

**GROWING SUSTAINABILITY EDUCATION THROUGH
COMMUNITY-UNIVERSITY ENGAGEMENT:
A CASE OF COMMUNITY-BASED FOOD SYSTEM STUDY
AT THE UNIVERSITY OF BRITISH COLUMBIA**

by

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Abstract

This action research case study investigates community-based experiential learning (CBEL) in a large undergraduate food systems course, documenting classroom innovations, highlighting community partner experiences, and offering recommendations for long-term improvement. It evaluates how the pedagogical synergy of sustainability education, CBEL, and food system study is relevant for post-secondary sustainability transitions. The case is situated in a major Canadian university, the University of British Columbia, within the interdisciplinary Faculty of Land and Food Systems. This dissertation investigates several iterations of one required undergraduate course and the development of the embedded British Columbia Food System Project (BCFSP), which includes approximately 200 students per term working with thirty community partners.

This qualitative action research incorporates case study, primary engagement by the author, and semi-structured interviews with community partners to address two specific questions. First, what innovations were developed to integrate CBEL into a large course? Second, what insights did community partners share for more effective community-university partnerships?

Five innovations were identified. First, student integrators who connect numerous food system projects encourage better understanding of complex issues among the many students. Second, projects spanning multiple years maximize returns from costly relationship development. Third, community service-learning alongside community-based research advances student understanding of community and project research potential. Fourth, offering workshops for teaching teams and students supports their limited experience with CBEL. Finally, engagement protocols clarify communication pathways with community partners to not overtax their time and resources.

Community partner interview analysis corroborates challenges and benefits described in previous literature, and it contributes a new insight, that universities and associated communities need each other. While community partners articulated significant cultural differences between communities and universities, they see partnerships as a way to overcome perceived disparities and offer an alternative perspective that universities and communities share needs, interests, and resources. CBEL in particular offers options that are rooted in community and place. Engaging in CBEL can empower communities to demand more from universities, such that resources flow more freely, particularly from universities to communities. A final outcome is a biomimetic metaphor that accommodates the necessary networks of reciprocity, resilience, recursivity, and non-linear resource exchange.

Preface

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Prologue. Get your hands in the food (system)

I am the granddaughter of immigrant farmers on my mother's side and doctoral graduates of law on my father's. Both sets of grandparents instilled in me a great respect for education and learning. But it was my maternal grandparents, neither of whom finished high school due to World War II, who taught me the most about community engagement, sustainability, and food systems.

Mama and Papa fled Eastern Europe to Canada and immediately set out to find land for farming. My grandfather always told me that a life's priority should be to acquire a piece of land with decent soil to at least grow my own food. My grandmother taught me to cook, can, preserve food, and always have a little extra to share with unexpected guests. I spent much of my childhood and significant portions of my young adulthood on my grandparents' farm in southern Ontario, where I had free rein to roam the fields, orchards, and small tree lot, where I participated in farm life in the fields, barns, and kitchen.

When I began to study plant biology during my undergraduate degree, and my grandfather asked what I was learning, I shared with him a recent class on nitrogen-fixing bacteria associated with certain plants. Without saying a word, he took me outside to one of his orchards and pointed out the mix of clover and alfalfa growing between the plum trees. He looked at me gravely and said, "Don't turn into a big shot because you're reading all these fancy books. If you want to learn, you have to use your hands and grow something." In my grandmother's kitchen, when I tried to write down her recipes, she told me, "If you want to learn to cook, put down your pen and paper and get your hands in the food."

What I learned from my grandparents in these moments was a philosophy of engagement that is central to my research and expressed in this dissertation: If one wants to learn about food systems (or anything, for that matter), participation is key. Beyond learning by doing, my grandparents demonstrated to me the importance of becoming embedded within community so I could learn alongside, with, and from the people with experience. They highlighted the importance of contributing to community through learning, doing, and being.

I have held these lessons close to my heart all my life; through my experiences in the Faculty of Land and Food Systems at the University of British Columbia, I have finally found ways to connect personal passions to my academic experience.

Chapter 1. Introduction and overview. Global uncertainty, universities in transition

Synopsis

In this chapter, I introduce my case study of action research to integrate community-based experiential learning in a large undergraduate food systems course. I share my research rationale, study focus, and trifocal concentration on the interface between post-secondary sustainability education, community-based experiential learning, and food system study. I include my research objectives, questions, and methodology. After a summary of major findings, I frame the main case study within its broad research context of North American universities in transition. I conclude by introducing subsequent chapters.

1.1 Rationale for study

1.1.1 Motivations

This dissertation is motivated by three contemporary issues: climate change (IFAD, 2013; NRC, 2010; Smith et al., 2007), food system unsustainability (Headey, 2013; Lappé et al., 2013; IFAD, 2013; FAO, 2008), and enduring inequality (Schellnhuber et al., 2013; Williamson, 2012, Atkinson and Brandolini, 2010). These complex “wicked problems” (Batie, 2008) highlight the need for societies and educational systems – including universities – to fully embrace the challenge of sustainability education to address contemporary socio-ecological crises (UNESCO, 2009). Sustainability education is not just about content but also the processes of teaching and learning, as well as the scenarios in which learning can occur (see Jiusto, McCauley, and

Stephens, 2013). When sustainability education is implemented through multidisciplinary, real world problems, it can help to address fragmentation within the disciplined and specialist-oriented university system (Rojas, 2009). Further, this focus can enable reciprocal community-university engagement, such as through community-based experiential learning (CBEL) (Brundiers and Wiek, 2011; Rowe, 2007).

The study of food systems provides opportunities to galvanize and ground sustainability education in urgent, real world scenarios, especially in partnership with community beyond academia (Clugston and Calder, 2007). Food system study is an excellent example of an integrative learning theme because it inherently connects across institutions, fields, experiences, and disciplines, and it requires synthesis of multiple perspectives and experiences. The food system epitomizes the unsustainability crisis and fragmentation of knowledge, as evidenced by the heavy ecological and carbon footprint of the global food system, simultaneous malnutrition and obesity crises, food distancing, and deskilling (FAO, 2008). Ongoing global food crises that began in the late 2000s contribute to food systems providing an appropriate terrain of investigation due to the integration of social, economic, and ecological issues.

The more specific context for this work is that North American universities are in transition. These institutions are grappling with their role as a public good with a social responsibility to advance understanding of, and capacity to respond to complex, multifaceted, global and local challenges (Brundiers and Wiek, 2011; Calhoun, 2006; Harkavy, 2006; Roper and Hirth, 2005; Kates and Parris, 2003). Universities are necessary components in the transformation to a more sustainable present and future (UNESCO, 2009; Cortese, 2003), particularly in their training of most world leaders (Orr, 1991).

1.1.2 A new era for post-secondary institutions

“Colleges and universities can only thrive if the communities in which they are located and the biosphere upon which they depend are healthy. Any college or university that is so shortsighted as to pursue its ends without taking into account the interests of the larger community or ecosystem will not thrive over the long haul. In the end, it will find itself forced, one way or the other, to deal with the fact that its future is inextricably linked to that of the larger web of social and ecological relations in which it is embedded.” (Bardaglio and Putman, 2009a)

Post-secondary institutions are being called upon to meaningfully connect with their associated communities and ecosystems (e.g., Stoecker, 2012; Bardaglio and Putman, 2009a; 2009b; Orr, 1991; 1994). Specifically, universities are urged to promote “sustainable development, peace, well-being and the realization of human rights” (UNESCO, 2009), particularly through “new types of links and partnerships with the community and with the broadest sectors of society” (UNESCO, 1998). The concurrent and growing emphases on sustainability education and community-based learning (Bowling, 2011; Bowling and Williams, 2011) are highlighting the potential of a new era for post-secondary education to engage with the complex and interrelated issues that define our present time (Bardaglio and Putnam, 2009a).

Scholars and international organizations are calling for a sustainability transformation within post-secondary institutions (e.g., Hegarty et al., 2011; Wiek, Withycombe, and Redman, 2011; UNESCO, 2005a; Sterling, 2004a; Lotz-Sisitka, 2004; Orr, 1991). Currently, however, sustainability as a “metanarrative of our time” is not overcoming contemporary global unsustainability crises (Corcoran, 2010, p. xiiv). The conception of a “just sustainability” that unites sustainability with environmental justice (Agyeman, 2008) aligns with a focus on resilience and robustness (Anderies et al., 2012). These more precise sustainability narratives provide a relevant and guiding framework to integrate sustainability education and community-

based learning as part of the next transition in higher education.

1.2 Study focus

Within this context, my broad research interest is how universities can better address the socio-ecological crises of our time, particularly through providing student opportunities to connect what they learn with skills, experience, and the desire to address such crises. I investigate the relationship between post-secondary sustainability education and CBEL, using the specific integrative theme of food system study, which is a particularly unifying topic for multi-stakeholder engagement and action (Clugston and Calder, 2007; Hammer, 2004). I am especially interested in highlighting the often unheard voices of community partners from outside of academia who team with universities in naming and addressing real world issues. I am committed to increasing undergraduate student access to CBEL. I explore these priorities through an action research case study over four years at a major Canadian university, the University of British Columbia (UBC).

1.3 Sustainability education, community-based experiential learning, food system study

My research occurs at the intersection of sustainability education, CBEL, and food system study. Sustainability education requires transformation toward more integrative and systemic perspectives within education and society (Sterling, 2004a); it is “process-driven, participative, empowering, liberatory, continuous, and necessitated by possibilities and dangers within an emerging ‘postmodern world’” (Huckle and Sterling, 2001, p.xiv). The worldview of sustainability education may be realized in part through community-university engagement, and more specifically, CBEL, where universities and students serve and collaborate with the broader

society to address issues related to sociocultural, ecological, and economic well-being (Jiusto et al., 2013; Brundiers and Wiek, 2011; Rowe, 2007). CBEL refers to various community-based pedagogies, such as community service-learning and community-based research, that connect university students with community partners, ideally for mutual benefit of learning and discovery (Fryer, 2010a; Bringle, Clayton, and Price, 2009; UBC-CLI, n.d.).

The fragmentation of knowledge within traditional university disciplines is a precursor to the unsustainable outcomes of many university programs (Rojas, 2009). Coupling sustainability education and CBEL with integrative learning themes that are inherently multi- and transdisciplinary affords opportunities to overcome such fragmentation, both of the university from the community and across the disciplines. One particularly unifying theme is that of food systems, including the entire cycle of food production, food processing, distribution of food, access to food, preparation of food, consumption of and celebration with food, and resource recovery (waste management) associated with each aspect of the cycle. The food system also includes relevant education, policy, and support for the whole system, including critical assessment to address its failures. Food system study comprises investigation of the food system as an integrative theme that unites diverse disciplines and sectors, thereby evoking engagement across a broad range of human experiences, cultures, and contexts (Hammer, 2004).

1.4 Research objectives, questions, and methodology

1.4.1 Research objectives

My overarching research objective is to explore and contribute to the rich intersection of sustainability education, CBEL, and food system study. My research contributes a critical

example of how to transform a large, required course to sustainability education through CBEL, using food systems as the integrative learning theme. Finally, my research investigates the experiences of community partners who work with undergraduate students aiming to address real world food system issues.

1.4.2 Research questions

I focus on the implementation of post-secondary sustainability education through CBEL. Using action research and case study, I investigate how CBEL can be integrated into a large undergraduate class with an embedded community-based project in a manner that is mutually beneficial to students and community partners.

I investigate two specific research questions within the broader context of universities in transition.

1. What innovations were developed through the creation of the BC Food System Project to integrate CBEL into UBC Land and Food Systems 350, a large, multidisciplinary, undergraduate course of 200 students per term?
2. What insights did community partners of the BC Food System Project share that can help develop more effective community-university partnerships?

Addressing these research questions contributes specific strategies for large university classes to transition to sustainability education using CBEL and integrative learning themes, with food system study as the example. This research will help universities adapt to this new era of sustainability education by moving beyond disciplines and toward community concerns. The focus on large classes accommodates a new reality for universities. The focus on community

partners is necessary to ensure that CBEL is part of a broader move to a “just sustainability” that is equitable and reciprocal for those involved.

1.4.3 Research methodology and data sources

1.4.3.1 Research methodology

The focus of this research is on the particularity and complexity of a single case. The case is the Land and Food Systems (LFS) 350 course, including its embedded BC Food System Project (BC FSP) (previously known as the UBC-based Community Food Assessment Project. To provide context for the case study, I also investigate the core curriculum in which LFS 350 is nested – the Land, Food, and Community series of courses, within the interdisciplinary Faculty of Land and Food Systems at UBC. See Figure 1.1. The case resulted from multiple cycles of active pedagogical experimentation, theoretically and pragmatically aligning with Stringer’s action research iterations of “look, think, and act”, or reflection, innovation, and implementation (e.g. 2007; 1999).

LFS 350 has an enrolment of approximately 200 students per semester, who work in teams and in partnership with about 30 community leaders on the BC FSP. This case thus provides the opportunity to actively experiment with integrating CBEL into a large class – which is a new normal in today’s post-secondary culture. The chosen case study is an extreme or outlier case (Stake, 1995) in that it provides an important alternative to standard practice, regarding both dominant university lecture-style classrooms (Deslauriers, Schelew, and Wieman, 2011), as well as typical community-based learning, which tends to occur with far fewer students per class. I

engaged in iterative action research between 2006 and 2009; it is therefore considered an action research case study.

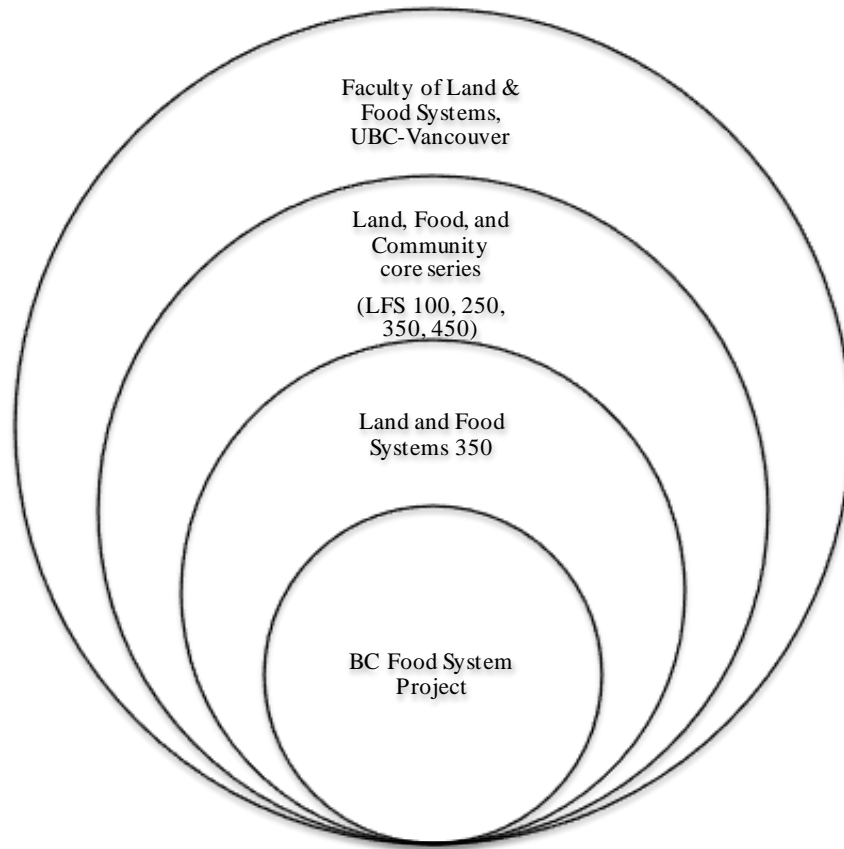


Figure 1.1 A stacked Venn diagram illustrating how each layer of the case study is embedded within further layers. The BC Food System Project is embedded with LFS 350, which in turn is embedded with the core Land, Food, and Community series of the Faculty of Land and Food Systems, UBC-Vancouver.

Over four years, I co-developed and coordinated the implementation of the BC FSP in LFS 350. A large component of my work involved initiating and nurturing community partnerships with over forty leaders and organizations representing diverse aspects of the food system within

British Columbia. In addition to the action research component of developing such a collaborative project, I focused on the experience of the food system actors as community partners in this community-university engagement. More detail on the methodology is found in Chapter Three; more on the case study is found in Chapters Four and Five.

1.4.3.2 Data sources

I draw upon several data sources. First, the course and project materials, including syllabi, student handouts, and information shared with community partners, provided evidence of course and project change over time. Second, my personal learning journals helped me to reconstruct why and how changes were implemented. Finally, I conducted in-depth, semi-structured qualitative interviews with community partners of the BC FSP. I invited all community partners to participate, and thirteen (of forty-four total) were available to be interviewed.

1.5 Summary of findings

From the case study outlined in Chapter Five, several lessons were learned in the transition from community inquiry to community engagement. First, relationship building takes time. Second, integrative learning themes (such as food system study) support collaboration. Third, large class size in community-engaged courses can be challenging and offer unique opportunities to increase the scope of collaboration.

In Chapter Six, I document five innovations that were developed to integrate CBEL into a large, required, undergraduate course. The innovations include:

1. Creation of student integrators to connect numerous food system projects for a “bigger picture” perspective on complex issues for the many students
2. Development of projects over multiple years, along with a “collective memory” of previous project reports, to maximize the return on costly relationship development
3. Development of training workshops for teaching teams and students to support limited experience with CBEL
4. Addition of community service-learning to community-based research to advance student understanding of community and project research potential
5. Development of engagement protocols clarify communication pathways with community partners to not overtax their time and resource

As described in Chapter Seven, there is a great need to investigate the experiences of community partners as part of CBEL. My interviews with community partners corroborate what others have found regarding challenges and benefits of partnering with undergraduate students (see for example, Blouin and Perry, 2009; Worrall, 2007; Sandy and Holland, 2006; Vernon and Foster, 2002; Cruz and Giles, 2000). Examples of challenges include: limited time of students and additional demands on community resources, such as staff time. Examples of benefits include: students bring fresh energy, perspectives, and ideas, and they inspire community members and staff with their motivation and creativity. Additionally, I identified an important perspective within the interviews: that universities and communities need each other. Rather than universities striving to be universal in their scope and ultimately placeless,¹ CBEL provides an opportunity for universities to situate themselves and student learning within communities and the places

¹ By “universal”, I am not referring to universal access to education. Indeed, lack of access to education is part of the wicked problems motivating this research. Instead, I am referring to the goal of generalizable knowledge and universal application of university research, as opposed to being rooted in specific locales or places. The result is a form of placeness, similar to geographer Edward Relph’s ideas about the loss of uniqueness of place and identity (Relph, 1993).

where they are located. Communities need to demand more from their associated universities, such that resources flow more freely, particularly from universities to communities.

