centre in Canada. Chum Creek flows through the studio lot and the leasing arrangements they have made with the city have helped with the creek enhancement project. 2008

**Golden View Farm.** Tour with owners. This multifaceted farm features a line of value-added products that helps create a viable living for the farmers and employment for locals. They make their own delicious artisanal preserves like Turkish Fig with Walnut Wine and Green Tomato Garam Masala. They have also developed innovative relationships with chefs and other farmers. Following the tour, we have a wine tasting and a chance to pick up a few tasty souvenirs at the Farmgate Shoppe. 2008–2009

**Green streets and greenways.** En route, we explore municipal initiatives that create lush street gardens, green links, cycle and pedestrian paths. The program encourages people to drive less and helps reduce carbon footprint. 2008–2013.

**Harmony Urban Farm.** An intensely-cultivated food-growing operation on a parking lot in the inner city, providing jobs for marginalized people and fresh food for local kitchens. We tour with co-director Evan Andrews. 2011–2013
Heritage Village. An innovative community redevelopment incorporating affordable housing, community gardens, sustainability features and heritage conservation in the City’s dynamic west end. This unique urban housing project includes the restoration of 27 houses, creation of 170 units of affordable housing, a child-care precinct, greenlinks, community gardens, and a supportive housing and day care program for persons living with HIV/AIDS. Peter Blake was our tour guide for several years. He was a resident of Heritage Village and led the fight to restore the block. The project architect led the tour one year when Peter was unavailable and Ellie and I filled the gap in 2013. In 2010, the tour included a walk through the adjacent weekly Farmers market and schoolyard community gardens. 2008–2013.

Inner City. On this tour we begin with a half hour context setting lecture with former city planner Daniel Lansing. Daniel then guides us through the inner city and Chinatown. We hear how this once-thriving mixed-use neighbourhood declined and changed—and how specific policy decisions over time contributed to its current patterns and problems. We’ll explore issues relating to social sustainability in an area experiencing rapid gentrification and hear about renewal efforts in this vibrant inner city community. We stop outside several key sites such as tAble Café and Catering, the Supervised Injection Site as well as several public art displays. We also walk the first part of the Pacific Arm Greenway. In the first year, we were joined by Bob Prince from the area business improvement association. The group was just beginning to implement their vision of a green business zone. In 2009, we asked Robert Pullman, founder of The Bottle Depot to speak to us and learn about the emerging green economy. We now spend a half hour there each year. The first year we concentrated largely on food security in the area, but in 2009 we shifted to a broader planning focus. 2008–2013

Landfill. A tour of the Landfill and its Gas Utilization project with facility manager and other staff. Methane output from the landfill is captured and used to power local greenhouses. Managing leachate, encouraging wildlife habitat, recycling and composting and are also key components of this operation at the edge of a Bog Ecological Conservancy Area. 2008–2010
Millennium Town. A sustainable development constructed during the lead up to the Mega Sports Event. We tour with engineer and project design manager, Mark Connelly. Two of the years, we toured with the landscape designer and had a resident of the buildings speak to us about her experience living there as well as her efforts to organize community compost pick up in advance of the City program. The 8-block development is situated on a former industrial site and was Vancouver’s last undeveloped waterfront property (on Hardwick Creek). The walking tour highlights: brownfield remediation, heritage conservation and habitat restoration; green infrastructure and on-site stormwater treatment; green/net zero buildings; design for social inclusion and interaction; passive design and energy efficiency; neighbourhood energy utility (heat from sewage); public art; sustainable transportation via urban density. 2008–2013

Pacific Arm Greenway. A public realm improvement project designed to expand the City’s greenways network and stimulate economic revitalization in the inner city. Vehicles are restricted to two lanes with one way recreational paths on both sides of the street and numerous sustainable street design features such as stormwater infiltration planter boxes and permeable paving. 2008–2013