1.6 Relationship to research in the Integrated Studies in Land and Food Systems program

This research is part of a broader collection of investigations and dissertations involved in enacting, describing, and analyzing the Land, Food, and Community program within the Faculty of Land and Food Systems at UBC. The graduate students and faculty involved in the Integrated Studies in Land and Food Systems graduate program and the Think&EatGreen@School Community University Research Alliance (see: www.thinkeatgreen.ca) are most involved in the Land, Food, and Community program. The university participants comprise multiple disciplinary and professional backgrounds, but share a common interest in the integration of diverse knowledge and experience to explore issues related to land, food, and community. Similarly, this research is intentionally non-traditional, specifically within its context of collaborative action research.

1.7 A note about “community”

Community is a complex and fluid concept that can be defined by shared values, goals, and experiences, networks of interaction, or simply by proximity.² My experience in the Faculty of Land and Food Systems has enabled my consideration of community at these various scales. My first community experiences within the Faculty took place at the weekly community dinners, hosted by the Faculty’s undergraduate society (AGUS). An Agroecology student, Jonas Spring,

² Community as a concept is defined variously by different scholars. For example, Wendell Berry argues that communities must be grounded in place with a shared local economy, while Barry Wellman points to cyber communities as examples of networks of interaction.

initiated the dinners as a way for the Faculty to “walk the talk” of community food preparation and food sharing. He did this after taking LFS (then AGSC) 250 and hearing the central messages of “land, food, and community”. The student-run dinners are affordable at \$5 per meal and open to everyone; they offer vegetarian and vegan options, and they include locally-sourced, student grown ingredients from the LFS Orchard Garden located just outside the cafeteria and the campus UBC Farm³. These weekly dinners provide a unique space for undergraduate and graduate students, alongside staff and faculty members, to share food and conversation together mid-week. This activity has a profound effect on the Faculty because it offers alternatives to the inherent power imbalances between professors and students. Further, the dinners empower the undergraduate students with skills and confidence to feed 50 or more people weekly.

It is fitting that the core series of undergraduate courses explicitly includes “community” in the Land, Food, and Community title. Each course and project emerged from the desire to work with and learn from various communities (including community leaders and organizations) on issues related to land and food systems, at local, regional, national, and global scales. Further, the notion of a “community of learners” is central to the Faculty of Land and Food Systems and includes all participants in each community-based project, including students, the teaching team, and community partners (Rojas, 2009). The strategy of explicitly establishing a community of learners “emphasizes dialogue, collaboration, and positive appreciation of diversity” (see Rojas, Sipos, and Valley, 2012).

³ The community dinners, the Orchard Garden, the UBC Farm, as well as Agora (a student-run cafeteria) are all initiatives of LFS students. The Land, Food, and Community core series, as well as other courses in the Faculty, stimulated student innovations and continue to support their ongoing developments.

The “community of learners” concept extends beyond the classroom to influence the experience within the Integrated Studies in Land and Food Systems program. This interdisciplinary graduate program promotes collaborative inquiry and learning through interactive seminar courses and by encouraging graduate student participation within the Land, Food, and Community series as teaching and research assistants. Additionally, as mentioned above, several graduate students within the Integrated Studies program are using the Land, Food, and Community series as foundational case studies for their action research. This non-traditional approach to graduate studies emphasizes collaboration and promotes a particular kind of community, founded on principles of respect, relevance, reciprocity, and responsibility (Kirkness and Barnhardt, 1991).

The Faculty of Land and Food Systems, with its various scales of community, provide an important alternative to university as an often isolating experience – for academics from community, researchers from each other, and students from professors. This outer boundary of the case is exemplary of the transitions universities as a whole are undergoing.

1.8 Research context

1.8.1 Universities in transition: From “us and them” to all of us

"The charm of history and its enigmatic lesson consist in the fact that, from age to age, nothing changes and yet everything is completely different." —Aldous Huxley

To better understand the contemporary transition to a new era in post-secondary education, it is instructive to appreciate from where we have come, so that we can have greater awareness of where we may be heading. While the case study of this dissertation focuses on LFS 350 and the BC FSP, I aim to contribute to the broader fields of post-secondary sustainability education,

community-university engagement, and food system study. In the next section, I therefore explore the history of North American universities, so as to position these fields within their particular contexts.

1.8.1.1 A brief history of North American universities

Since the inception of North American universities, when early US institutions emerged between the 1600s and 1800s, the societal role of post-secondary institutions has been under debate. While many early universities were direct offshoots of the Church of England, the requirement of specific religious affiliation was contested from the outset (Brubacher and Rudy, 2004). In the 1820s, Anglo-Canadian universities began to formalize within the same religious context of British imperialism. As happened in the US, debate emerged immediately around access and affiliation. For example, King's College, one of the first major universities in Canada, opened in 1827 almost exclusively for white and wealthy men affiliated with the Church of England. Approximately twenty years later, in 1849, King's College was renamed the University of Toronto. From its foundation of belief-based inquiry and study of religion and classics, the school progressed through partial secularization (meaning inclusion of all Christian values) to complete secularization in this short time (Ross, 1896). While these changes marked a first “great transition” for post-secondary institutions, their founding characteristics—of being elitist, exclusive, and socially inequitable—were well-laid and continued to overwhelmingly exclude women, people of colour, and the poor.

The early 1900s to mid-1980s have been described within the American context as the “Ivory Tower” period, with a near-exclusive focus on research and publication (with some notable

exceptions, such as US Land Grant institutions) (Maurana et al., 2000). While different specific factors influenced the Canadian context, post-secondary education seems to have followed a similar trajectory. During this time, many disciplines and associated departments were formalized, and there was a growing emphasis on agriculture and industry (and industrial agriculture), particularly during and post-World War II (Harkavy, 1998, p.9; Kerr, 1997)⁴. Specialized, objective science began its ascent as a new world order, and mechanistic, disciplined, rational experimentation began in earnest (Bowers, 1999).

The next great transition emerged from within the ivory tower context, between the 1960s and 1980s, with new focus areas of applied learning and critical thinking. The combination of environmental and socio-political crises and awareness (e.g. Rachel Carson's *Silent Spring* and the emergent Earth Day; US protests against the Vietnam War and the civil rights movement), led to campuses becoming sites for political and environmental activism. Radical political studies became more prominent and environmental studies emerged with great vigour during this time. These and other newly establishing fields bred inter- and multi-disciplinary possibilities, as well as general studies and liberal arts degrees. Issues related to social and environmental justice and democracy began to feature more prominently within such degrees. Access grew for women and people of colour, accompanied by larger class sizes that continue to grow until today (Brubacher and Rudy, 2004; Kerr, 1997).

The increasing access and diversity has followed a direct path within Canada. For example, the

⁴ A “disciplinary fallacy” persists to this day and implies that professors are only bound to serve the scholastic pursuits of their disciplines. This notion perpetuates disciplinary isolation, inhibits interdisciplinarity and cooperation, and severely limits the integrated specialization needed to address and solve highly complex, real-world problems (Harkavy, 2006).

proportion of women in Canadian universities increased from 1% in 1881 to 25% in 1960, 42% in 1975 (Statistics Canada Series W439-455) and by 2001, women comprised 58% of Canadian university graduates (Frenette and Zelman, 2007). Further, in 1990, 28% of Canadians aged 20 to 24 participated in post-secondary studies; by 2005, 41% of young Canadians were involved. In 2006, Canada ranked the highest of overall post-secondary educational attainment of all 30 countries in the Organization for Economic Cooperation and Development (OECD), with almost half of the working-age population of Canadians having completed university or college (see Kirby, 2007). While these numbers demonstrate remarkable growth, studies show that university participation rates are not equal across economic or cultural backgrounds. As a stark example, in 2006, only 8% of the Aboriginal or First Nations population of Canada held a bachelor's or higher degree, compared with 22% of other Canadians (Wilson and Macdonald, 2010).⁵ Another force impeding access is the rapidly increasing cost of a university education, growing three times the rate of inflation over the last twenty years (Macdonald and Shaker, 2012)

An alternative but largely complementary perspective of transitions within the North American university trajectory is of the five waves of the environmental movement, as identified by Sherburne Abbott, Associate Director for Environment and Energy in the US Office of Science and Technology Policy (see Gosselin et al., 2013): (1) the preservation movement, 1850–1890, (2) the natural resources management movement, 1890–1950, (3) the ecological movement, 1950–1970, (4) the regulatory movement, 1970–1990, and (5) the sustainability movement 1990–present. The fifth movement was catalyzed in large part by the publication of “Our

⁵ While educational attainment within Aboriginal groups remains much lower than other Canadians, growth is still evident. In the 2011 National Household Survey, almost 10 per cent of the Aboriginal population reported having a university degree (compared with 26.5 per cent of the non-aboriginal population). (see: <http://www.cbc.ca/news/canada/story/2013/06/26/statistics-canada-household-survey-data-facts.html>)

Common Future” (Brundtland, 1987), which posited an integrative approach to address complex problems. In the next section, I focus on where universities are heading, particularly as part of the sustainability movement.

1.8.1.2 Where we are heading

Universities are struggling to gain a foothold in the contemporary era, characterized by uncertain economic times, global and local crises related to unsustainable growth and resource use, and climate change (Bardaglio and Putman, 2009b; Kates and Parris, 2003). Chalkley and Sterling (2011) report on a widespread view that higher education must be involved in “preparing societies for the transition to a low carbon economy and the shift towards more sustainable ways of living and working.” This sentiment aligns with other movements afoot in higher education, for example sustainability education (Moore, 2005; Furman and Gruenewald, 2004; Bowers, 2001); interactive engagement within and beyond academic institutions (Roper and Hirth, 2005); collaborative, reciprocal, community-based learning (Sandy and Holland, 2006); and civic engagement and transdisciplinarity as a prerequisite for post-secondary relevance (Francis et al., 2013). Post-secondary institutions focusing on student engagement are incorporating similar high-impact activities, such as internships, study abroad programs, and service-learning, all of which are said to aid in student retention and practical skill building, for example, reflection and critical thinking (Kuh, 2008; Pascarella and Terenzini, 2005).

Simultaneously, there is also a shift toward more disciplinary, conservative, and corporatized approaches to university research and teaching (Polster and Newson, 2009). Disciplinary knowledge affords a depth of understanding about specialized fields and enables significant

advances, particularly in science and technology. New problems can arise, however, when disciplines remain isolated from their social contexts, which are inherently complex and interdisciplinary. Addressing complex problems requires expertise in multiple disciplines to create new knowledge (Rojas et al., 2011; Aboelela et al. 2007), meaning that disciplinary knowledge is still indispensable but not conclusive.

Increasing costs of post-secondary education are ever more prohibitive and exclusive. While various forms of active learning are being incorporated even into large university classrooms⁶, the pedagogical domination of lecture-based teaching occurs because of real and perceived challenges associated with large class sizes, time constraints, and content to be covered (Hancock et al., 2010). This form of teaching is a barrier to both sustainability education and CBEL due to its primary focus on unidirectional information transfer.

Additional contemporary realities affecting North American (and global) post-secondary education include globalization and internationalization, technology, open access, online learning, distance education, and flexible approaches for non-traditional and part-time students (Pascarella and Terenzini, 2005).⁷ Some of these trends intend to increase access, yet major

⁶ "Active learning" is a broad term that can refer to any activity students do in a classroom other than passively listening to a lecture (Bonwell and Eisen, 1991), with a focus on student engagement with higher-order thinking tasks that allow them to apply their new knowledge in contexts beyond the classroom (Nardone and Lee, 2011). Examples of active learning in large courses may include: the use of clickers (Deslauriers et al., 2011; Caldwell, 2007), group discussion (Bonwell and Eisen, 1991), and small groups (Deslauriers et al., 2011)—all of which contribute to students interacting with the learning material (Lammers and Murphy, 2002)

⁷ Massive open online classes or MOOCs are recent and controversial attempts to address many of the issues mentioned above. MOOCs originated in Canada in 2008 and are now being co-developed with several elite universities and companies such as Coursera, Udacity, and Harvard's and MIT's edX. Initially, MOOCs were heralded as a way to democratize higher education through "disruptive innovation" (claimed by Clayton Christensen of Harvard's Business School, cited in Skapinker, 2013). Though MOOCs are generally not accredited, they are touted as increasing accessibility and flexibility, while decreasing costs of higher education, as many of them are free (for now) (Shirky, 2013). Critics, however, dismiss MOOCs as yet another higher education fad, with problems

financial concerns are common, alongside doubts as to the value of North American universities (The Economist, 2012; Schumpeter, 2011; Taylor, 2009). While these issues are more pronounced in the US due to higher costs, similar issues are salient within Canada and may be shifting campuses back to the elitist environment typical of earlier eras.

Universities are facing various internal and external pressures, as well as great uncertainty. The future of universities will depend in part on their capacity to move successfully through this time of transition and to emerge, possibly transformed, as entities able to cope with and succeed current and future unknown challenges. Universities therefore need to be cultivating resilience and robustness as part of their adaptive capacity. These concepts are discussed in the following chapter (Chapter Two, Literature review).

1.8.2 Pedagogical theories and realities informing the current transition

At the turn of the 20th century, John Dewey popularized the notion of a “progressive education”, grounded in experience and bringing together thought and action across classrooms and real life settings (Dewey, 1938). Contemporary scholars have advanced this notion through pedagogical foci on action learning and action research, critical pedagogy, community-based learning, traditional ecological knowledge, place-based and environmental education⁸ (e.g. Ernest Stringer; Randy Stoecker; Paulo Friere; Jack Mezirow; Barbara Holland; Nancy Turner; David

such as rampant cheating, low completion rates (approximately 10% on average), a focus on delivering information as opposed to teaching and learning, and an unsustainable business model (Rees, 2013; Skapinker, 2013). One analogy is that MOOCs share similarities with industrial monoculture and big business, based on standardization and globalization (Deneen, 2013). What then is the alternative that is comparable to sustainable polycultures and local farmers’ markets? Perhaps MOOCs are more appropriate for disciplinary learning that is largely objective, while classroom learning will orient more toward interdisciplinary, place-based, constructivist learning.

⁸ Definitions and further references for these pedagogies can be found in Sipos, Battisti, and Grimm (2008).

Orr; Gregory Smith; David Gruenewald (to name a few)). These pedagogies may be considered within a broader “scholarship of engagement” (Boyer, 1996) that seeks to reorient universities toward their local communities in manners that are mutually beneficial (Bringle and Hatcher, 2002; Marullo and Edwards 2000; Saltmarsh 1996). Additionally, they may be considered as part of transformative sustainability learning that facilitates personal experiences for participants resulting in profound changes in knowledge, skills, and attitudes related to enhancing ecological, social, and economic justice (Sipos, Battisti, and Grimm, 2008). These pedagogical movements coincide with increasing pressures to transform higher education to be more responsive, relevant, and engaging (Zundel and Deane, 2010).

Even with growing acknowledgement that post-secondary institutions have a role and responsibility to contribute to positive social change (e.g. Reid and Petocz, 2006; UNESCO, 2009; UNESCO, 2005a; Furman and Gruenewald, 2004), university curricular opportunities for most undergraduate students remains largely unchanged (Armstrong, 2011). Notably, there remains a significant disconnect between the persuasive pledges of support for both sustainability education and CBEL and the reality of inaction on the part of most institutions, with few exceptions (Armstrong, 2011; Harkavy, 2006). As discussed above, there are historical precedents for major transitions at universities, however there is still a culture of resistance to change often associated with the Academy⁹ (e.g. Kirschner, 2012; Taylor, 2010). While the aforementioned pedagogies seem to be growing in popularity (as discussed further in Chapter Two, the Literature review), they tend to remain on the academic fringes, possibly due to the concurrent corporate pressures, especially as “colleges and universities are more isolated from

⁹ Kirschner (2012) goes so far as to state that: “About the only thing within academe that has moved rapidly is tuition.”

the world and inwardly fragmented today than ever before" (Taylor, 2010, p. 47).

1.9 Summary

Post-secondary education is at a precipice of change because of both external issues such as climate change and internal issues such as changing demographics and financial realities. This moment of transition affords an opportunity to consider possibilities of pedagogical synergism for a new era of sustainability. My research into CBEL is therefore situated within the broader agenda of sustainability education and using the integrative learning theme of food system study. My case study of a large, multidisciplinary, required undergraduate class is positioned within the context of North American universities in transition. In the next and final section, I provide an overview of each chapter within the dissertation.

1.10 Overview and organization of the thesis

In the **second chapter**, I present a literature review focusing on the interface between sustainability education, community-based experiential learning, and food system study. This triad provides a filter for my selection of literature. I explore the relationship between these three areas to investigate the synergies that can emerge and the learning that can be made possible, as an introduction and context for the case study. I find that the use of a food systems lens accommodates the complexity and multitude of relationships inherent in CBEL and sustainability education.

In the **third chapter**, I present the research methodology of this action research case study. I detail the theoretical framework and methodological paradigm of this case study and introduce

the specific qualitative methods that have helped me to construct my interpretations of this action research. In this chapter, I also detail the data sources, analysis, and methodological issues.

In the **fourth chapter**, I situate the case study in its own social historical context (Orum et al., 1991, p.5) to elicit understandings about how university curriculum can evolve to become more integrative, using food system study as an example of an integrative learning theme. I detail how the two movements of sustainability education and community-university engagement developed along coincident trajectories at UBC, while developing synergistically in the Faculty of Land and Food Systems. I present the outer bounds of my case study by detailing the transition of a traditional Faculty of Agricultural Sciences to a non-traditional and interdisciplinary Faculty of Land and Food Systems.

In the **fifth chapter**, I detail the action research case study of integrating community-based experiential learning (CBEL) into a large undergraduate class, LFS 350. In so doing, I describe the trajectory of the course (and the broader series of Land, Food, and Community courses) in moving from community inquiry to community engagement. I describe the stakeholders, projects, and outcomes of the case study. Finally, I share lessons learned through the implementation of this ongoing case.

In the **sixth chapter**, I share five issues that arose while incorporating CBEL into a large undergraduate class, as well as the innovations that emerged over time to address them. The analysis is contextualized within a larger discussion about innovation and innovators in higher education.

In the **seventh chapter**, I share insights from community partners about their experience of engagement so as to strengthen the potential of CBEL as part of a just sustainability education. I add to the small but significant literature about community partner experiences with CBEL, both by corroborating key challenges and benefits, and by adding to the discourse with a new insight that universities and communities need each other.

Finally, in the **eighth chapter**, I present an overall analysis and integration of the research. In addition to a summary overview and a review of conclusions, I share a biomimetic metaphor to help envision learning that mimics networked living systems. I conclude the chapter and the dissertation with reflections on strengths and limitations of the research, as well as future research directions.

Chapter 2. Literature review. Sustainability education, community-based experiential learning, and food system study: A nexus for engagement in higher education

Sections 2.81 and 2.82 of this chapter are adapted from a published research paper:

Rojas, A., Sipos, Y., and Valley, W. (2012). Reflection on 10 years of community engaged scholarship in the Faculty of Land and Food Systems at UBC-Vancouver. *Journal of Higher Education Outreach and Engagement*, 16(1): 195–211

Synopsis

This literature review explores the relationship between sustainability education, community-based experiential learning, and food system study within post-secondary education. Food system study provides an example of an integrative learning theme that unites diverse stakeholders to address sustainability issues in community contexts. The nexus of sustainability education, community-based experiential learning, and food system study therefore provides an example of a viable strategy to enable change in university engagement with local and regional communities.