Ridgedale Ravine. A deep, natural canyon through which flows Chum Creek, one of the few remaining creeks in the city. Acting on feedback from the evaluation forms, we cut down on the big box strip portion of the creek walk, which was rather long and tiring for some. We shortened that part of the tour and added a walk through Ridgedale Ravine. It is a beautiful wooded area and includes part of the creek that is still exposed. Walking along the creek first, then following it out of the woods into a paved residential area and culminating at the big box strip makes for very dramatic contrasts. We discuss community projects, daylighting efforts and the city/business arrangements that supported them with City of Vancouver Planning staff. 2012–2013

Solar Bike Tree. A public art project that is both sculpture and bike parking system, located at the confluence of three bike paths. The project was funded through a City community art grant and BC Hydro. It was designed by Garden Heart Productions (Spring Gillard) in collaboration with ie Creative Artworks. 2011
South Rock Farm. We tour with the executive director of the non-profit society that currently resides on the land offering gardening and farming education to the public. The developer also presents his vision of a sustainable community on the site, which includes a permanent farmers market and a farm as well as other sustainable features. The presentations were followed by a discussion on “agricultural urbanism” and the pros and cons of developing the urban edge, that space between the city and rural lands. 2010

Supervised Injection Site. The only legal supervised drug injection site in North America, providing a safe, health-focused environment for chronic injection drug users. 2008–2013

tAble Café, a catering company and café working for social justice and sustainable change in the inner city. We walk by the Café on our tour of the inner city. On the rural farm tour, we eat bagged lunches from the Café in a Park with an agrologist formerly with the BC Ministry of Agriculture. He speaks to the Agricultural Land Reserve and its vital role in the food system. 2008–2013

The Bottle Depot. A charitable organization that operates a recycling centre in the inner city. Through environmental initiatives such as the depot, the organization provides employment opportunities for inner city residents. Here, “binners” return bottles and containers in exchange for cash. Residents are also employed at the depot. 2009–2013

Transit Oriented Communities. We look at transportation and land use including local transit corridors as we tour several Vancouver neighbourhoods with a senior planner from the local transit authority. The tour includes a stop at a main transportation hub, which includes aqua buses, light rapid transit and the convergence of several cycling paths. It is also the site of The Solar Bike Tree. 2010

University Town. A sustainable campus community, developed in various phases with a view to creating an “eco-city” that will house students, faculty and staff. We toured with campus planning staff. 2008
Appendix B  Sustainability Tour, Sample Two-Day Schedule

DAY ONE –DECLINE AND RENEWAL
A tour highlighting the ways municipal and development decisions can influence efforts to build resilient, sustainable communities. Walking/local transit.

9:00    Classroom/walking tour

*The Rise, Fall, and Rise of the Inner City*

**Inner City Tour.** Following a short classroom introduction, we take a walking tour of Vancouver’s inner city with a former city planner, Daniel Lansing. Learn how this once-thriving mixed-use neighbourhood declined and changed—and how specific policy decisions over time contributed to its current patterns and problems. Hear about the emerging green economy when we stop at **The Bottle Depot** to speak with the founder, Robert Pullman. We’ll explore issues relating to social sustainability in an area experiencing rapid gentrification and hear about renewal efforts in this vibrant inner city community.

12:00   Lunch on own

1:00    Meet in lobby of academic institution. Depart (local transit) for Heritage Village.

1:30    **Heritage Village.** Visit an innovative community redevelopment incorporating affordable housing, community gardens, sustainability features and heritage conservation. This unique urban housing project includes the restoration of 27 houses, creation of 170 units of affordable housing, a child-care precinct, greenlinks, community gardens, and a supportive housing and day care program for persons living with HIV/AIDS. Speaker: former project coordinator, Peter Blake.

2:30    Depart for Harmony Urban Farm.

3:00    **Harmony Urban Farm:** an intensely-cultivated food-growing operation on a large parking lot, providing jobs for marginalized people and fresh food for local kitchens. We tour with co-director Evan Andrews.

4:00    Return to academic institution.
DAY TWO—TOWARDS COMPLETE COMMUNITIES

This tour provides insights into the comprehensive and holistic thinking required to create complete communities, those that aim to balance environmental, economic, and social well-being in their design and function. Local transit/chartered bus tour (afternoon).