2.1 Introduction

This literature review focuses on the intersection and interaction between sustainability education, community-based experiential learning (CBEL), and food system study. I investigate these fields in relationship to one another and identify their strengths and limitations, to see what can emerge from their pedagogical synergy.

It is important to note that this literature review is not meant to be exhaustive with respect to these fields. As opposed to exploring each of these literatures in-depth, my focus is on their interaction. While this emphasis limits the scope and depth needed for a specialist in each field, it may be sufficient as a scholarly commentary on the importance of the relationships between these fields. Rather than a specialized thesis on any of these fields, my goal is to investigate—through action research and case study—the potential of integrating CBEL, sustainability education, and food system study to overcome fragmentation of knowledge and the distancing between universities and communities.

2.2 Organization of chapter

I begin this chapter by painting broad strokes of where each of the fields of sustainability education, CBEL, and food system study are heading. To do so, I highlight major trends within each field, so as to provide insight into the benefits of each field and to identify what is missing. I then review research-to-date that investigates the interaction of these fields, demonstrating how they complement each other and address one other's shortcomings.

2.3 Sustainability education

2.3.1 Global to local mandates

Beginning in the 1990s, various mandates have promoted sustainability education and education for sustainable development within post-secondary institutions. Some of these commitments

include: the Talloires Declaration of University Presidents for a Sustainable Future in 1990,¹⁰ the Halifax Action Plan for Universities in 1991, Agenda 21 of the United Nations Conference on Environment and Development (Rio Earth Summit) 1992,¹¹ and the Earth Charter in 2000.¹²

The United Nations (UN) Decade of Education for Sustainable Development was established for 2005 to 2014. The UN Decade echoes previous declarations in articulating the need to reorient existing educational programs, including post-secondary education:

“Rethinking and revising education from early childhood education to university to include knowledge, skills, perspectives and values related to sustainability is essential. The students of today need to be able to solve the problems of tomorrow. Unfortunately, such solutions are rarely found within existing textbooks and educational practices. Therefore, students must also develop creativity and problem-solving skills to create a more sustainable future” (UNESCO, n.d.).

Regional Centres for Expertise provide opportunities for networks of existing organizations to advance the work of the UN Decade of Education for Sustainable Development in local contexts.

There are 116 such Centres world-wide, with seven operating within Canada (United Nations University, 2011). Each of these mandates highlights the responsibility of universities and

¹⁰ The Talloires Declaration of University Leaders for a Sustainable Future – of which UBC is a signatory – is credited as the first international declaration by university presidents of the responsibility of universities to respond to global environmental crises (Adlong, 2013); it was initially signed in October, 1990 by twenty-two university leaders. As of February, 2012, this Declaration had been signed by more than 430 university presidents and chancellors in over fifty countries across five continents¹⁰ (ULSF, 2012).

¹¹ Agenda 21 emphasized the need for governments and educational institutions to work across and with all sectors of society and all communities of interest, to reorient education toward sustainable development (Adlong, 2013).

¹² Additional declarations and mandates include: the Swansea Declaration of the Association of Commonwealth Universities in August, 1993 and the Copernicus University Charter for Sustainable Development in the autumn, 1993, from the Conference of European Rectors. The Global Higher Education for Sustainability Partnership was established in 2000 via partnership with four organizations: Association of University Leaders for a Sustainable Future (ULSF); Copernicus-Campus; International Association of Universities; and United Nations Educational, Scientific and Cultural Organization (UNESCO) (ULSF, 2002). In 2007, the American College and University Presidents’ Climate Commitment was first signed and continues to attract signatories (ULSF, 2012).

colleges to address contemporary concerns and move society toward more sustainable ways of living.

In North America, the regional “Education for Sustainability Western Network” (EFS West), established in 2001, was so successful that it transitioned to the Association for the Advancement of Sustainability in Higher Education (AASHE) in 2006. AASHE is the first North American professional association for sustainability across college and university campuses.¹³ UBC is an active member of AASHE. Pursuant to these global commitments, increasing numbers of North American universities and colleges are incorporating sustainability as an institutional lens through which to examine and address systems in crisis (Gosselin et al., 2013; Brundiers and Wiek, 2011; Rowe, 2007).

While notable progress has been made in campus greening efforts, pedagogical practice at universities remains largely unchanged (see Armstrong, 2011), even though such change is a fundamental part of the transition to sustainability (Cortese, 2003). Even with all the declarations, most post-secondary institutions remain entrenched in limited disciplinary paradigms (Clugston, Calder, and Corcoran, 2002). Further, there is ongoing confusion about how universities can respond to the often vague intentions of the declarations (Wals and Jickling, 2002).

2.3.2 Sustainability education as contested terrain

Inaction around sustainability-oriented curricular options may be due in part to the diverse and sometimes conflicting opinions about how to define and actualize sustainability and

¹³ For more on the history of AASHE, see: <http://www.aashe.org/about>.

sustainability education (see Armstrong, 2011). First, there is the debate between sustainability and sustainable development (Robinson, 2004). Sustainable development is criticized as a construct grounded in the dominant worldview of exploitative development (Luke, 2005), and sustainability is criticized for lacking attention to the realm of social justice (Agyeman, 2008). Both are noted as contested terms that risk overuse and lack of definition (Agyeman, 2008; Agyeman, Bullard, and Evans, 2002; Wals and Jickling, 2002). The meaning of each term is in evolution. While there can be marked differences between these concepts, there is also some fluidity. As such, and as per Sterling (2004a), I use sustainability education as the “catch-all” for education for sustainable development, education for sustainability, and education for a sustainable future. Sterling (2001) also said that sustainability requires a change of epistemology and therefore of education; he offers the term sustainable education to highlight the need for a transformative paradigm that changes educational culture, rather than modifies the existing one. This sentiment aligns with Clugston et al. (2002), who argue that a paradigm shift is needed to enable faculty to teach sustainability in, let alone across their fields. Anthony Cortese has also called for a paradigm shift in post-secondary education that emphasizes collaboration and that requires a “deep cultural shift” (2003, p. 17)

2.3.2.1 More precision in sustainability and sustainability education

There are two useful concepts in providing more precise sustainability narratives; both of these link sustainability with other, more established notions. The first concept is “just sustainability”, which connects sustainability and environmental justice. In this context, sustainability is defined as: “the need to ensure a better quality of life for all, now and into the future, and in a just and equitable manner, whilst living within the limits of supporting ecosystems” (Agyeman et al.,

2002, p.5). The second connection combines sustainability with resilience and robustness, as per Anderies et al. (2012). In this context, sustainability provides a decision-making framework related to interactions between societies and environments, with performance measures that prioritize inter- and intra-generational and inter-species equity. The performance measures are based on: a) resilience, which is a systems' capacity to buffer change, transform, and persist over time, and b) robustness, the stability of a system, even as inputs vary. Resilience in particular is central to adaptive capacity, which refers to ongoing options of how to respond during periods of reorganization and renewal (Folke et al., 2002). Aligning sustainability with resilience and robustness adds further definition, specific measurements, and precision. Incorporating justice into a sustainability definition emphasizes equity and access. In combination, these concepts are self-reinforcing and allow sustainability to be more measurable and therefore more precise.

2.3.3 What sustainability education needs

Sustainability education is struggling to move beyond disciplines to more effectively address complex problems of unsustainability (Schoolman et al., 2012; Clugston et al., 2002). Links between knowledge and action are still uncommon (Jiusto et al., 2013; Brundiers and Wiek, 2011). Sustainability must be rooted in local realities, yet post-secondary programs and courses that deal with sustainability topics often do not incorporate community-based and experiential learning opportunities (Bowling, 2011). Higher education is still far from the vision articulated by the President of the Partnership for Education for Sustainable Development, Debra Rowe (2007), when she asked researchers to imagine students working on complex sustainability issues, brought forth by municipalities, businesses, non-profits, and other community organizations (Brundiers and Wiek, 2011). According to Sterling (2004b), sustainability

education requires, “a change of epistemology, from reductionism towards holism, from objectivism towards critical subjectivity, and from relativism to relationalism” (p. 51), where “[k]nowing is seen as approximate, relational and often provisional, and learning is continual exploration through practice” (p. 60).

Currently, sustainability education is providing a response as to *why* post-secondary institutions are aiming to re-orient their curricula. However, this reorientation requires a total reconceptualization of *how* and *what* learners should learn (UNESCO, 2005b; Wals and Jickling, 2002). Until these questions are addressed, sustainability education is limited in its ability to respond – in terms of addressing complex problems, moving from awareness to action, and connecting with real world issues and stakeholders. In the rest of the chapter, I explore CBEL and food system study as potential responses to the questions of how and what of sustainability education.

2.4 Community-based experiential learning

2.4.1 What is community-based experiential learning?

Community-based experiential learning (CBEL) is a broad term, encompassing several community-based pedagogical practices often geared toward undergraduate students. CBEL may also be considered as civic engagement (Bringle et al., 2009). The most common forms of CBEL are community-based research (CBR) and community service-learning (CSL)¹⁴, along with other initiatives that enable students to apply their academic knowledge to complex real

¹⁴ CBR and CSL are often used interchangeably with other terms. For example, CBR is also referred to as: Community-Based Action Research, Action Research, and Participatory Action Research. CSL is also referred to as Service Learning.

world issues and reflect on their experiences (Fryer, 2010a; Bringle et al., 2009; UBC-CLI, n.d.). Participating in CBEL thus provides a means for post-secondary students to connect theory with practice and the classroom with community needs (Stoecker, 2008; Boothroyd and Fryer, 2004; Carter et al., 2002; Ward and Wolf-Wendell, 2000). CBEL is a pedagogy to meet the criteria that post-secondary scholarship of engagement grapple with complex, real world sustainability issues of our time (see Holden et al. 2008; Robinson, 2004).

Both CBR and CSL are described as experiential education that connects student academic learning with meaningful community engagement through critical reflective practice (Strand et al., 2003, p. 122-123; Mooney and Edwards, 2001). However, it is important to distinguish between CBR and CSL because research tends to encompass different activities from service (e.g., interviewing program participants or collating data versus contributing to a community garden or community kitchen) and each requires different orientation, training, and resources (Fryer, 2010b). While the differences in approach between CBR and CSL can be subtle, they are important to note (Gemmel and Clayton, 2009). For these reasons, CBR and CSL are explicitly distinguished from another in this dissertation to highlight both the differences and the synergies.

CBEL is part of the larger realm of community-university engagement and community-engaged scholarship. As Boyer (1996, p. 19-20) articulated:

“The scholarship of engagement means connecting the rich resources of the university to our most pressing social, civic, and ethical problems, to our children, to our schools, to our teachers, and to our cities. Campuses would be viewed by both students and professors not as isolated islands, but as staging grounds for action.”

A community-engaged approach to scholarship retains an expectation of intellectual rigour, yet fundamentally changes who participates in what kind of work, as well as how the new knowledge will be used and by whom (Kellogg Commission, 1999). There is an emphasis on collaboration between post-secondary institutions and their associated communities at local, regional, national, and global scales. Ideally, such collaboration occurs via mutually beneficial exchange (often of knowledge, but also of other services such as labour and access to resources), as well as an expectation of reciprocal partnerships (Holland and Ramaley, 2008). The unfortunate reality is that post-secondary institutions have long used communities as “pockets of needs, laboratories for experiments, or passive recipients of expertise (Bringle, Games, and Malloy, 1999, p. 9). It is therefore essential to bring a critical eye and a social justice lens to all forms of CBEL.

2.4.2 Mandates for CBEL

While community-engaged scholarship and CBEL have not gained the same international status as sustainability education (or at least, education for sustainable development), support for these pedagogies is steadily growing across North America, evidenced by organizations and mandates that support and promote community-campus partnerships. For example, Community-Campus Partnerships for Health (CCPH) is a nonprofit organization founded in 1996 to promote health equity and social justice through partnerships between communities and academic institutions. Primarily operating in the US and Canada, CCPH extends to over a dozen countries. The organization’s emphasis on health is broadly defined and enacted through partnership approaches that focus on changing conditions and environments in all aspects of life (CCPH, 2005).

Another example is the International Association for Research on Service Learning and Community Engagement, which held its first conference in 2001. While the focus is primarily US-centric, the scope is intended to be international and continues to grow toward that goal. Within Canadian post-secondary institutions, community-university engagement and CBEL continues to grow as a “hot topic” (Fryer, 2012; also, Wenger, Hawkins, and Seifer, 2012; Zundel and Deane, 2010; Gelmon, 2010). This support is evidenced through the development of national organizations, i.e., the Canadian Association for Community Service-Learning (initiated in 2002) and Community-Based Research Canada (initiated in 2008). As well, there are federal research funding initiatives, for example, the Social Sciences and Humanities Research Council of Canada (SSHRC) has funded Community-University Research Alliances (initiated in 1999), which were replaced by the more ambitious Partnerships Program in 2011. These support systems are coincident with Canadian universities setting goals to increase student participation in CBEL. For example, UBC aims to have ten percent of students engaged in CBEL, which is three times more than 2009 numbers (Charbonneau, 2009). There still remains a disconnection however, between the calls for community engagement and significant changes in student opportunities.

2.5 Contexts for CBEL and sustainability education

2.5.1 Place-based context

CBEL and sustainability education both occur in the contexts of local, regional, and global communities (Alvarez and Rogers, 2006). In particular, CBEL and sustainability education reinforce one another by their shared emphases on active, experiential learning within locally

relevant, place- and community-based contexts (Wals, 2012; Bowling and Williams, 2011; Robinson, 2004). Place-based learning refers to the positioning of curricula within the context of learners' personal lives, communities, and (bio)regions. Place-based learning therefore occurs synergistically with students' and communities' natural interest in their own local contexts (Smith, 2002). Experience of and connection with place is fundamental to sustainability learning by providing depth that cannot be realized by more detached ways of knowing. A focus on the place-based context in which learning is situated helps magnify connections to community, including human and biological communities, thereby linking humans to other living beings and the landscapes and climatic conditions necessary for our survival. Thus, CBEL can be implemented as part of a sustainability education strategy to reconnect and renew the relationships between human and ecological systems, as well as within human systems. Sustainability education and CBEL in combination can provide applied responses to the culture of fragmentation that permeates post-secondary institutions, regarding theory from praxis and university from community (Rojas, Sipos, and Valley, 2012).

2.5.1.2 Social justice context

CBEL is criticized for its near exclusive focus on student learning, sometimes at the expense of community voices and social justice (Stoecker and Tryon, 2009; Butin, 2006; see Chapter Six (Insights)). Sustainability education has been criticized for its focus on theory at the expense of action (e.g., Jiusto et al., 2013). Incorporating CBEL contributes to more successful, meaningful, and relevant sustainability education, especially as both draw on similar pedagogical strategies, including reflective learning, student participation and engagement, holistic, student-centred learning, and in-class community building among students (Bowling, 2011). Sustainability

education must therefore reinforce the idea that those involved in higher education are obliged to put resources toward rectifying inequalities (Stoecker and Tryon, 2009; Agyeman, 2008). CBEL, when defined in the context of social justice (Marullo and Edwards, 2000) can help to focus sustainability education on understanding and addressing community issues and inequalities. Sustainability education may assist in creating more robust accounting systems of indicators for specific goals, such as reciprocity, equality, and access.

A key consideration affecting both pedagogies is likely the different kinds of motivations for everyone involved. While community members in non-profit organizations, for example, may be largely driven by altruism and the desire to solve problems within their social contexts, university members may be focused on institutional requirements to publish and the desire to solve problems within their academic disciplines. These often opposing priorities speak to profound epistemological differences about the nature of knowledge as a moral imperative (i.e. knowledge that contributes to social well-being within an ethics of care) or as a curiosity-driven pursuit (i.e. knowledge for the sake of knowledge). Such misalignment highlights questions of power within university-community relationships: Who has power, and who is trying to access more? At what cost and to whom? (Flyvbjerg, 2001, p. 148).

Flyvbjerg's (2001) "phronetic social science" provides an appropriate framework by which to investigate questions of community action in the context of social justice. Phronetic social science focuses on pragmatically governed interpretation of the studied practices, and by providing concrete examples and detailed narratives of how power works and with what consequences (p. 140). As Flyvbjerg articulates (p. 156), a phronetic social science may serve as

an antidote to the “so what” problem that too often plagues the academic canon. In Chapter Three (Methodology), I further address phronetic social science.

2.5.1.3 Head, hands, and heart as organizing principle

In a 2008 paper, colleagues and I identified various sustainability pedagogies via their connection to “head, hands, and heart” or cognitive, psychomotor, and affective domains of learning (Sipos, Battisti, and Grimm, 2008). The pedagogies that we identified as most integrated amongst these three domains include: pedagogy for eco-justice and community¹⁵; action learning¹⁶; participatory action research¹⁷; and community service-learning¹⁸ – all components of CBEL. These pedagogies incorporate critical notions of community and experiential learning that advance praxis and partnerships between universities and communities, helping to situate universities and university study within associated regional, cultural, and political geographies. See Figure 2.1.

Beyond hands-on learning, incorporating hearts and souls is essential for the reconnection necessary for a sustainable world; this type of generative space requires different learning experiences than what is customary in higher education (see Widhalm, 2011). Stoecker (2012)

¹⁵ **Pedagogy for eco-justice and community** acknowledges and finds tensions in the “industrial mindset” and works to replace such attitudes with ecological metaphors (Bowers, 2001)

¹⁶ **Action learning** is a form of experiential learning that enlists peers in helping learners question their assumptions and (optimally) experience a paradigm shift before applying their learning in new situations (McGill and Brockbank, 2004; Revans, 1998).

¹⁷ **Participatory action (PAR) research** is a collaborative and politicized form of research that builds relationships and shares power amongst researchers and local residents or members of community groups. When PAR is integrated into curricula as a way to connect concepts with action beyond the classroom, it can be considered as a transformative, generative, and critical pedagogy (Mountz et al., 2008).

¹⁸ **Community service-learning (CSL)** is a form of reciprocal, experiential learning where students learn and develop through activities that address human and community needs, connected by structured opportunities for reflection (Jacoby, 1996, p.5)

has connected a head, hands, and heart framework to community change. He writes: “When brought together, the heart-hand-head combination does more than support community change. It also helps make all of us more whole.” (p. 98). David Orr (2004) wrote: “The goal is not just mastery of subject matter but making connections between head, hand, heart, and cultivation of the capacity to discern systems—what Gregory Bateson once called ‘the pattern that connects.’” These perspectives highlight the importance of including the whole person within engagement strategies. Widhalm (2011) reports on other scholars who also speak to the importance of including heartfelt connections and learning. For example, Paul Hawken (2007) states: “To salve the world’s wounds demands a response from the heart” (p. 188). Anthony Cortese (2003, p. 17-18) wrote: “All parts of the university system are critical to achieving a transformative change that can only occur by connecting head, heart, and hand”. Widhalm also refers to Christopher Uhl, who wrote: “In the end, it is not new laws or more efficient solar cells that will play the leading role in solving humankind’s environmental and social problems, it is our awakened and caring hearts. When our hearts awaken, our resolve quickens, our courage grows, our compassion stirs, and our imagination expands” (Uhl, 2004. p. xx).