8:30 Meet in academic institution lobby, depart (local transit) for Millennium Town.

9am **Millennium Town.** Tour this complete community with design manager, Mark Connelly. A walking tour of the 8-block development at the heart of Hardwick Creek, a former industrial site and Vancouver’s last undeveloped waterfront property. This visit will highlight:

- brownfield remediation, heritage conservation and habitat restoration;
- green infrastructure and on-site stormwater treatment
- design for social inclusion and interaction
- passive design and energy efficiency
- neighbourhood energy utility (heat from sewage)
- sustainable transportation via urban density
- SkyTrain Station—Transportation Hub discussion

12:00 Lunch (provided from tAble Café); group discussion.

1:00 Board chartered bus to depart for Chum Creek.

1:30 **Restoring System Integrity (Bus Tour)**

We stop at several sites to view municipal-level projects aimed at restoring health and sustainable function to the urban fabric. Focus is placed on the controls and levers for change that lie within reach of municipal policy and assets such as school yards, community centres, zoning bylaws and property tax arrangements. Sites include:
• **Ridgedale Ravine**: we explore this deep, natural canyon through which flows Chum Creek, one of the few remaining creeks in the city. We discuss community projects, daylighting efforts and the city/business arrangements that supported them with City of Vancouver planning staff.

• **Green streets and greenways**. En route, we explore municipal initiatives that create lush street gardens, green links, cycle and pedestrian paths. The program encourages people to drive less and helps reduce carbon footprint.

• **Eastern Elementary School Garden**: school curricula, communal space, and waste reduction are combined in this integrated sustainability effort. A highlight is the Earth Tub mid-scale composting system. We tour with project coordinator, Jay Brent.

  5:00 Return to SFU classroom, wrap up.
  5:30 End SFU

Note that the Green Guide is distributed in advance of the course. Page numbers are usually indicated so participants can read full descriptions of sites prior to visiting.
Appendix C  Data Analysis

C.1  Cover Sheet for Interviews

Cover Sheet

Interview with:
Date:
Time:
Place:
Year of course:
Cohort/non-cohort:

Comments:

Issues emerging that require f/u?

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C.2 List of Interview Questions

Interview Questions (Participants)

Pre-Interview Activity

Draw a picture of your vision of a sustainable community and the role you played in creating that community. Bring it with you to the interview/or send me a PDF of the picture via email. We will use your picture as a basis of discussion.

Questions

1. Tell me about your picture. In what way did taking this sustainability tour course (the sustainability certificate) contribute to this vision or help you get closer to achieving it?

2. Tell me a little about your background in sustainability. Prior to taking this course had you taken any other courses? Been involved in any projects?

3. Tell me a story about the best experience you had in the sustainability tour course (or broader certificate program). When did you feel most inspired? Most motivated? What made it that way? Who else was involved? Describe the event in detail.

4. What did you learn in this sustainability tour course? Was that learning useful in other courses? If so, in what way? How are you using that learning now?

5. What aspects of the course were the most relevant for you? What features did you most value?

6. Describe a time when the sustainability tour course linked up with one of the other certificate courses in a positive way.

7. What is the single most important thing that taking this sustainability tour course contributed to your life? Your work? Your community? Your network?
8. Did you initiate a project or apply what you learned in some way after you completed your course/program? Did you experience any barriers to implementing that project?

9. What do you feel was your greatest contribution to this course?

10. What was your personal goal upon entering the certificate program? Did you achieve your goal? Did you take the course of your own volition?

11. People burn out in the environmental and sustainability fields. Saving the world is hard. What do you do to sustain yourself?

12. If you had three wishes for this sustainability tour course, what would they be?

13. What year(s) did you take courses in the certificate in sustainable community development at academic institution?

14. Were you cohort or Non-cohort?

15. Which other courses did you take?

16. Anything else you'd like to say?

Demographic Information

17. What year were you born? ___________

18. Sex ☐Male ☐Female Tick one.
19. What were the ethnic or cultural origins of your ancestors? An ancestor is usually more distant than a grandparent. For example, Canadian, English, French, Chinese, East Indian, Italian, German, Scottish, Irish, Cree, Mi’kmaq, Salish, Métis, Inuit, Filipino, Dutch, Ukrainian, Polish, Portuguese, Greek, Korean, Vietnamese, Jamaican, Jewish, Lebanese, Salvadorean, Somali, Colombian, etc.

Specify as many origins as applicable.

_______________________________________________________________________

20. What city/town do you live in? ______________________________________

21. What is your occupation? _____________________________________________

Interview Questions (Facilitators)

1. Tell me a little bit about your background in sustainability and how you came to be part of the certificate program.

2. How long have you been teaching in the certificate program? Which course(s) do you teach in the certificate program? Do you have another role in the certificate program? Do you teach any other courses or programs at the academic institution?

3. What do you know about the applications course? Describe it for me. (Prompts: Content/format/features)

4. What do you think students learn in the sustainability tour course? Is that learning connected to any specific aspect of the course? (Prompts: Content/format/features)

5. How relevant is what they are learning in the tour course to your course? In what ways do the two courses connect? How does the tour course connect with the overall program? What could we add to our tour course so that it better connected with your course?

6. In your class discussions/assignments, do your students mention any specific sites? Guest speakers?

7. Success for this program is equated with participants going out and initiating projects or implementing new policies; that is viewed as sustainability leadership. Tell me a success story, where a student initiated a sustainability project or applied their learning in some other way. How did it happen? How did you find out about it? What are the barriers to application?

8. If you had three wishes for this certificate program, what would they be?

9. People burn out in the environmental and sustainability fields. Saving the world is hard. What do you do to sustain yourself?
10. Anything else you'd like to say?

Demographic Information

11. What year were you born? ___________

12. Sex □ Male □ Female Tick one.

13. What were the ethnic or cultural origins of your ancestors?\(^3\)
An ancestor is usually more distant than a grandparent. For example, Canadian, English, French, Chinese, East Indian, Italian, German, Scottish, Irish, Cree, Mi’kmaq, Salish, Métis, Inuit, Filipino, Dutch, Ukrainian, Polish, Portuguese, Greek, Korean, Vietnamese, Jamaican, Jewish, Lebanese, Salvadoran, Somali, Colombian, etc.

Specify as many origins as applicable.

_______________________________________________________________________


15. What is your occupation? ____________________________________________

\(^3\) From Statistics Canada 2011 National Household Survey (Statistics Canada, 2012).
**C.3 Code Book**