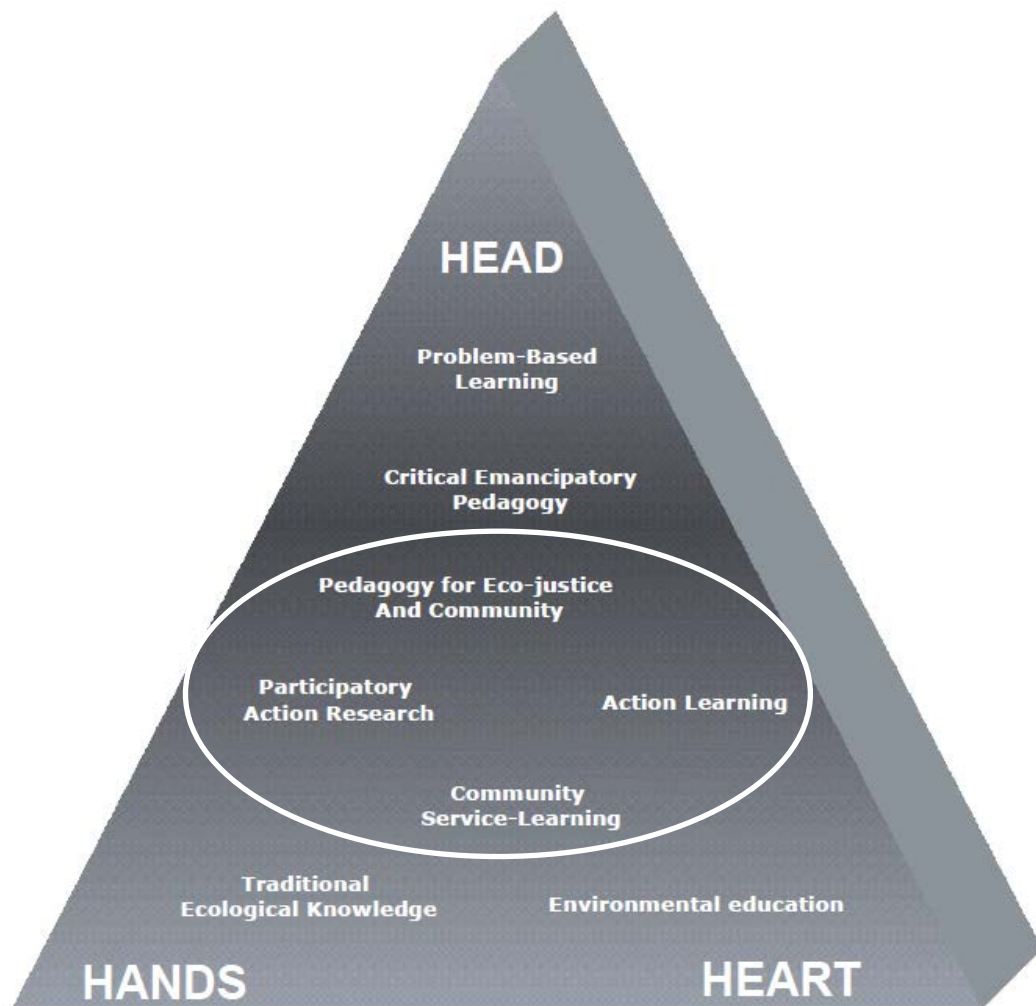


Figure 2.1 From Sipos, Battisti, and Grimm (2008): A “pedagogical landscape” of sustainability and transformative learning models based on the organizing principle of head, hands, and heart. The circled pedagogies in the centre of the triad are those that situate sustainability within community contexts, drawing a linkage between sustainability education and CBEL.

2.6 What CBEL brings to sustainability education

“Real change in thinking about sustainability requires creative pedagogy which acknowledges the different ways that people think about sustainability and provides spaces in which their ideas can be developed.” (Reid and Petocz, 2006)

Sustainability education must move beyond rubrics and targets to confront the often-messy socio-environmental community realities (Alvarez and Rogers, 2006). CBEL can provide an essential context to locate, situate, and explore sustainability in real world scenarios, in partnership with the people whose lives are most affected. The motivation for partnerships and engagement arises from shared interest in addressing issues that simultaneously grow community capacity, participation, and social capital, as well as improve research and learning opportunities for universities (Holland and Ramaley, 2008). Sustainability education and CBEL can mutually benefit from reinforcement of their shared foci, including: connectedness and relationships; community and place; diversity and inclusiveness (Bowling, 2011). These themes can be expanded to include: connecting theory and practice; situating learning in the context of real world issues that serve as integrative learning themes; challenging knowledge hierarchies by emphasizing collaborative, reciprocal learning; and promoting the potential of partnerships within and beyond academia.

While CBEL is often not explicitly included as part of sustainability education, some linkages have been identified. For example, the UN Decade of Education for Sustainable Development highlights that connections must be fostered between academia and community needs, particularly through post-secondary sustainability education that benefits the broader society and biosphere (Cortese and McDonough, 2003). The Talloires Declaration was updated in 2005 beyond its original focus on environmental sustainability to include community partnerships and

fostering community-university engagement (Talloires Declaration, 2005). The 2012 Rio+20 Conference reaffirms commitment to earlier declarations and specifically calls for “enhanced cooperation among schools, communities and authorities in efforts to promote access to quality education at all levels” (United Nations, 2012).

As sustainability education continues to evolve, community engagement is becoming an increasing focus. Locating experiential learning as part of sustainability education provides an important first step toward community-based learning (Sterling, 2004b). Experiential learning involves actively engaging students in experiences with real consequences. This connection to real world learning enables participants to make discoveries and experiment with knowledge in personal ways (Kraft and Sakofs, 1988, Dewey, 1938). Movement toward more experiential and applied learning enables more powerful linkages between knowledge and action, theory and practice, by moving from concepts to practical experiences (Jiusto et al., 2013; Kates et al., 2001).

CBEL encompasses these aspects of experiential learning and contributes to post-secondary sustainability education by encouraging community-university collaboration to investigate and address pressing socio-environmental issues in context (Bowling and Williams, 2011). Community engagement, for example through CBEL, generates a need for inclusive discourse as part of education for sustainability, as a means to overcome the divide between the professional discourse of traditional academic “experts” and the “lay” public regarding the nature of the problems (Bawden, 2004). Integrating stakeholder knowledge and experience into post-secondary research and learning enables more robust knowledge production teams that can effect social change (see Jiusto et al., 2013). The acknowledgement that post-secondary students are

learning both within their institutions of higher education *and* their local environments and communities (Gruenewald, 2003) is important in situating sustainability education within both university and community contexts (Bowling, 2011; Sipos, Battisti, and Grimm, 2008).

A comparable approach within sustainability science is that of Shared Action Learning (Jiusto et al., 2013). This emerging method applies global challenges of sustainability in local, context specific scenarios, where students, faculty, and community sponsors work on specific sustainability projects. Similar to CBEL and sustainability, in Shared Action Learning, students investigate and actualize sustainability agendas in community contexts, learning and acting upon different knowledge bases, aiming to enhance community resilience and wellbeing.

2.7 What is still missing from CBEL and sustainability education

Although sustainability education and CBEL are abundantly complementary to one another and share many foundational notions about harnessing university resources to actualize social change within place-based contexts, they tend to be considered as distinct pedagogical domains (Bowling, 2011). This unnecessary fragmenting is indicative of the university culture of fragmentation that disconnects knowledge into smaller and smaller component parts with a focus on difference (see Rojas, Sipos, and Valley, 2012; Taylor, 2010). While disciplinary knowledge is essential for investigating some questions, it also fragments knowledge needed to overcome more complex issues. The reintegration of this fragmented knowledge can occur via complex, integrative learning themes that provide fertile ground for pedagogical and disciplinary synergies. I address this matter in the next section.

2.8 Integrative learning themes

Integrative learning is a broad term for structures, strategies, and activities that connect across institutions, fields, experiences, and disciplines (Klein, 2005). Integrative learning themes can thus be understood as transdisciplinary areas for investigation that require synthesis of multiple disciplines, perspectives, and experiences. Examples include: food systems, climate change, poverty and equality. Holland and Ramaley (2008) report on a growing movement toward integrated learning, where students can unite their formal studies and life experiences, explore diverse worldviews and complex issues, bridge theory and practice, reflection and action. This perspective is similar to Rojas' (2009) approach to "learning with life", that encourages students to actively include their personal experiences, passions, emotions, dreams, personal stories, and imagination as part of the learning process. While academic specialization is important and even essential, it is necessary to embed disciplines within integrative learning themes as part of a move toward sustainability education.

In the Rio+20 conference, twenty-five integrative, thematic areas and cross-sectoral issues were identified in the framework for action and follow-up (United Nations, 2012). These themes include various social, economic, and ecological concerns, such as: poverty eradication; gender equality and women's empowerment; health and population; climate change; and food security, nutrition and sustainable agriculture. Taylor (2009, 2010) articulated a vision for post-secondary institutions to exclusively work on and study within thematic, problem-focused programs, such as: mind, body, law, networks, language, and water. Fundamental human needs would also provide a blueprint for integrative learning themes, organized into the broad categories of: subsistence; protection; affection; understanding; participation; creation; leisure; identity; and

freedom (Max-Neef, Elizalde, and Hopenhayn, 1992). What would universities be like if they reorganized around socially relevant, integrative learning themes, under the categories provided by Max-Neef's fundamental human needs? The specific themes could continue to evolve in response to the rapidly changing issues of our time. Issues like "the environment" could be cross-cutting and fit into various categories, such as subsistence, protection, leisure (and others). This reorganization would create opportunities to maintain essential disciplinary studies and ground this often theoretical work in the complex issues facing societies. Overlaying integration atop disciplinary expertise could work to overcome the fragmentation of knowledge and create pathways toward more genuine sustainability education and CBEL.

2.8.1 Food system study as an integrative learning theme

"Food is a nexus for industry, rural/urban relations, global trade relations, domestic and social life, biological health, social belonging, celebration of community, paid and unpaid work, expressions of care, abuse of power, hunger strikes, fasts, and prayer. Food is part of daily life at least as much as we are consumers and possibly more as we labour for either love or money. Food and food production are inextricably tied to our ecological systems and survival in the future" (Welsh and MacRae, 1998, p. 242)

As Welsh and MacRae articulate, food provides an integrative learning theme that incorporates globalization, industrialization, commodification, urbanization, socialization, and ritualization, to name a few of the intimately human manifestations of power and culture. Food has the potential to bring multiple sectors, stakeholders, and community members to the table to share food, address food system sustainability, and collaborate on a broader range of community issues (Feenstra, 2002; Riches, 1999).

Food systems, including production, processing, distribution, access, consumption, and waste management or resource recovery, comprise numerous examples of complex, daily needs that provide universal human, community, and global connections. Food systems have a massive impact on communities' economic, ecological, and cultural health and welfare (Garrett and Feenstra, 1999). Further, everybody has daily experience and at least some expertise related to food, whether regarding issues of culture, family, history, or access. As such, food systems link to broader issues of community well-being and sustainability and directly relate to democracy and social justice. Food and food systems thus provide excellent integrative learning themes by which to engage multiple disciplines, ways of knowing, and campuses, communities, governments, and industries.

Today's global food system has delivered a revolutionary, unprecedented capacity to increase food production, but it has also produced negative environmental and social implications. For example, today's food system has depleted natural resources without addressing global food insecurity and widespread malnutrition (Smith et al., 2007). According to the recent High Level Conference on World Food Security, "securing world food security in light of the impact of climate change may be one of the biggest challenges we face in this century" (FAO, 2008). In the past, food security was associated primarily with obtaining sufficient food. The concept has evolved, however, to encompass a broader set of social, ecological, and economic considerations, including nutrition, moral and cultural acceptability and appropriateness, safety, ecological sustainability, self-reliance, and social justice and human dignity (Community Food Security Coalition, 2005; Lang and Heasman, 2004; World Food Summit, 1996). The discussion has also evolved to an alternative concept of food sovereignty, defined as "the right of peoples to

healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems” (Via Campesina, 2007).¹⁹

A key practice of community-based learning and sustainability education is critical reflection, as a means of situating classroom learning and field or community experience within socio-political contexts. Through facilitated and open-ended reflection, students can be encouraged to grapple with conflicts they may be witnessing, investigating, or experiencing within the food system. As agricultural, agroecological, and more recently food system education reorient to meet the challenges of the 21st century, such reflection becomes increasingly important as students grapple with the ongoing food wars of our time. Civic agriculture, agroecology, civic nutrition, and food system study can provide frameworks to work *in* and not *on* a community in participatory ways (Lieblein and Francis, 2007) that are closely connected with sustainability education and its explicit focus on promoting capacity for change (Sterling, 2009). As the systems-focused Hawkesbury agricultural program in Australia described: “If there are to be new ways of farming developed which will be more socially and environmentally responsible, then this will be predicated by the development of ‘new ways’ of thinking, knowing and learning” (Bawden, 1990). CBEL extends the study of food systems by explicitly aiming for civic engagement and by using food to link classrooms with community sustainability issues (Wynne, 2006).

¹⁹ The Land, Food, and Community core courses incorporate an understanding of food system sustainability as a flexible concept that includes food security and food sovereignty. The faculty teaching team used a definition that incorporates: **A**ffordability, **A**vailability, **A**ccessibility, **A**ppropriateness (nutritionally, culturally, and morally), **S**afety, and environmental **S**ustainability (AAAASS) of the food system (Rojas, et al., 2011; Bomke, Rojas, and Skura, 2004).

2.8.1.1 A food systems lens

Formal and informal agriculture education has a long history of experiential education, or “learning by doing” (Roberts, 2006). The necessity to move beyond predominantly theory-based inquiry is increasing due to complex global crises (or “wicked problems” (Batie, 2008)) that require complex analysis by multiple stakeholders (Francis et al., 2013). Community-based agriculture, agroecology, and food system study can provide opportunities for civic engagement, using food to link classrooms with communities (Wynne, 2006). Situating such study within specific social contexts enables students to identify, explore, and engage with the complex food system within real world scenarios and to grapple with community sustainability issues beyond the food system. “Food is simply the lens... to integrate students into local and global communities and engage them in communities of place... to understand the connections between food, culture, and community economic development, and to see that food is a tool that enables them to think about the world with a new lens” (Wynne, 2006). Food systems are complex and include many relationships and multiple stakeholders. A food systems lens accommodates complexity and provides an emphasis on civil society initiatives and acts as a gateway theme into broader community issues at local to global scales. Food system issues are thus ideal as a topic or integrative learning theme for sustainability education and community-based learning (Clugston and Calder, 2007).

2.8.2 Food system sustainability in Canada

Although food security and food sovereignty issues may be most apparent in developing countries, hunger, obesity, and vulnerability to ecological crises also exist in Canada (Canadian

Agri-Food Policy Institute, 2011; Canadian Population Health Initiative, 2008; 2004; Rainville and Brink, 2001) According to the Statistics Canada (2006) census on agriculture, the farm population currently accounts for only 2.2% of Canadians; in contrast, approximately 1 in 3 (31.7%) Canadians lived on a farm in 1931. Lang and Heasman (2004) argue for action to foster a “food culture” that better respects connections between food production, environmental health, and human health. To support this food culture, Canada needs to develop integrated food policy, and consumers must become “food citizens” to understand the impacts of their food choices on social, ecological, and economic sustainability.

In British Columbia, the British Columbia Agriculture Plan, Strategy 20, directly identifies the growing divide between youth and the origins of their food and stresses the need to reconnect young people with the land, link urban and agricultural communities together, and provide hands-on learning opportunities to the leaders of tomorrow (Ministry of Agriculture and Lands, 2008). The Land, Food, and Community series of courses and the University of British Columbia’s Faculty of Land and Food Systems contribute directly to this effort. The core series is now relevant to the large numbers of students interested in the human health implications of nutrition and food. Students are now able to explore systemic linkages demanded by global and local sustainability needs.

2.8.2.1 Canadian examples of sustainability-oriented, community-university food system study

UBC’s Faculty of Land and Food Systems is part of a growing group of community-based food system studies in various academic programs in Canada. The Canadian Association for Food

Studies was initiated in 2005 as a national, interdisciplinary, campus-community organization to identify and share research priorities and findings about food security concerns across Canada.

There are several post-secondary programs centred in Ontario based on food system study in community contexts which address sustainability issues as well. For example, Ryerson University in Toronto established a Centre for Studies in Food Security in 1994. The Center incorporates an interdisciplinary, systems approach for research, education, community action, and professional practice about food systems in the contexts of social justice, environmental sustainability, and health. Since 2004, Lakehead University in Thunder Bay has been developing a Food Security Research Network that includes students, community members, and university faculty and staff. This Network uses CSL as a way for students to learn about and get involved in strengthening the local food systems of Northwestern Ontario. The Waterloo Region is using several models of community-university partnerships within the regional food system. The Canadian Association for Food Studies hosted a webinar on June 26, 2013 highlighting these models and asking the question: “Interested in learning about Community-University partnerships and their ability to facilitate healthy, sustainable community food systems?” These examples suggest nascent activity around community-university food system study in Canada.

2.9 Conclusion

The interactions of sustainability education, CBEL, and food system study as an example of an integrative learning theme, provide opportunities to address contemporary challenges that post-secondary institutions and societies face. Sustainability education provides the “*why*”, CBEL provides the “*how*” and integrative learning themes (such as food system study) provide the

“what”. Through this synergy, post-secondary students and the broader community of learners can move beyond the textbook, outside the classroom, into communities, and around the tables where genuine dialogue about real world, complex issues can be navigated and addressed. Integrative learning themes provide the substance for such meaningful and relevant learning exchanges, as well as the lenses by which to view and understand complex problems that encapsulate multiple fields, perspectives, stakeholders, and sectors. Food system study is not the only lens, but it is a powerful one by which to view community and sustainability issues. By investigating how a food systems lens can integrate the pedagogies of CBEL and sustainability education, it can become a model of how to utilize other integrative lenses to create improved synthesized pedagogies.

Chapter 3. Methodology overview. Action research case study

Synopsis

This chapter presents and details the methodology of the action research case study of the BC Food System Project, which is embedded in the Land and Food Systems 350 course. First, I describe the theoretical framework and methods of data collection and analysis. Following this, I discuss methodological issues related to reliability, validity, ethics, and limitations of the methods.