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<td>Skills</td>
<td>ENH-SKL</td>
<td>Skills have/acquired</td>
</tr>
<tr>
<td>Climate</td>
<td>ENH-CLM</td>
<td>context: organization, home, society</td>
</tr>
<tr>
<td>Power &amp; Authority</td>
<td>ENH-PA</td>
<td>Related to</td>
</tr>
<tr>
<td>Readiness</td>
<td>ENH-RDY</td>
<td>For change</td>
</tr>
<tr>
<td>Difficulty</td>
<td>ENH-DIFF</td>
<td>Degree of</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LEADERSHIP</th>
<th>LEAD</th>
<th>Non-linear, circle, cyclical, circular, cycle of life, any circle metaphors, interconnectivity, network, connections, connectivity, holistic, ecological</th>
</tr>
</thead>
<tbody>
<tr>
<td>Qualities</td>
<td>LEAD-QUAL</td>
<td></td>
</tr>
<tr>
<td>Role models</td>
<td>LEAD-ROLE</td>
<td></td>
</tr>
<tr>
<td>Competencies</td>
<td>LEAD-COMPET</td>
<td></td>
</tr>
<tr>
<td>Sustainability Competencies</td>
<td>LEAD- SUST</td>
<td></td>
</tr>
<tr>
<td>Holistic Thinking (systems)</td>
<td>LEAD-SYSTEM</td>
<td></td>
</tr>
<tr>
<td>LEARNING</td>
<td>LRN</td>
<td>knowledge, skills, attitudes, beliefs, values, feelings</td>
</tr>
<tr>
<td>----------------</td>
<td>------</td>
<td>--------------------------------------------------------</td>
</tr>
<tr>
<td>Type</td>
<td>LRN-TYP</td>
<td>i.e. visual</td>
</tr>
<tr>
<td>Learning</td>
<td>LRN</td>
<td>General references to what they learned</td>
</tr>
<tr>
<td>Realization/epiphany</td>
<td>LRN-AHA</td>
<td>Possible transformational moments</td>
</tr>
<tr>
<td>Skills</td>
<td>LRN-SKL</td>
<td>Hard and Soft skills</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NETWORK</th>
<th>NET</th>
<th>Understanding of leadership within a network (thinking like a network).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facilitate</td>
<td>NET-FAC</td>
<td>Facilitation of projects, supporting, partnering</td>
</tr>
<tr>
<td>Diversity</td>
<td>NET-DIVRS</td>
<td>Inclusivity, cultivating familiars and strangers on periphery of network; ages, species, sexual orientation, cultures</td>
</tr>
<tr>
<td>Assets</td>
<td>NET-ABCD</td>
<td>Asset/strengths-based approach to community development</td>
</tr>
<tr>
<td>Community building</td>
<td>NET-COMM</td>
<td>Creating culture of collaboration</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PARTICIPANT</th>
<th>PART</th>
<th>Predisposing factors of study part</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prior knowledge</td>
<td>PART-KNOW</td>
<td>of sustainability</td>
</tr>
<tr>
<td>Prior experience</td>
<td>PART-EXP</td>
<td>Work/volunteer</td>
</tr>
<tr>
<td>Education</td>
<td>PART-ED</td>
<td>Formal, professional development</td>
</tr>
<tr>
<td>Motivation</td>
<td>PART-MOT</td>
<td>For entering course</td>
</tr>
<tr>
<td>Demographics</td>
<td>PART-DEM</td>
<td>Age, gender, ethnicity, occupation, geographic locations (born, raised, worked)</td>
</tr>
<tr>
<td>Lifestyle</td>
<td>PART-LIFE</td>
<td>Examples of “green living”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PERCEPTIONS</th>
<th>PERCP</th>
<th>reactions to tour course, format, sites, speakers when participants reveal their perceptions and feelings about their learning experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feelings</td>
<td>PERCP-FEEL</td>
<td>Watch for words: feel, inspire, energize, refreshing</td>
</tr>
<tr>
<td>Emotions</td>
<td>PERCP-EMOT</td>
<td>Fear, joy, anger, shame, sadness, etc.</td>
</tr>
<tr>
<td>Authenticity</td>
<td>PERCP-AUTH</td>
<td>References to authentic experience or credibility</td>
</tr>
<tr>
<td><strong>SUSTAINABILITY</strong></td>
<td><strong>SUST</strong></td>
<td><strong>Tour course features</strong></td>
</tr>
<tr>
<td>---------------------</td>
<td>----------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>Philosophical orientation</td>
<td>SUST-PHILOS</td>
<td>Of participants, such as “healthy community” oriented, or conservation oriented (PIA)</td>
</tr>
<tr>
<td>Definitions</td>
<td>SUST-DEF</td>
<td>Sustainability, sustainable communities, sustainable community development</td>
</tr>
<tr>
<td>Frameworks</td>
<td>SUST-FRAME</td>
<td>Mention of specific frameworks, pillars</td>
</tr>
<tr>
<td>Sectors</td>
<td>SUST-SECT</td>
<td>Mention of specific sectors such as waste management, energy and emissions, transportation</td>
</tr>
<tr>
<td>Competencies</td>
<td></td>
<td>Anticipatory thinking, empathic understanding, systems thinking, communication, Broken out below?</td>
</tr>
<tr>
<td>Sustaining self</td>
<td>SUST-SLF</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>TOUR</strong></th>
<th><strong>TOUR</strong></th>
<th><strong>Tour course features</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Experiential format</td>
<td>TOUR-EXP</td>
<td>References to experiencing as opposed to passive methods of learning</td>
</tr>
<tr>
<td>Choreography</td>
<td>TOUR-CHOR</td>
<td>Tour design and execution: length, timing, pacing, ordering of sites (liminality)</td>
</tr>
<tr>
<td>Travel</td>
<td>TOUR-TRVL</td>
<td>Modes of travel, foot, bus, SkyTrain, etc.</td>
</tr>
<tr>
<td>Facilitation</td>
<td>TOUR-FAC</td>
<td>Facilitation of tour</td>
</tr>
<tr>
<td>Content</td>
<td>TOUR-CONT</td>
<td>Topical, relevant, range of sites, speakers</td>
</tr>
<tr>
<td>Gaps</td>
<td>TOUR-GAP</td>
<td>Gaps in content such as First Nations</td>
</tr>
<tr>
<td>Art and Culture</td>
<td>TOUR-ART</td>
<td>Art, sculptures, cultural activities</td>
</tr>
<tr>
<td>Inclusivity</td>
<td>TOUR-INCL</td>
<td>References to urban/rural divide, Vancouver-centric, outsider</td>
</tr>
<tr>
<td>Sites</td>
<td>TOUR-SITE</td>
<td>Specific site mentions</td>
</tr>
<tr>
<td>Speakers</td>
<td>TOUR-SPK</td>
<td>Specific speaker mentions</td>
</tr>
<tr>
<td>Silos</td>
<td>TOUR-SILO</td>
<td>Specific mentions of silos or silo related activities</td>
</tr>
<tr>
<td>TOUR</td>
<td>TOUR</td>
<td>Tour course features</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>----------</td>
<td>----------------------------------------------------------</td>
</tr>
<tr>
<td>Support Materials</td>
<td>TOUR-MAT</td>
<td>Reading, handouts including sustainability framework</td>
</tr>
<tr>
<td>Surprises</td>
<td>TOUR-SURPZ</td>
<td>Surprise elements, encounters</td>
</tr>
<tr>
<td>Discussion</td>
<td>TOUR-DISC</td>
<td>Formal, informal</td>
</tr>
<tr>
<td>Reflection</td>
<td>TOUR-REFL</td>
<td>Alone, with peers</td>
</tr>
<tr>
<td>Other activities</td>
<td>TOUR-OTHR</td>
<td>Lectures, other planned activities</td>
</tr>
<tr>
<td>Assignment</td>
<td>TOUR-ASSIGN</td>
<td>2008/2009 only</td>
</tr>
<tr>
<td>Certificate Program</td>
<td>TOUR-LNK</td>
<td>References to ways in which tour links with other courses in program or certificate program itself, overlapping content</td>
</tr>
<tr>
<td>Recommendations</td>
<td>TOUR-RECOM</td>
<td>Recommendations for tour</td>
</tr>
</tbody>
</table>
C.4 Gillard Personal Reflection for Data Analysis Course

We are standing in The Bottle Depot. The noise is deafening as glass bottles and tin cans are thrown into bins. Our large group is crammed into a narrow path between a wall of plastic bags filled with Tetra Paks and another wall of large receptacles. We occasionally have to press against one of the walls to avoid a shopping cart or the small forklift motoring around the congested warehouse. There is the din of commerce, the muffled voices of the binners44 the clink of the cash register as binners exchange their daily booty for cash. The majority of the staff and the binners are residents of the inner city, a neighbourhood described as Canada’s poorest postal code. Most of the binners have mental health issues and addiction problems. The cement floor is hard and sticky in places, and it smells of stale pop and beer, musty clothing and pungent body odour. It is hard to hear our guest speaker, Robert Pullman, a former binner himself and founder of this recycling centre. Many in our group have never been to the inner city let alone stood inside a bottle return depot. I can see their discomfort, in their downcast eyes, their bodies folded in on themselves. I have been coming here for six years and I still find it uncomfortable myself. (S. Gillard, March 2014, EDUC 504)

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44 Sometimes also called by more demeaning terms such as garbage pickers or dumpster divers.