3.1 Introduction

The British Columbia Food System Project (BC FSP), previously known as the UBC-based Community Food Assessment Project, is embedded with the Land and Food Systems (LFS) 350 course, which is itself embedded within the required, integrative series of Land, Food, and Community courses, within the Faculty of Land and Food Systems at the University of British Columbia. The Land, Food, and Community series provides a case study of a core curriculum that delivers a common experience to students in a diverse group of disciplined programs within an interdisciplinary Faculty. Thus, the LFS 350 course and the BC FSP provide a case study (that is itself embedded within another case) (Stake, 1995) for investigating:

- The incorporation of community-based experiential learning (CBEL) into a large undergraduate classroom, and

- The relationship between sustainability education and CBEL, using the interdisciplinary, integrative theme of food systems as the learning focus and terrain of multi-stakeholder engagement

This chapter reports on the research methodologies I undertook to enact and investigate this action research case study.

3.1.1 Research approach: Methodological paradigm and philosophical rationale

“The way to re-enchant the world... is to stick to the concrete” John Dewey (in Flyvbjerg, 2004)

The overarching methodological paradigm for this research aligns with interpretive inquiry and social constructivism that is qualitative, subjective, and reflective (Stringer, 2007; Denzin and Lincoln, 2005; Patton, 2002; Lincoln and Guba, 1985). The research comprises both breadth and depth. Its breadth emerges from considering the potential of universities as “staging grounds for action” (Boyer, 1996) rooted in systems thinking; its depth comes from active engagement and participation in a single case study over four years, from 2006 to 2009.

While the research poses some questions that are more philosophical in nature, I am primarily concerned with innovations and insights to grow community-university engagement. A large component of this research is therefore descriptive, with additional components of inquiry, explanation, and exploration. Given the parameters of a large undergraduate class with an interdisciplinary and applied theme, extrapolation from this case to other scenarios likely still has relevance.

In this chapter, I present several methodologies that have informed one another in my research process. As a student of Integrated Studies in Land and Food Systems, I take an interdisciplinary approach, which includes employing multiple methodologies in my research design. As a former student of Biology and Ecology, I remain fascinated by edge effects, which refer to changes in individual, population, and community ecology where two different habitat types meet to create new environmental conditions, such as microclimates and habitats (Levin, 2009, p. 780). Analogously, I find that interactions between different methodologies can be productive in ways that a single methodology cannot. My main methodology is an action research case study, which itself is an intersection between action research and case study; my work is further informed by my particular experiences and other theoretical perspectives discussed in this chapter.

3.2 Organization of the chapter

First, I position myself as participant and researcher by articulating my connections to the case study. I then situate the case within the theoretical framework of the methodology undertaken. Following this, I present research methods of data collection and analysis. Finally, I highlight methodological issues related to reliability, validity, ethics, and limitations of the methods.

3.3 Author's connection to the case

My master's thesis focused on the potential of transformative sustainability learning in post-secondary education, where I elaborated a pedagogical framework of "Head, Hands, and Heart" to develop and assess sustainability learning experiences (see: Sipos et al., 2008; Sipos Randor, 2005). When I began my PhD studies in 2006, I was invited to participate in redesigning the third-year Land, Food, and Community course, LFS 350, as the pedagogic switch was being

initiated from problem-based learning²⁰ to CBEL. The course planning team, headed by Dr. Art Bomke²¹, began imagining and envisioning strategies to better align with the other Land, Food, and Community core courses, specifically by transitioning to community-based learning via community inquiry to community engagement (see Rojas, Sipos, and Valley, 2012; also Chapter Five). Further, Dr. Bomke had a goal of introducing a provincial perspective to food system study in an urban university. Thus began the development of the BC Food System Project (BC FSP).

The course planning team tapped into our food system and food security networks across British Columbia and followed existing community interest, energy, and projects to identify opportunities appropriate to the experience and time available to third-year students. This strategy allowed the university-led agenda of food system study via community partnerships to merge with community-generated agendas for the specific projects. We were able to “connect the personal to the cultural” (Ellis and Bochner, 2000, p. 739) by asking our contacts to provide the specific contexts. The narrative and interrogative character of both the project development and this dissertation have emerged from this orientation.

Between 2006 and 2009, over four course iterations, I participated in the LFS 350 journey first as a member of the planning team, then as teaching assistant, project coordinator, and course co-instructor. I helped to design the course and projects, and I initiated and nurtured dozens of community partner relationships. As Bringle and Hatcher (2002) describe, community-university

²⁰ Problem-based learning (PBL) is a framework for learning that is focused, experiential, and organized around investigation of real-world problems through derived cases (Barrows, 1994)

²¹ While Dr. Bomke led the LFS 350 planning process, he was also part of a faculty team to develop the Land, Food, and Community series. The series planning team was led by Dr. Alejandro Rojas.

partnerships are a series of interpersonal relationships that are initiated, maintained, and nurtured over time. These relationships can deepen depending on frequency of interaction, diversity of interaction, and strength of influence on each other. In particular, they highlight that relationships can become closer when they grow beyond the original focus of the partnership, for example when initial projects expand into further work. The opportunity to work with each BC FSP community partner over two or more years, while the original projects evolved, allowed for relationships to deepen—and also required them to be cared for so they could grow over time. Each partnership is unique, in that there are different needs, resources, and goals. Part of nurturing each partnership is acknowledging these differences and the unique opportunities and challenges within each relationship.

Throughout my work on the course and project, I received valuable feedback from students and community partners. This feedback significantly shaped the action component of my action research, i.e. how I helped to develop the course and project. In particular, feedback from student surveys at the end of each course offering helped the teaching team to make adjustments to the course and project. We also incorporated informal community partner feedback in an ongoing manner throughout project development. The experiences that I had while working on the course and project also changed who I am as a researcher and a facilitator of learning. I became more attuned to what I brought to the relationships in development, how I could help to deepen them over time—with students, community partners, and other members of the teaching teams.

In 2010, when I was no longer on a teaching team and had completed the action component, I undertook more traditional research by interviewing community partners about their experiences with the BC FSP until that point. During the interviews, community partners provided essential

feedback and insights into the experiences of partnering with undergraduate students and an undergraduate course. After anonymizing the data, I have been informally sharing this feedback with the course instructors to ensure that the ideas and concerns of the partners are known. I will also share this dissertation to ensure that the feedback has the opportunity to be fully incorporated into new iterations of the course and project.

I continued my ongoing involvement in LFS 350 in 2010 and 2011 as a guest speaker and community partner for student integrators who were investigating the bigger picture of the BC FSP. In addition to LFS 350, I also gained experience with the whole Land, Food, and Community series through various activities. Specifically, I participated in: LFS 450 as a teaching assistant (2006); LFS 250 as a guest lecturer, as well as in the planning stages and application for the Community-University Research Alliance award and to help with writing the first year's report on activities (2009-2011); LFS 100 as a guest lecturer and to help with curriculum development (2009); and the Land, Food, and Community series' workshops on curriculum development conducted through the UBC Centre for Teaching, Learning, and Technology (formerly the Centre for Teaching and Academic Growth) by Janice Johnson (2011). While my research focuses on LFS 350, I was exposed to the whole series and greatly benefited from that broader perspective. My vantage point has been further solidified through additional experiences developing sustainability education, community-university engagement opportunities, and food system investigations across UBC and within the broader community.

3.3.1 Beyond the case: Authors' broader connections to sustainability education, community university engagement, and food system study

Throughout my PhD, I engaged in innovative university teaching and learning, with multiple opportunities for pedagogical inquiry and action. I also participated actively in community food system discussions and actions, including policy development. I worked part-time at the UBC Centre for Teaching and Academic Growth (now known as the Centre for Teaching, Learning, and Technology), from 2006 to 2010, where I gained valuable pedagogic experience. I volunteered with the UBC Learning Exchange (2006-2007) and collaborated with the UBC Community-Learning Initiative through LFS 350 (2007-2010). I was a member of the Vancouver Food Policy Council (2006-2010), the Downtown Eastside Kitchen Tables Project (2009-2010), and BC Working Group on Sustainability Education Working Group (2006-2009). Highlights from this involvement include: participation in the development of a Food Charter for the City of Vancouver and participation in an ongoing research investigation: How Food Secure is Vancouver in a Changing World? (both through the Vancouver Food Policy Council); participation in the UBC-wide Planning, Implementation, and Evaluation committee (PIECe) regarding community-university engagement; co-development of sustainability education and community service-learning “communities of practice” across campus; co-development of the 2009 and 2010 Sustainability Education Intensive, a multi-day short course to support sustainability educators at post-secondary institutions; participation in the 2012 Sustainability Education Across the Province-BC short course for multidisciplinary faculty across BC; development of a new UBC course, Sustainability 101, in collaboration with the University Sustainability Initiative (2011); and co-instructing in the SFU Summer Semester in Dialogue,

with a focus on sustainable food systems. These experiences influenced my understanding of community and food systems and impacted my roles in LFS 350.

3.3.2 Project insider, passionate participant

Over multiple years, I was increasingly involved as a “reflective practitioner” (Schön, 1983) and project insider (see Brannick and Coghlan, 2007). Being a project insider refers to being a member of the organizational system (i.e., the teaching team of LFS 350) within my own organization (i.e., the Faculty of Land and Food Systems at UBC). I undertook insider research through an action research paradigm, and I therefore gained experience through “specific access, pre-understanding, role duality, and managing organizational systems” (Brannick and Coghlan, 2007).

These perspectives informed my understanding of the course, and more specifically, the whole of the Land, Food, and Community series. I began to see the core courses as outlier cases demonstrating the potential of transforming the large university classroom into collaborative centres of engagement through dialogue and action, both across and beyond the university. I came to understand that this environment can exist only if it connects with and draws upon the resources of community groups as nodes within a network of community initiatives. I was an active participant and participant-observer in the course and project from 2006 to 2009 and have the added benefit of distance with some connection in 2010 to 2012. In these ways, my roles align with Guba and Lincoln’s (1994) depiction of the voice of constructivism as a ““passionate participant” [and] facilitator of multi-voice reconstruction.” My multiple roles have allowed me access to the feedback and experience of community partners, students, and teaching teams

participating in the evolution of this overarching project. I therefore identify with this perspective of constructivism, in combination with Stringer's vision of an action researcher as a "facilitator and creative investigator" (2007, p.3).

My experience in the case, in various roles and over time, enables me to describe and analyze in a worthwhile, interesting way. I am able to draw upon a depth of experience gained from multiple years of intense and multi-layered involvement in the early development and evolution of the project. Sharing such experience can provide insight to those seeking transformation of large university classrooms into places for active and applied learning experiences, including through the use of integrative learning themes.

3.3.3 Thick description of a case study

Understanding the limitations of interpretive explanation (i.e., that it is neither predictive nor verifiable in the sense of positivist science), I aim for a "thick description" of the BC FSP case, following the guidelines of Geertz (1973) (as described Emerson et al., 1995, p. 10). My deep immersion in the LFC core and the LFS 350 course in particular enables me to assume a detailed, context-sensitive, and locally-informed sense of place and purpose that I bring to the research. Verification is thus possible through these and other strategies of triangulation that can confirm the accuracy of the narrative (Guba and Lincoln, 1994).

Geertz states: "a good interpretation of anything - a poem, a person, a history, a ritual, an institution, a society - takes us into the heart of that of which it is the interpretation" (1973, p.18). As a graduate student, a teaching assistant, a project coordinator, a co-instructor, researcher-interviewer, and a volunteer associated with the Faculty of Land and Food Systems, and

particularly the Land, Food and Community core curriculum, I am in a unique position to engage with the heart of these matters, to enable interpretation particularly in advancing sustainability education through community-university engagement around community food systems. My personal connection contributes both strengths and weaknesses to this study, as I continuously engage in critical reflection about the blind spots and preconceived notions that I may harbour.

3.4 Theoretical framework: Information-oriented, phronetic, action research case study

The focus of the research is on the particularity and complexity of a single case, the LFS 350 course and the embedded BC FSP. The research follows the methods of a case study (as per Stake, 1995) undertaken through action research (Stringer, 2007; 2004). This “action research case study” is information-oriented and is informed by phronetic social science insights (Flyvbjerg, 2001). These concepts are defined and explored in the following sections.

3.4.1 Case study

This research is based on a single case study, which is a means to access experience (Donmoyer, 1990); therefore a well-described, “thick” context is needed, from which the important details can be discerned (Geertz, 1973). The particularity and complexity of a single case can provide “more valid portrayals, better bases for personal understanding of what is going on, and solid ground for considering action” (Stake, 1981, p.32). The case of the LFS 350 course and its embedded community-based project, the BC FSP, provide rich descriptions of the phenomenon (as per Siggelkow, 2007) of CBEL in a large class, as well as reflection about the practice and theory of: incorporating CBEL into a large class; highlighting the experiences of community partners; and using the integrative and interdisciplinary theme of food systems.

LFS 350 and the BC FSP are nested within the Land, Food, and Community core series of courses, within the interdisciplinary Faculty of Land and Food Systems at UBC. Each of the courses, as well as the Land, Food, and Community series as a whole, also comprise relevant case studies for pedagogic transformation of the academic experience. Further, the Faculty of Land and Food Systems provides an important case study of a Faculty that has undergone a transformation from having traditional, disciplinary departmental units to interdisciplinary, thematic organization. The detail of the case study, within the context of its outer boundaries, follows in the subsequent two chapters.

Case study can be understood as an exploration of a ““bounded system” *over time* through detailed, in-depth data collection involving multiple sources of information rich in context” (Creswell, 1998, p.61, italics added). Creswell’s definition of a case is appropriate to capture the progression of LFS 350 and the BC FSP between 2006 and 2009, especially when coupled with triangulated data from participant input and observation, course materials, and the existing academic literature.

3.4.1.1 Action research case study

The case study of LFS 350 and the associated BC FSP is constructed from longitudinal action research between 2006 and 2009, inclusive, and the systematic execution of carefully articulated processes of inquiry (Stringer, 2004, p. 10), based upon iterative cycles of reflection, innovation, and implementation, or “look, think, and act” (Stringer, 2007; 1999). This methodological, iterative approach includes “embracing problem identification, action planning, implementation, evaluation, and reflection. The insights gained from the initial cycle feed into planning of the

second cycle, for which the action plan is modified and the research process repeated” (Riding, Fowell, and Levy, 1995)

The processes of action research and case study over time enabled processes whereby the stakeholders (in this case, the teaching teams, students, and community partners) were able to “collectively clarify their problems and formulate new ways of envisioning their situations” (Stringer, 2007, p. 204). This research may thus be considered as an action research case study, which offers preliminary theorizing based on the depth and richness of a single case over time.²²

This single case, within the context of its “important circumstances” (Stake, 1995), has allowed for new theoretical ideas to be tested and the results to be used to explain outcomes (Rueschemeyer, 1995). In this way, an action research case study can provide more valid portrayals, better bases for understanding of what is going on, and solid grounds for considering action (Stake, 1981, p. 32). Through my involvement in the four-year case study, I became an action researcher *in situ*. Such participation magnified the insights into this single case study through active and iterative experimentation. The resultant depth of this investigation evokes a precision derived through intimate and prolonged encounters with the materials, participants, project(s), and processes of a single case (Stake, 1995).

This action research was particularly orientated toward sustainable food systems and more broadly, toward sustainability. In this way, it is connected to the post-secondary movements toward sustainability and action learning that is underway (Wiek et al., 2011). The focus on

²² Yin (1984) suggests that while multiple-case studies typically provide stronger bases for theory-building, nevertheless, a single-case can be a very powerful example providing a more convincing argument about causal forces than broad empirical research (Flyvbjerg, 2001; Siggelkow, 2007).

community engagement and ultimately community-engaged scholarship within the Faculty of Land and Food Systems' core series of Land, Food, and Community courses promotes a deeper conceptualization of research that connects basic and applied orientations, which is similar to sustainability science (Clark, 2007).

3.4.1.2 Information-oriented case study

“When the objective is to achieve the greatest possible amount of information on a given problem or phenomenon, a representative case or a random sample may not be the most appropriate strategy. This is because the typical or average case is often not the richest in information. **Atypical or extreme cases often reveal more information because they activate more actors and more basic mechanisms in the situation studied.** In addition, from both an understanding-oriented and an action-oriented perspective, it is often more important to clarify the deeper causes behind a given problem and its consequences than to describe the symptoms of the problem and how frequently they occur” (Flyvbjerg, 2006, p. 77-78, bold added).

LFS 350 and the embedded BC FSP provide an information-oriented selection of an extreme or atypical case (as per Flyvbjerg) or an outlier case (as per Stake, 1995) of how CBEL can be integrated into a large undergraduate class. According to Flyvbjerg (2006, p. 79), an information-oriented case can “maximize the utility of information from small samples and single cases. Cases are selected on the basis of expectations about their information content.” Flyvbjerg goes on to say that an extreme or atypical case provides “information on unusual cases, which can be especially problematic or especially good in a more closely defined sense.” While the LFS 350, and BC FSP case study has a unit of analysis of only one (n=1), the stakeholders include approximately 800 students; four teaching teams (comprised of faculty, graduate and undergraduate students), and forty-four community partners. It is helpful to remember here that, “it is not merely a question of how many units but rather what kind of unit one is studying”

(Orum et al., 1991, p. 15). This single case study was largely determined through opportunistic selection and retained because of its position as an outlier in post-secondary experiences.

LFS 350 provides an information-oriented, extreme or outlier case particularly because of the rarity of discussion about implementing CBEL in *large* undergraduate courses – defined here as having more than thirty to forty students, but illustrated through a course with approximately 200 students. This organization meets criteria outlined by Strand et al. (2003, p. 143) as ideal for incorporating community-based research into the curriculum, including that it be: project-based, team-based, and taking place over the whole semester (i.e., as most or all of the course). The primacy of community partnerships in the BC FSP is of note here, as is the inclusion of community service-learning as distinct from community-based research (discussed in Chapter Two, Literature review). LFS 350 and the BC FSP also strategically demonstrate how-to and how-much is involved in integrating CBEL into a large, interdisciplinary, required, undergraduate class with diverse partners from a broad geographic range.

3.4.1.3 Case study informed by phronetic social science

The case study of LFS 350 and the BC FSP aligns with Flyvbjerg's (2001) definition of phronetic social science as having a *primary* purpose, "not to develop theory, but to contribute to society's practical rationality in elucidating where we are, where we want to go, and what is desirable according to diverse sets of values and interests. The goal of the phronetic approach is to add to society's capacity for value-rational deliberation and action." While theory development can, of course, advance societal understanding and action, the particular feature of a phronetic social science is to highlight and advance the value of the practical and the applied. The LFS 350

course and the Land, Food, and Community series offer something unique and multi-functional over a sustained time – providing space for both practical and theoretical advancement about the nature of a university classroom and curriculum. This action research case study has therefore been undertaken with a primarily pragmatic approach to keep it simple and focused.

This approach focuses on the “status of values and interests in society aimed at social commentary and social action (i.e., praxis)” (Flyvbjerg, 2001, p. 60); it derives from an Aristotelian insistence of the role of ethics and practical wisdom (*phronesis*) within what has become the more traditionally acceptable duality of scientific/universal (*episteme*: epistemological) and artistic/pragmatic (*techne*: technological) knowledge (*ibid*, p. 53-58). A “phronetic approach” functions on both practical rationality and judgment focused on concrete cases that exist in context, and asks the dynamic questions of “how” alongside the structural questions of “why” (*ibid.*, 135-136). My understanding of science, and particularly phronetic social science aligns with Nietzsche's (1974, p. 335) perspective, that: “Above all, one should not wish to divest existence of its *rich ambiguity*” (emphasis in original).

3.5 Methods in data collection

In this section, I present research methods of data collection and analysis for the action research iterations, community partner interviews, student course surveys, and additional course and project materials. The data described below are triangulated with a literature review and a thick description of the case. The case study provides the overarching framework to highlight multi-perspectival analyses, including stakeholder voices and their interactions (Tellis, 1997). The use

of triangulation helps to confirm the validity of the experiences and processes that are highlighted (Stake, 1995).

The use of multiple sources of data helps to build a rigorous narrative picture of the integration of CBEL into a large, thematically focused, required undergraduate course on food systems. Collectively, the data provide an accurate description of what unfolded, and how, such that depth of the case study is achieved.

3.5.1 Action research iterations

This action research case study comprised four iterations of active experimentation within the LFS 350 course, from 2006 to 2009 (inclusive). Each year, the course syllabus and assignments were reviewed and revised, based on formal and informal feedback from all stakeholders, as well as from learning throughout each course about what was working and what needed to change. Data from these and other course materials (such as assignments and the major project components) were used for analysis; while these sources were working materials, they are also works in progress.

My primary engagement in multiple teaching teams, as well as input from the lead course instructor and each teaching team member, contributed to the iterative nature of the action research. Further, I wrote in personal learning journals over my tenure of engagement and was able to refer to these journals for reminders of practical and theoretical insights from being involved in developing the course and project. Each year, I started a new notebook, where I wrote lists and took notes related to course planning, including at teaching team meetings and at meetings with community partners. Occasionally, I wrote more reflective pieces about specific

incidents, such as when challenges arose with students and projects, as well as insights that arose from those challenges. My intention for these journals was to have a place to record notes on course planning so that I would be able to refer to them subsequently for future iterations. While I did not write in the journals specifically for my research, I realized that they may be useful, particularly for recalling what happened and why, as well as my reactions and the teaching teams' responses.

3.5.2 Community partner interviews

Over the four years of action research, the BC FSP had forty-four participating community partners. Throughout this time, community partners were invited to provide informal feedback and input at any point during the course or throughout the year. Most community partners did provide such informal feedback, usually to Dr. Bomke or me, either when the community partner phoned or emailed one of us with a question or concern, or when we ran into each other, as happened often with community partners from Vancouver and environs. Community partners would occasionally provide feedback to one of the teaching assistants. All of us on the teaching teams shared this informal and ongoing feedback from the community partners with one another.

In the summer of 2010, I invited the forty-four community partners to be formally interviewed about their involvement in the BC FSP. Thirteen partners were available to be interviewed. A dozen more responded to say that they were unavailable, either because of work schedules or, in a couple of instances, maternity leaves. A few people had left their positions. I did not hear back from at least a dozen community partners. The semi-structured, qualitative interviews took place with me in June and July, 2010. I conducted interviews either in-person or via Skype, if an in-

person meeting was not an option, for example if the distance was too great or if this option was preferred by the community partner. I asked four open-ended questions regarding the community partners' experience, project outcomes, including benefits, challenges, and surprises, and any advice they would offer to the university and other community partners. Below, I include the specific questions.

1. Please tell me the story of your involvement with the UBC Land and Food Systems 350 class and the BC Community Food System Project (BC FSP). (Follow-up questions: *Highlights? Successes? Roadblocks? What worked? What didn't? What did you learn?*)
2. What short-term outcomes have emerged through your involvement in the BC FSP? Do you envision any medium-term or longer-term outcomes? (Follow-up questions: *Generally? Specifically regarding community food system sustainability?*)
3. Was there anything about the partnership that surprised you?
4. Based on your experience as a community partner, what advice would you give to the university about how it should be building partnerships with organizations (or communities) like yours? What advice would you give to other community partners about how to get the most from partnership with the university?

Since the questions are open-ended and the interviews were semi-structured, the interviewees often took the questions as a starting point and filled our interviews with stories, examples, insights, as well as their own questions. In addition to taking written notes, I received permission from every partner to audio-record the interviews.

I transcribed the interviews, highlighted particular quotes of interest, and returned the transcriptions to the participating partners early in 2011. In the same email, I also sent a short, preliminary analysis of the interviews that included several themes that were starting to emerge. I asked the community partners to please review their transcribed interview, as well as the preliminary analysis, and then send me any feedback. About half of the interviewees wrote back to confirm that they had read the transcript and had no changes. A couple of the interviewees

asked me to make minor changes in the text, to better represent what they had wanted to say. One person asked me to not include something that they had said. A couple of interviewees had comments about my preliminary analysis. One person added to the discourse by commenting further on the disconnections between universities and communities; while the other mused about how to better harness student energy.

I used Atlas.ti Qualitative Data Analysis Software 6.2.27 for qualitative, interpretive coding of the raw data and flexible interview analysis to identify, link, and illustrate major concepts. I established a database of codes derived from the interviews, and I deconstructed and thematically reconstructed each interview into emergent themes. I share the analysis and outcomes in Chapters Six and Seven, Results and Findings.

3.5.3 Student course surveys

From 2007 to 2009, outgoing LFS 350 students were invited to complete an optional, anonymous survey with approximately 20 questions about their experiences in the BC FSP and LFS 350. This survey is separate from the online course evaluation that is mandatory for all UBC courses; rather, it is based on a survey for student participants of the UBC-Community Learning Initiative community service-learning programs. These data were collected for the purpose of improving the course and project by informing each of the action research iterations. Data collected were aggregated using Microsoft Excel 2010. While not part of this research, I reviewed the anonymized data to gain perspective on the student experience within the context of this dissertation.

3.5.4 Additional course and project materials

Additional course and project materials include annual teaching team feedback meetings. While the feedback was collected informally through group discussion, detailed notes were kept so that suggestions could be implemented in subsequent course and project iterations. The rest of the teaching team members were aware of my dual role as project coordinator and action researcher. As with the student surveys, the purpose of collecting this feedback was primarily for course and project improvement—and understood as an important component of the action research agenda—but insights from these meetings have been incorporated into my understanding and perspectives.

3.6 Methodological issues

Finally, I highlight methodological issues related to trustworthiness, ethics, and limitations of the methods.

3.6.1 Trustworthiness and ethical issues

3.6.1.1 Trustworthiness of methodology and analysis

“Scientists can never deal with truth, in the sense of a precise correspondence between the description and the described phenomenon. In science, we always deal with limited and approximate descriptions of reality. This may sound frustrating, but for systems thinkers the fact that we *can* obtain approximate knowledge about an infinite web of interconnected patterns is a source of confidence and strength” (Capra, 1996, p. 42).

Similar to Capra’s insights on systems science, constructivist social science research offers alternatives to positivist notions of validity and reliability through interpretive methods that do

not rely on objective truths. Guba and Lincoln (1994) suggest various ways that trustworthiness can be determined using constructivist criteria, for example through credibility and confirmability. Interview transcripts and preliminary results were therefore returned to community partners for review, with an invitation to comment, as discussed above in section 3.5.2. Most partners confirmed that they had read their transcripts. Several said they were interested in seeing the final results. A couple commented with further thoughts to some of the themes that were emerging. Further, systematic data collection procedures, appropriate training, multiple data sources, triangulation, and external reviews were all undertaken. All of these considerations aimed at producing “high-quality qualitative data that are credible, accurate, and true to the phenomenon under study” (Patton, 2002, p. 56).

3.6.1.2 Ethical considerations

No use of deception was used in the case study. UBC research ethics approval was sought and confirmed before inviting community partners to be interviewed.

3.6.2 Strengths and limitations of the methods

3.6.2.1 Selection bias

Many different stakeholders were part of this action research case study, including LFS 350 students, the teaching teams, and community partners. However, I only interviewed community partners as part of the research, to highlight their voices and experiences. While all community partners were invited to be interviewed, participants in the interviews were self-selected, as they participated only if they were willing and able to be interviewed. In the instance of being

interviewed, the community partners can be considered as “subjects”, however, within the broader agenda of the case study, they were full participants in the action research.

3.6.2.2 Dual roles as strength and limitation

Due to my dual roles of actor (e.g. project coordinator) and analyst (i.e. researcher), I experienced an intimacy with the project and data that is unparalleled in both experience and possible bias. As such, I had to confront a potential conflict of interest. I therefore put in place certain provisions to minimize my bias. First, all participants in the research were aware of my dual roles. Second, student surveys were not reviewed until after grades were submitted each year. Third, I interviewed community partners only when I was no longer in the role of project coordinator (though they were informed that I was a researcher while I was in the project coordinator position). These measures contributed to the trustworthiness of the methodology and subsequent analysis.

Finally, as with any credible research strategy, I aimed to adopt a stance of neutrality with regard to the phenomenon under study (Patton, 2002, p. 55), but it is notable that neutrality does not equal detachment. As Flyvbjerg (2001) discusses, empathic neutrality allows for empathy toward the people one encounters and neutrality toward the findings. While I acknowledge the empathy and biases that I hold—particularly my desire to see the Faculty of Land and Food Systems and the Land, Food, and Community core curriculum succeed—I am also grateful for distance from regular interaction with the course and project, as of 2010, which has enabled my neutrality to grow.

I have been actively involved in the course and project as a doctoral student and researcher, particularly with the early development of the BC FSP and transition toward CBEL, as described in detail within a following chapter (Chapter Five, the overview of the action research case study). I have engaged in teaching and research for the course and the Land, Food and Community series, as well as participated within the community of learners. These experiences and biases must be acknowledged when considering the case and findings; all interpretations of the data are contextualized in this way.

3.7 Summary

In undertaking an action research methodology, I was able to wear multiple hats and participate in multiple ways: as project coordinator, co-learner, co-instructor, and action researcher. I was inspired by the opportunity to both learn from the program visionaries (specifically, Drs. Art Bomke and Alejandro Rojas) and be empowered to actively participate in the shaping of such a project and program. Most of my involvement in the course occurred through my experiences as the project coordinator. This role allowed me extensive access as project insider and action researcher. My intimacy with this single case study, along with the associated triangulation of various data sources, helped to amplify depth of understanding over time.

Chapter 4. The outer boundaries of the case: Sustainability and community engagement at UBC and in the Faculty of Land and Food Systems

Sections 4.41 to 4.5 of this chapter are adapted from a published research paper:

Rojas, A., Sipos, Y., and Valley, W. (2012). Reflection on 10 years of community engaged scholarship in the Faculty of Land and Food Systems at UBC-Vancouver. *Journal of Higher Education Outreach and Engagement*, 16(1): 195–211

Synopsis

In this section, I present outer layers of my case study and provide essential context for deeper exploration. I discuss sustainability and community engagement at UBC and then describe the transformation of the Faculty of Agricultural Sciences to Land and Food Systems. I situate my case with the newly integrative Faculty core series of Land, Food, and Community courses.

4.1 Context

In the late 1990s, two separate movements gained momentum at the University of British Columbia (UBC), in Vancouver, Canada. The first focused primarily on environmental sustainability, while the second was directed toward community engagement. This chapter details the way these two movements dovetail, in part by highlighting the transformation of the UBC Faculty of Agricultural Sciences into the Faculty of Land and Food Systems, an undertaking that has incorporated both the sustainability and community engagement movements. By focusing my research on the Land, Food, and Community core series of courses that emerged as part of the Faculty transformation, and specifically the Land and Food Systems (LFS) 350 “Land, Food, and Community III” course, I emphasize the common ground of

sustainability education, CBEL, and food system study, and I demonstrate substantial complementarity between these fields.

4.2 Organization of the chapter

I begin by discussing sustainability and community engagement at UBC. I then describe the transformation of the Faculty of Agricultural Sciences to Land and Food Systems, from curricular to institutional perspectives. I situate my case with the integrative Faculty core series of Land, Food, and Community courses.

4.3 Sustainability and community engagement at UBC

In the late 1990s, UBC began to commit to both sustainability and community engagement at an institutional level. UBC adopted the first Canadian university sustainable development policy in 1997 and opened the first Canadian university sustainability office in 1998,²³ both focused primarily on campus greening. In 1999, UBC committed to community engagement, marked by the founding of the UBC Learning Exchange to connect UBC to critical community issues. Since then, these movements have each developed significantly at the university level along independent trajectories. Within the Faculty of Land and Food Systems, however, these two streams developed synergistically from the beginning of the unit's transformation. Specifically, the core Land, Food, and Community series that emerged as part of the transformation from Agricultural Sciences to Land and Food Systems was founded upon principles of sustainability education, including a pedagogy aimed at working and learning with communities. My research

²³ The UBC sustainability policy and sustainability office were preceded by UBC signing the Talloires Declaration of University Leaders for a Sustainable Future in 1990, but not much happened at the institutional level until later that decade.

demonstrates the substantial complementarity and common ground between these two movements. In particular, sustainability education and community-based learning both address community issues through experiential learning (Bowling and Williams, 2011; Fagan, 1996). In this section, I detail the evolution of each of these movements at UBC, as well as how sustainability and community engagement are defined in this context.

4.3.1 Sustainability at UBC

The North American campus greening efforts of the late 1990s and early 2000s were advanced at UBC by the SEEDS (Social, Ecological, Economic Development Studies) program starting in 2000, enabling student-faculty-staff engagement on campus projects (UBC Campus Sustainability Office, 2008/2009). In 2005, UBC officially adopted sustainability as a core value of the university by committing to “promote the values of a civil and sustainable society” as part of the university vision statement.²⁴ The following year, UBC published a campus-wide sustainability strategy,²⁵ another first for Canadian universities. In 2008, UBC was among the first to sign the Climate Change Statement of Action for Canada. In 2009, UBC embedded sustainability into its strategic plan, *Place and Promise: The UBC Plan*, as one of nine core commitments²⁶ and developed the Sustainability Academic Strategy,²⁷ which recommended connecting sustainability across disciplines and operations. The UBC Sustainability Initiative

²⁴ Trek 2010, launched in 2005 to introduce the new UBC mission and vision., can be found here: <http://www.vision.ubc.ca/index.html>

²⁵ Inspirations and Aspirations: UBC Sustainability Strategy 2006-2010, can be found here: http://sustain.ubc.ca/sites/sustain.ubc.ca/files/uploads/CampusSustainability/CS_PDFs/PlansReports/Plans/InspirationsAspirations_2006-2010.pdf

²⁶ The UBC Strategic Plan can be found here: <http://strategicplan.ubc.ca/the-plan/>

²⁷ The Sustainability Academic Strategy can be found here: <http://www.sustain.ubc.ca/sites/sustain.ubc.ca/files/uploads/pdfs/Plans%20and%20Reports/SAS-Final-Report-Oct-17-2009.pdf>

followed in 2010, to unify sustainability teaching, learning, research, and campus operations; that year, a program for sustainability teaching and learning fellows was initiated to guide sustainability education at UBC, within and across disciplines and the university (UBC Sustainability, n.d.a; UBC Sustainability, n.d.b).

This unified academic focus on sustainability provides an important move beyond campus greening efforts to promote “sustainability learning pathways” for students studying in any discipline or program. While still in an experimental phase, the vision for the pathway includes a first- and fourth-year interdisciplinary sustainability course, open to all students, along with courses from their specific programs, that altogether enable students to develop a firm grounding in four key attributes, including holistic systems thinking, sustainability knowledge, awareness and integration, and acting for positive change. (USI TLO, 2011). While it is not yet certain that this approach will be successful, it is clearly innovative, in that it allows students in all programs to pursue sustainability education.

4.3.2 Community engagement at UBC

UBC has a long history of community engagement at local, national, and international levels through community service-learning, community-based research, co-operative education, community education, and other examples of community-based learning (UBC, 2012). However, the university as a whole institution only began to formalize community engagement as part of its institutional purpose as of 1999 (*ibid.*). At that time, UBC founded the Learning Exchange to build relationships with communities beyond the university and specifically within Vancouver’s Downtown Eastside, which has the dubious distinction of being Canada’s poorest urban postal

codes (Steele, 1997). Cautious relationship building through community service learning, outreach courses, and a downtown storefront resulted in steady growth of student and community interest and numerous successful grants between 1999 and 2005. In 2006, the UBC-Community Learning Initiative was founded as part of a national focus on institutionalizing community engagement, and specifically community service learning, throughout Canadian universities. The UBC-Community Learning Initiative began to focus on curricular community service learning. The 2009 strategic plan of UBC also identified community engagement as one of nine core commitments². That same year, the UBC-Community Learning Initiative began to embrace community-based research alongside community service learning and expand beyond the Downtown Eastside to other parts of the Lower Mainland and British Columbia. In 2011, the university approved core funding for the UBC-Community Learning Initiative (UBC Learning Exchange, n.d.).

4.3.3 What does UBC mean by sustainability and community engagement?

UBC acknowledges that both sustainability and community engagement are contested terms (as per Agyeman, 2008; Wals and Jickling, 2002) and their definitions have been evolving over time. Sustainability is now defined by UBC on its UBC sustainability website as a “societal conversation about the kind of world we want to live in, informed by an understanding of the ecological, social and economic consequences of our individual and collective actions²⁸,” (UBC Sustainability, n.d.b)).

²⁸ This most recent definition of sustainability follows the UBC Sustainability Academic Strategy, which states: “We see sustainability not as a prescribed set of outcomes, but as the emergent property of a societal conversation about what kind of world we want to live in, informed by some understanding of the ecological, social and economic consequences of different courses of action. It is thus a highly normative and political concept, though deeply

Community engagement is noted within UBC as a broadly defined term that “examines the reciprocal partnerships between universities and the communities they serve”. As part of an ongoing process of definition, UBC put forth that community engagement is: “the respectful and genuine collaboration between institutions of higher education and their larger communities (local, regional, national, global) for the mutually beneficial exchange of knowledge and resources in a context of democratic partnership and reciprocity” (UBC, 2012). Currently, UBC has included the UBC-Community Learning Initiative and the Learning Exchange as examples of social sustainability initiatives (UBC Sustainability, n.d.c)). As the movements for sustainability and community engagement at UBC continue to grow, each must prioritize justice and resiliency. There is a need for institutional systems to become flexible enough to promote collaboration and multidisciplinary. Sustainability education, for example, continues to encounter resistance at UBC through institutional systems that prioritize disciplinary. New sustainability courses at UBC, such as “Sustainability 101”, still have to be housed within specific Faculties, which limits student access.

4.4 A Faculty’s transformation: Agricultural Sciences to Land and Food Systems

The transformation of the Faculty of Agricultural Sciences to Land and Food Systems provides a tangible expression of the synergistic components of sustainability education and community-based experiential learning (CBEL). In particular, the core series of Land, Food, and Community courses that emerged through the transformation has provided an ongoing pedagogical experiment with the integration of sustainability education, CBEL, and food system study.

informed by scholarship on the interaction of human societies and the environment around them. Universities should be a major locus for discussion and debate on all aspects of sustainability, including resource conservation, habitat preservation, climate change, social equity, and economic resiliency.”

The General Objectives for the series, articulated in 2011, express these pedagogical foci (LFS 350, 2012):

Land, Food, and Community Core Series: General Objectives

Students who have completed the Core Series are systems thinkers, able to work collaboratively in multicultural, interdisciplinary teams to develop solutions for complex, multi-stakeholder issues related to food, health and the environment. Incorporating academic and community perspectives, they apply their knowledge in an environmentally, socially and economically sustainable manner to community food security challenges. The LFS Core Series Courses provide students with the opportunity to acquire and apply the fundamental knowledge, tools and expertise required for successful participation in food security and sustainability initiatives.

The process of transition and transformation was not immediate. The integration of the new core series required negotiation over time to become accepted within the Faculty, and there remains an ongoing tension between integration and disciplinarity amongst faculty members and the BC agricultural sector (A. Rojas, personal communication, February 7, 2013; A. Bomke, personal communication, January 20, 2012). In this section, I detail how this transformation occurred, and I establish the outer boundaries of my case study.

4.4.1 Conditions for transition

In the late 1990s, the then-Faculty of Agricultural Sciences at UBC was given a strong mandate by the UBC administration to reinvent itself. The mandate resulted primarily from the Faculty's decreasing student enrolment and curricular relevance. In particular, what students were learning did not translate well enough to the local food and agriculture realities of the province of British Columbia, with its diverse range of small-scale agricultural operations, strong organic farming movement, relatively stable number of family farms, and active local food and environmental

movements. This local context was intensified by the emerging movements in sustainability and community engagement at UBC and beyond.

Such internal and external conditions led to an organizational restructuring of UBC's Faculty of Agricultural Sciences that included: dissolving all the departments; reviewing courses and majors; training faculty members to use problem-based learning teaching techniques; discussing strategies to encourage participatory, learner-centered pedagogy; and creating a new integrative core curriculum centered on sustainability and community engagement. The restructuring also resulted in changing the unit's name from Agricultural Sciences to Land and Food Systems in 2005.

4.4.2 Curricular revision: Learning from the ground up

To ensure that the academically diverse student body in this newly constituted Faculty of Land and Food Systems had access to a common experience, an interdisciplinary faculty team was charged with the development of a core undergraduate curriculum, consisting of three required courses, Land, Food, and Community (LFC) I, II, and III, or Land and Food Systems (LFS, though originally AGSC (Agricultural Sciences) 250, 350, and 450. Since 1999, these new courses have been developing to explore community food system sustainability through multiple community-based action research projects:

- LFC I (LFS 250), the Food Security in Vancouver Project; since 2010, Think&EatGreen@School
- LFC II (LFS 350), the British Columbia Food System Project; and
- LFC III (LFS 450), the UBC–Vancouver Food System Project

The three courses in the series parallel the sequential development of the undergraduate learner. LFS 250 is designed to bring about awareness and initiate inquiries in the communities of the city of Vancouver. LFS 350 allows students to become more familiar with the methods associated with community-based research and learning, as well as how to use those methods via projects in urban, suburban, and rural communities of the province of British Columbia. LFS 450, the capstone course, integrates experiences, knowledge, and skills of fourth-year students through application projects focused on the transformation of the campus food system. While each course contains elements of awareness, methods, and applications, there is a distinctive accent within each on that particular emphasis.

A fourth course, LFS 100, was added most recently to the Land, Food, and Community series. This first-year course establishes some foundational concepts, including food systems, food security, and food sovereignty²⁹, and introduces the pedagogical approach of the series, including sustainability education and CBEL. The series is thus distributed over four years, one course per year of students' undergraduate degrees, to enable the development of skills over time and through cumulative experience. Each course actively engages student numbers in the hundreds, in part through interdisciplinary teaching and learning within student teams. Student engagement with complex global issues related to land, food, and community is facilitated through active collaboration with local partners in local scenarios that represent microcosms of larger issues. Through these multiphase, community-based, food system projects, students collaborate with each other, community partners, and interdisciplinary teaching team members (including graduate students and faculty members) to address real-world food system and

²⁹ Food security and food sovereignty are defined and discussed in Chapter Two (Literature review).

sustainability initiatives. The projects provide the foundation for interdisciplinary and integrative learning about food systems in various community contexts, from within the Faculty of Land and Food Systems, to the city of Vancouver, the province of British Columbia, and back to the University of British Columbia.

A focus on food *systems*, including production, processing, distribution, access, consumption, and waste management or resource recovery, provides numerous examples of complex, daily needs that provide universal human, community, and global connections. The multidisciplinary study of food systems provides an integrative terrain of investigation that attracts diverse stakeholders across university and communities to address complex sustainability issues.

4.4.3 Institutional change

Retrospectively, the revision and restructuring that occurred in the Faculty is consistent with descriptions of successful institutional change strategies: addressing an internal and/or external need; a change in organizational assumptions, values, actions, and performance indicators; inclusion of stakeholder perspectives in decision making; and, strong leadership vision and support from staff (Boyce, 2003; Eckel et al, 1999). In this case, the shifting of values, assumptions and approaches to inquiry, which guided the Faculty's actions in teaching and research, had the foremost impact on strengthening engagement with the community. It was this necessary transition, focused through pedagogical activities, which moved the actions of the Faculty in a manner that aligns with the Carnegie Foundation's (2006) definition of engagement as:

“The collaboration between institutions of higher education and their larger

communities for the mutually beneficial exchange of knowledge and resources in a context of partnership and reciprocity”

The transition to a Faculty of Land and Food Systems, including the integrative, community-based Land, Food, and Community series of courses, continues to be encouraged and supported by a larger trend at UBC to make the university a leader in sustainability (UBC, 2010). Over more than a decade of transition, the Faculty of Land and Food Systems has emerged with a transformed focus on sustainability and community, led primarily by the Land, Food, and Community series. However, the faculty members participating in CBEL have remained limited mostly to those directly or peripherally involved in the series. Ideally, CBEL projects from the core courses inform spin-off projects in other courses, so that the culture of the Faculty can truly incorporate community partnership and engagement. An important move in this direction has been the creation of a new position within the Faculty—the Community Based Experiential Learning Coordinator. This position was initiated in 2011 and is supported in part by the UBC-Community Learning Initiative. Through the work of the coordinator, more faculty members have begun to integrate CBEL opportunities for their students in other courses.

4.5 Conclusion

This chapter provided the story of the transformation of one Faculty, in the context of a major research university incorporating sustainability education and CBEL. These important details provide essential background in which to situate the case study, as detailed in the next chapter. The emergence of a Faculty of Land and Food Systems also provides an exceptional example or outlier case of strategies being adopted in response to the turbulence, pressures, and opportunities North American universities face. The integration of sustainability education,

community-based experiential learning, and food system study (as an example of an integrative learning theme) provides rich terrain to investigate the potential responses.

Chapter 5. Action research case study. Integrating community-based experiential learning into a large undergraduate course

Sections 5.7.2 and 5.7.3 in this chapter are adapted from a published research paper:

Rojas, A., Sipos, Y., and Valley, W. (2012). Reflection on 10 years of community engaged scholarship in the Faculty of Land and Food Systems at UBC-Vancouver. *Journal of Higher Education Outreach and Engagement*, 16(1): 195–211

Synopsis

In this chapter, I detail the action research case study of integrating community-based experiential learning (CBEL) into a large undergraduate class, LFS 350. In so doing, I describe the trajectory of the course (and the broader series of Land, Food, and Community courses) in moving from community inquiry to community engagement. I describe the stakeholders, projects, and outcomes of the case study. Finally, I share lessons learned through the implementation of this ongoing case.

5.1 Introduction

This chapter presents the action research case study of the BC Food System Project (BC FSP) within the UBC Land and Food Systems (LFS) 350 course. The case study investigates pedagogic transformation to community-based experiential learning (CBEL) in this required, interdisciplinary, undergraduate food systems course, with an enrolment of approximately 200 students per term. The BC FSP partners third-year Land and Food Systems students with community food system leaders in investigating and addressing food system issues across urban, suburban, and rural British Columbia, Canada. As defined previously, food systems include food

production, processing, distribution, access, waste management or resource recovery, education, and policy, and enables exploration of many sustainability issues. Food systems are investigated through the lenses of food security and food sovereignty, as discussed in the literature review (Chapter Two).

The primary intention of this chapter is to thoroughly document the case study of the LFS 350 course and embedded BC FSP, in a manner that is relevant and applicable for other educators and practitioners. In this chapter, I therefore derive a complex and nuanced picture of the experience of the course and project, specifically how it unfolded between 2006 and 2009. Beyond describing the case, this chapter includes an analysis of the case to enable the transformation of practice, including theoretical and practical approaches to the methodology utilized, as well as successes and challenges associated with the case itself (Corcoran, Walker, and Wals, 2004). To that end, I share general outcomes from the case study, including: curriculum development for the Land, Food, and Community series and the LFS 350 course; a depiction of change over time from community inquiry to community engagement; and lessons learned from integrating CBEL into a large course.

5.2 Organization of the chapter

In the first section of this chapter, I introduce the case study of integrating CBEL into LFS 350 through the BC FSP, and I document the overarching picture of the course and project. Second, I highlight key stakeholders, including students, community partners, and teaching teams. Third, I share details about the specific projects undertaken through the BC FSP. Finally, I share three outcomes from the transition to integrate CBEL into the class.

5.3 The case of LFS 350 and the BC Food System Project

In this section, I share specific details of the LFS 350 course and the BC FSP through documenting the course and project. This documentation is accomplished by: Presentation of the pedagogic transition of LFS 350; discussion of how the BC FSP became the basis of LFS 350; description of student reflection; and specification of overall course and project organization.

5.3.1 Documenting the BC FSP in LFS 350

As with all Land, Food, and Community courses, the third year LFS 350 has an embedded community-based project, the British Columbia Food System Project (BC FSP). This project takes up most of the course focus and has comprised up to 70% of the students' final grade.

In 2008, LFS 350 students, in consultation with the teaching team, articulated the BC FSP as follows:

The [BC FSP] is a partnership between the Faculty of Land and Food Systems at UBC and community food security groups in BC. It uses an academically-based research model to explore food security [and food sovereignty] themes across many communities, from urban contexts such as downtown Vancouver, to rural communities like Bella Coola and Quesnel. Community groups drive the direction of the research, helping set the agenda for research and community service projects which are undertaken by undergraduate students in the Faculty of Land and Food Systems. The project is integrative, seeking to find commonalities among diverse stakeholders and focuses on linking undergraduate students with community groups working on real issues that need real information. (See: <http://agsc350.wordpress.com/about/>).

The interdisciplinary, action-oriented food security and food sovereignty projects have focused on, for example: slaughterhouse policies, new farmer programs, foodshed mapping, community garden benefits, access to culturally appropriate foods, food bank

capacity, food system education, zero waste, and sustainability issues within each aspect of the food system. The depth and breadth of the topics under investigation help to illuminate the complexity of food systems as a learning and research topic. More detail on projects is provided below.

5.3.2 LFS 350 processes of pedagogic transition

The Land, Food and Community series began in 1999 with the development of a new, interdisciplinary course, LFS 250 (then named AGSC 250), which had a focus on community food systems, food security, and sustainability. The Faculty of Land and Food Systems created the series by adding LFS 350 in 2000, LFS 450 in 2001, and LFS 100 in 2008/9. While there was an overarching vision for the series as a whole (see Rojas, Sipos, and Valley, 2012), there was pedagogical variation between the courses. LFS 250 and 450 developed as exercises in community-based learning, while LFS 350 first developed as a problem-based learning course, organized around investigation of real-world problems through derived cases (Barrows, 1994). While problem-based learning offers relevant subject matter for student investigation, it does not foster community partnerships or engagement. Further, numerous additional members of the teaching team are required to accommodate the desired low tutor to student ratio.

To align LFS 350 with the developing community-based projects in LFS 250 and 450, as well as to minimize the number of teaching team members (and cut costs), a pedagogical transition was initiated in 2005 and 2006. The development of the BC FSP marked the beginning of the transition, starting with community inquiry and evolving into community-based experiential learning (CBEL) and community-engaged scholarship. Community-engaged scholarship has

been described by Ernest Boyer (1996) as “connecting the rich resources of the university to our most pressing social, civic, and ethical problems, to our children, to our schools, to our teachers, and to our cities. Campuses would be viewed by both students and professors not as isolated islands, but as staging grounds for action”.

The transition from problem-based learning to community-based experiential learning was likely eased somewhat because LFS 350 was already oriented to case-based and team-based learning through problem-based learning. Further, the broader agenda of the core series promoted the notion of a community of learners, oriented to collective inquiry both within and beyond the classroom. The BC FSP developed from the principles of community-based research, focusing on the scholarship of integration, application, and engagement, in addition to the more traditional focus on the scholarship of new knowledge (as per Stringer, 1999). The provincial focus (including urban, suburban, and rural BC) grew from a desire to move beyond urban Vancouver to explore food system issues more holistically and more regionally. Through the transition, and ultimately transformation to CBEL, students, faculty, and community partners from across BC began collaborating to articulate, explore, and address relevant research questions identified jointly by community and university researchers. While the principal investigator for the BC FSP was Dr. Art Bomke (a Land and Food Systems faculty member), the broader team of participant investigators was intentionally diverse and multi-faceted, including community and university members. See Figure 5.1 for a map of where the BC FSP community-university partnerships developed between 2006 and 2009. Details on the partners are shared below.

Every iteration of the BC FSP aims to address and incorporate participant feedback to deepen the experience and outcomes of CBEL for all involved. For example, at the end of the 2006 course,

students suggested that the experience of community-based research (CBR) would be enhanced with the option of community-service learning (CSL), which would afford more hands-on learning opportunities. Specifically due to this student suggestion, and in partnership with the UBC-Community Learning Initiative (a campus unit that supports curricular CSL), in 2007, optional CSL opportunities were introduced as a complement to the required CBR. Each student team, already engaged in CBR, was asked to work with their partner to identify options for community service in part as a way to give back to the community, in exchange for the value of the expertise and experience shared by community partners. Thus, the CSL was directly connected to the CBR already being undertaken. By 2008, opportunities to participate in CSL were becoming a more formal option for students, with marks allocated and increasing numbers of students participating. More detail in Chapter Six (Innovations).

The transformation within LFS 350 through the BC FSP emerged from the core series focus on facilitating student engagement with complex food system issues at local, regional, and global scales. The changes brought the third-year into better alignment with the second- and fourth-year community-based courses of the same core Land, Food, and Community series.



Figure 5.1 Map of British Columbia (BC), Canada's westernmost and third largest province, with an area greater than the states of California, Oregon, and Washington combined and a population of less than 5 million. Approximately 75% of BC is mountainous; 60% is forested; only 5% is arable. *The circled areas indicate regions with BC Food System Project community partnerships from 2006 to 2009. The location of UBC is indicated in the southwest corner of the province.*

5.3.3 BC FSP as the basis of LFS 350

Feedback from students and community partners has highlighted the need to have as much time as possible to collaborate on the project scenarios. Both groups recognize that it takes time to become familiar with a community and organization, as well as time to formulate specific research agendas that meet community partner needs and student interests. Further, students have asked for additional time because they need to connect with their community partners, ideally more than once, before getting started on the projects. The BC FSP is therefore introduced on the first day of class in September. Students identify their top three choices for specific project scenarios and are placed into multidisciplinary project teams that ideally represent one of their top choices. Student teams begin working on their specific BC FSP right away, starting from a short project scenario description that is developed prior to the beginning of the semester, largely by the community partner and in consultation with the project coordinator or course instructor. As multiple iterations of the project developed over time, the student teams began to review previous student reports that are relevant to their project, along with any resources suggested by their community partner(s). They also consult directly with their community partner(s) as early as possible.

By the end of September, student teams submit and present a short proposal that responds to the scenario description, outlining their research interests, proposed question(s), methods, timeline, and division of labour. The student teams orally present their proposals to their teaching assistant and student colleagues, and they submit their proposals to their teaching assistant for a graded evaluation and to their community partner for feedback and assessment. Once projects are underway, teams provide regular check-ins to their teaching assistant and other students. Finally,

every individual is responsible for journaling three to four times per semester about their reflections on course readings, their project, and other experiences. These journals have been worth between twenty and thirty percent of the final grade.

The BC FSP has become the basis of LFS 350. The project has moved students beyond the urban boundary of Vancouver by incorporating a BC perspective and connecting students with diverse food system partners from across the province, including suburban and rural voices, representing all aspects of the complex food system. From 2006 to 2009, approximately 800 undergraduates from diverse academic programs collaborated with forty-four community partners from eleven communities in annual projects that build on prior work and respond to current issues. Feedback is solicited regularly from all participants through course development surveys, semi-structured interviews, and ongoing, informal conversations.

5.3.4 Course online communication

LFS 350 utilizes an extensive online learning management system to ensure communication between the teaching team and students, as well as within and amongst student teams. This online course presence is supported by the team at the Faculty of Land and Food Systems Learning Center. From 2006 to 2011, the course used the WebCT Vista platform; as of 2012, the course has migrated to Blackboard Connect. These learning management systems function like a course website that is entirely password protected (accessed via student and teaching team's UBC "campus-wide logins"). Thus, community partners and other interested parties do not have access to any of the materials on the online management systems.

Before each course semester, the teaching team uploads onto the course platform the relevant readings, assignments, quizzes, and project details and materials. Students download readings and project information, and upload assignments, including all aspects of their project. There are announcement and discussion sections that are open to everyone in the class, as well as discussion boards for each student team to communicate about their project. Ideally, the team boards provide a way for the teaching team to monitor each student team's progress, including communication and decision-making about their projects. However, students have not used this mode of communication as much as teaching teams have hoped. Each year, at least several teams have preferred to communicate through other electronic channels, for example, by regular email, and hence, have not utilized the course online platform enough to be helpful for the teaching team. This misalignment of expectations and use may be an area for research by the team within the Learning Centre.

While the online platform is an important part of managing course information and communication between the teaching team and students, it excludes community partners. Thus, students and community partners have to communicate via email or other means. Additionally, in order to share general information about the course, the BC FSP, and specific project scenarios, a separate, public website is needed. I discuss some attempts to create such a site below, in section 5.4.2.1.

5.3.5 Student reflection in the course

Through the integration of CBEL, reflective practice has become a central feature of the course. Reflection is as a means to connect classroom learning with student experiences in community

partnerships. Students are supported to develop skills in reflective practice in a number of ways, including both individual and group reflections.

1. Students are asked to report on their interests regarding food security themes (e.g. production, access, education), previous experience, and community connections at the very beginning of the course. While this is not a purely reflective activity, it requires the students to engage in reflection about where they are coming from and where they would like to go in the course. Beginning the course this way also follows principles of asset-based community development (as per Kretzmann and McKnight, 2005)
2. Students are given structured time at the beginning of each homeroom session for team and group reflection on course materials, especially as related to their projects and learning.
3. Students are required to submit three to four journal entries over three months focusing on different aspects of their experience with the BC FSP, team-based learning, and community engagement.
4. Student teams are asked to reflect on major experiences and insights as part of their final project report.
5. Students who opt to engage in CSL are required to submit a reflective paper about their experiences and their connection to their CBR and the broader course agenda.

A variety of strategies to encourage reflective practice was purposefully included in the course design to provide opportunity for students to engage in the type of reflection that best suited their diverse needs. These strategies included individual and group, as well as dialogic and literary options.

5.3.6 Course organization

The LFS 350 course meets for a weekly three-hour block each fall semester from September to December and represents three UBC credits. The first hour, or up to the first hour and a half, is designated as the whole class “plenary” session. The plenary sessions primarily comprise presentations and lectures by the teaching team and guests to the class, who have expertise in CBEL and the BC food system. The plenary time is also important for sharing announcements and updates with the whole class. The latter one and a half to two hours each week are designated as time to work on assignments and the BC FSP within “homerooms” of approximately thirty students.

The course is supported by a teaching team model with one or two instructors, five or six teaching assistants (TAs), and a project coordinator. While the Faculty of Land and Food Systems supports the costs for the instructor(s) and TAs (as they would for other courses of that size), the course did not have the means to support the project coordinator role. Outside funding was therefore sought and obtained from the UBC-Community Learning Initiative. The number of TAs aligns with what might be expected in a typical natural science course, where a large class is divided into smaller laboratory or tutorial sections, each of which is led by one TA. These human resources enable a radial course organization, whereby each teaching assistant is responsible for one homeroom of approximately thirty students, organized further into five or six teams. This organization allows the large class of 200 students to experience more intimate learning environments and to operate as if it were a smaller class. See Figure 5.2.

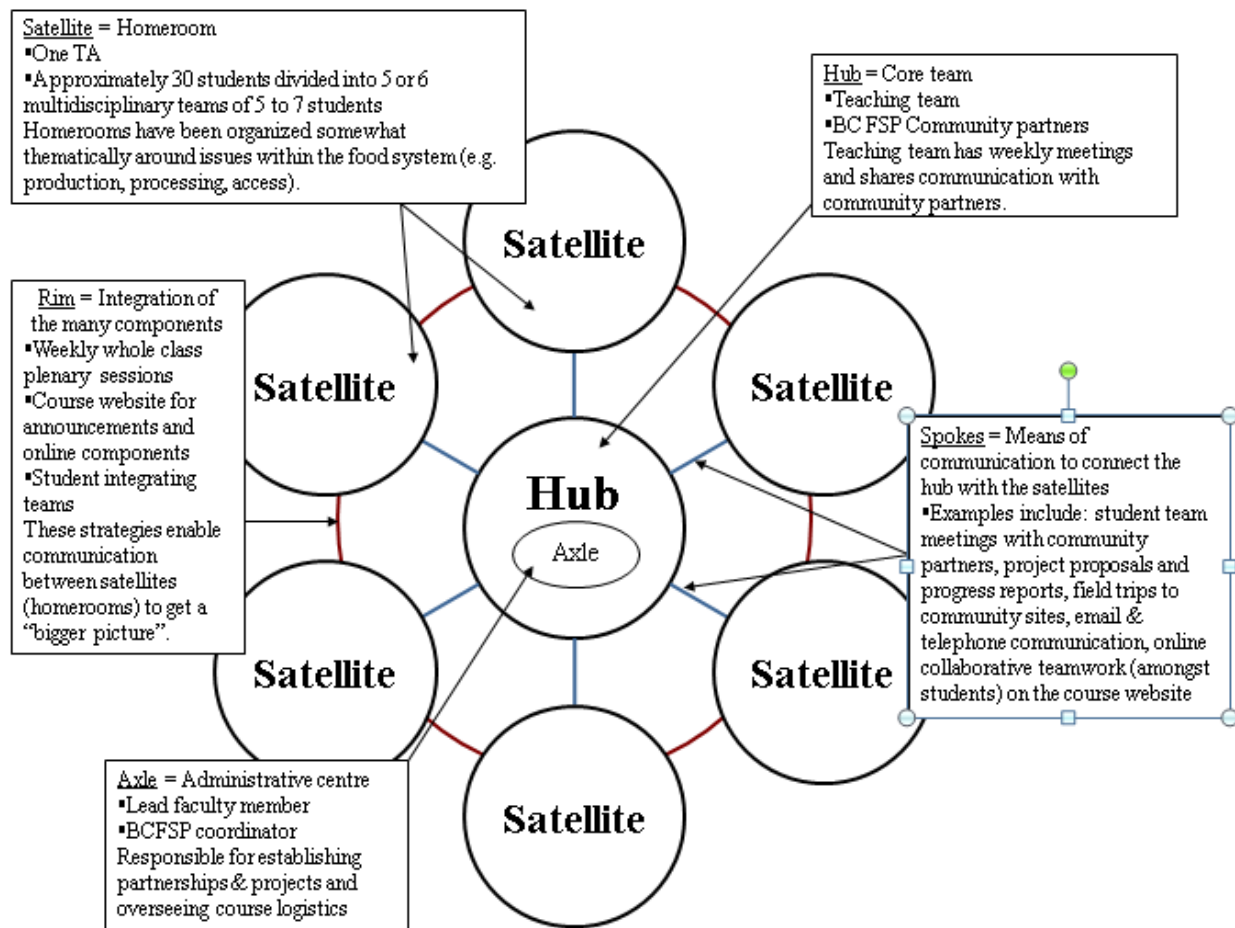


Figure 5.2 A graphic representation of the radial course organization for LFS 350 and the BC Food System Project, based on Stevenson et al. (1994)'s description of radially organized teams and adapted from Rojas, Richer, and Wagner (2007). The central hub represents the core team, comprised of the teaching team and community partners. The axle is contained within the core and represents the administrative centre, comprised of the lead faculty member and project coordinator. The multiple satellites represent the homerooms, each of which is coordinated by one TA responsible for approximately thirty students, further organized into five or six multidisciplinary teams of five to seven students. The homerooms are loosely organized around food system themes (such as food production or food access). The hub is connected to the satellites via spokes, which represent the means of communication that connect the various parties. Finally, the rim of the wheel represents the integration of many components of the course. First, the whole class, including all the homerooms, meets for a weekly plenary session where broad food system themes are discussed. Second, student integrating teams help to connect projects and homerooms to one another by identifying commonalities and differences across food system themes in various communities. Student integrating teams are discussed in more detail below.

The student homerooms are loosely organized around food system themes (e.g. food production, access, education, policy, among others. The themes are updated annually as projects and foci evolve.). In homerooms, students are able to work in and across teams, and project presentations take place in a more intimate environment than the whole class plenary sessions. Student integrator teams aim to develop the collective story across the community food system projects. They work with other student teams to identify similarities and differences in food system issues across BC communities. More detail on student integrators is provided below, in section 5.2.1.

The radial or modular team approach enables multiple levels of interaction between the students, teaching team, and community partners. Further, radial organization allows for a diversity of research, including disciplinary, interdisciplinary, and transdisciplinary investigations on a wide range of topics (Stevenson et al., 1994). While a radial model is useful to understand how all the components interconnect, it appears mechanistic and does not inherently imply the systems approach that is integral to these functions. Readers are therefore invited to perceive the radial arrangement as if it were a bird's eye view of a tree, which is a living system connected to other living systems. The illustration then aligns with more biological and systems-oriented representations of projects and partnerships, for example Rojas et al.'s (2011) depiction of a Community-University Research Alliance as a tree. Such a representation is also supported by Fryer's (2010b) argument that it is more appropriate to ground the growth of CBEL in metaphors that relate to complex, adaptive, living systems.³⁰

³⁰ More on living systems representations in Chapter Eight, the Conclusion.

5.4 Stakeholders

In this section, the stakeholders of the case study are described in detail, with respect to their roles and responsibilities within the BC FSP and as part of LFS 350. The student projects within the BC FSP are discussed, with examples and descriptive statistics provided.

5.4.1 Teaching team

As described above and in Figure 5.2, the multidisciplinary teaching teams of eight or nine include one or two faculty members and five or six teaching assistants (TAs), each bringing their own disciplinary knowledge to the course, and a project coordinator who manages the BC FSP. A teaching team within a large CBEL course provides a concrete example to students about the value of team-based work and distributive responsibilities. While there was not a specific intention for faculty development, the Land, Food, and Community series provides valuable opportunity for graduate students and potentially faculty who wish to gain experience in innovative teaching practices.

5.4.1.1 Instructors

The course has functioned with one or two faculty or instructors who are primarily responsible for the information delivery during the one to one-and-a-half hour plenary session with the entire class. Between 2008 and 2009, I served as co-instructor, alongside Dr. Art Bomke. In 2010, another PhD student, Erika Mundel, filled the position of co-instructor.

5.4.1.2 Teaching assistants

The teaching assistants (TAs) are each responsible for one homeroom of thirty to thirty-five students with whom they meet for approximately two hours following the plenary. They comprise a mix of four to five graduate students from programs in Integrated Studies in Land and Food Systems, Education, or another relevant degree, and one or two undergraduate alumni of LFS 350 to ensure the voice of undergraduate students are represented and included. The knowledge and experience of the TAs are ideally matched with the students' project areas so they are able to provide guidance and insight.

TAs have up to twelve hours per week to work to ensure that students are engaged and to support the development and process of the student teams. The TAs might be able to use some of their time to work with community partners, depending on marking demands. Over time, the TAs have been assigned increasing responsibility and direct engagement with the community-based projects and community partners. The ratio of TAs to students is approximately one TA per thirty students. This ratio is typical for the Faculty of Land and Food Systems, and it aligns with what might be expected in a typical natural science course, where a large class is divided into smaller laboratory or tutorial sections, each of which is led by one TA.

5.4.1.3 Project coordinator

The project coordinator is a graduate student who oversees much of the course organization and is a primary contact for community partners wishing to connect with the teaching team. The BC FSP was developed with a part-time graduate project coordinator position, which has been funded by the UBC-Community Learning Initiative. I filled the role of coordinator from 2007 to

2009, and the position was ongoing as of 2012. The coordinator has been a central support for the lead instructor and has also acted as co-instructor. The primary role of the coordinator is to engage community contacts, orchestrate the development and maintenance of such relationships to enable the projects, develop or update relevant project materials, including basic information and protocols of engagement for community partners and student, and coordinate teaching team meetings. Further, the coordinator works with the teaching assistants to ensure that collaborative processes are in place, for example that students are contacting community partners, meeting with them, and asking for feedback on proposals and findings. The coordinator role is most essential in the summer months leading up to class, but continues to play a large role throughout the term in supporting the teaching team and community of learners.

As the course and project have evolved, so too has the coordinator position. As seen in Table 5.1, the first year of the position required approximately 150 hours more than the third (and subsequent) iterations. The first and second year required additional hours for foundational relationship development; resource development; and additional meetings about the project vision and direction. This decrease in hours over time is important for any course or program considering the development of a project like the BC FSP. While a large input of time is needed upfront for the first couple of years, particularly for development of the assignments and the engagement protocols, the amount of support needed will decrease over time until it levels off. It is very important to maintain a coordinator position throughout the project, though, particularly because the student projects evolve and new partnerships need to be developed each year.

Table 5.1. Project coordinator hours between 2007 and 2009. **Note the decrease in hours over time, as the foundation for the course and project becomes established.**

| Year | Part-time graduate coordinator hours (mid-May to mid-January) | Average number of hours/ week | Major activity & changes |
|------|---------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| 2007 | 478 | <ul style="list-style-type: none"> • May-August: 16 hours/week • September-January: 14 hours/week | Coordinator led development of project guidelines & protocols; Involved in marking some reflections and final assignments |
| 2008 | 428 | <ul style="list-style-type: none"> • May-August: 15 hours/week • September-January: 12 hours/week | TAs take over all the marking |
| 2009 | 322 | <ul style="list-style-type: none"> • May-August: 8 hours/week • September-January: 12 hours/week | Project development is increasingly determined by community partners |

5.4.2 Students

The course and project are required for all third-year students in the academically diverse Faculty of LFS, majoring in Food, Nutrition, and Health; Applied Biology³¹; and Global Resource Systems. Student numbers from the Food Nutrition and Health majors accounted for approximately two-thirds of the LFS 350 enrolment. Even though most students in the Faculty and in the core courses are majoring in Food, Nutrition, and Health, however, efforts are still made to ensure teams include a mix of students from the different programs where possible and as appropriate.

Ideally, each student team is comprised of five or six individuals, but sometimes the teams get as large as seven individuals. Each student team has between one and three community partners or liaisons. Each community partner collaborates with one to three project teams, so between five and twenty-one students. Student teams are asked to have one student contact represent the team with each partner to ensure clear communication and to reduce demands on time. Student teams are also encouraged to identify one contact for the teaching team, as well as rotating meeting facilitators and secretaries for their team meetings, as a way to develop skills in teamwork. Students have approximately two hours of in-class time each week to work together on their projects.

³¹ Note that in 2010 academic restructuring of the Faculty of Land and Food Systems resulted in Agroecology being succeeded by the Applied Biology Program with its majors in Applied Animal Biology, Applied Plant and Soil Biology and Food and Environment.

5.4.2.1 Student integrators

With each student team working on just one project in one community, it quickly became necessary to integrate across the array of all teams' experiences and knowledge to provide students with the larger picture afforded by a food systems perspective. Integrative learning is a primary goal of the Land, Food, and Community series, which is based on an epistemology of systems thinking,³² specifically of the food system as a whole, as well as an “ecology of knowledge”.³³ Thus, the student integrator teams were innovated in 2007 and continue to evolve to meet the complex needs of the important process of integration. Approximately five to ten percent of the class has consistently chosen to work on integrating across projects and communities. Integrators are discussed in further detail within Chapter Six (Innovations).

Since the inception of integrator teams, the role and response has varied, as different approaches are tried, including students as integrators or investigative journalists. Some of their not quite coordinated outputs include: <http://lfs350ubc.wordpress.com/> and <http://agsc350.wordpress.com/about/>. These blogs are early attempts to provide platforms for students to actively comment upon, question, and constructively critique the overall picture of LFS 350 and the BC FSP in a public way. The remaining online 350 experiences are restricted to UBC students and faculty and require approved logins and passwords.

In 2007, Student Integrators were created. Part of the original project scenario reads:

³² Systems thinking recognizes that seemingly distinct activities are connected to form one complex system. Complexity theories and ecosystem approaches provide frameworks to integrate many interdependent social, ecological, and economic systems (Holling, 2001; Kay and Schneider, 1994)

³³ Ecology of knowledge is: “The process of examining how knowledge is created, and re-created, in the diverse contexts in which it emerges. An ecology of knowledge also encompasses exploring how knowledge is produced, distributed, shared, and accepted” (Rojas, 2009)

Our challenge as a “community of learners” will be to ensure that the lessons from each geographic community will be shared. We will find that there are themes that extend across our varied case study communities. For example, the topics of food safety, aboriginal health, sustainability of local agriculture and the connection between nutrition and population health will surface in more than one community. Should you be selected to serve on one of the integrator teams your objectives will include:

- Comparing and contrasting the research approaches and methods of the community groups,
- Integrating the results of group research and across the five communities to assist the various groups and eventually the case study communities to learn from each other,
- Relating the variety of activities and findings of the community based research projects to the course learning outcomes, and
- Communicating their findings to the class as a whole

In LFS 350 2010, the Integrator project scenario read:

Land, Food and Community: Investigative reporters

One of the major challenges in a course like LFS 350 is to create and nurture a collective experience for the participants and ensure that all of the learnings of the various groups are made available to the whole class in aid of everyone meeting the course learning outcomes (See syllabus). We have had “Integrator Groups” in LFS 350 for a few years, but in 2010 we [asked] these groups to act as investigative reporters, ferreting out and reporting the newsworthy stories emerging as the group projects develop over the course of the term. Please see yourselves as the course’s news department, using the principles and techniques of effective journalism to communicate with the class. Feel free to provide interesting, even controversial coverage of the 2010 class activities. It is ok to provide critical commentary, even if it includes the teaching team. For example, you may wish to

criticize Art's [the Course Instructor's] comments in a plenary session as missing out on key points raised in class readings.

You will be tasked with providing a "bigger picture" by identifying food security concerns, stories and trends that compare and contrast across communities so that the knowledge is more readily available and accessible to the LFS 350 class, community partners and other interested parties. Your 'community' is the LFS 350 (2010) class. Duncan McHugh, FLFS Learning Centre, will be available to provide an introduction to journalism and to help mentor your activities once you begin to report the news.

Key questions: How can you gather the information you need from the other student groups? What communication tools will you use to keep each other informed? What communication tools will you use to share this work with your colleagues and interested parties? And then, once you get going: What interesting stories are emerging? What kinds of linkages are there among different class projects? How are the different projects related to the course's learning outcomes?

The above description has kept its roots in the integrator teams introduced in 2007, and evolved from there. As of 2011, the integrator teams were presented as a CSL option, instead of CBR, mostly because of the continued lack of clarity of this role. Only one student chose to take on this task. Consultations with the 2011 teaching team suggested that integration may be revisited as a CBR project. One concern is that the popularity and uptake of the integrator option is influenced by how it is explained to the students. While there is certainly the need for integration across projects, as well as demonstrated interest, further work is needed to truly clarify and refine this role to include students more effectively.

The problem of the integrators offers a clear demonstration of the wider and more complex problem of how to integrate knowledge. Such expertise is largely missing in academic circles, which tend to be dominated by disciplinary thinking. Even the most committed course instructors

and graduate student teaching assistants are challenged by this problem of moving from reductionist to integrative focusing in the context of structured, time-bound, and institutionally-sanctioned teaching for knowledge acquisition and learning. The holistic thinking required for the integration of knowledge also needs focus and discipline of a different kind.

5.4.3 Community partners

Community partners represent “communities of interest” (Stringer, 2007, p.6) and include representatives from:

- Municipal Governments
- First Nations Bands
- Regional and Provincial Health Authorities
- Educational Institutions
- Non-Profit Organizations
- Food industries

Community partners and liaisons represent the range of food systems issues in the key areas of agriculture and food production, food distribution, food access, education, community health, and all social, ecological, and economic impacts associated with these processes (as per Harmon, Harmon, and Maretzki, 1999). Community partners define themselves regionally (e.g. Vancouver, Pemberton, Okanagan, Bella Coola), culturally, for example as First Nations, and by organization or group they represent. Examples of the latter include environmental and community agriculture groups, education (e.g. teachers), government (e.g. health workers,

municipal government), industry (e.g. grocery store, social enterprise), and some community leaders and organizers without a tie to a specific organization (e.g. farmers, activists). The project team defined community food system initiatives broadly, incorporating all aspects of the food system and many of the main actors therein. While most community partners were grassroots or community organizers and government representatives, there were industry representatives as well, including for example from a large grocery chain and various social enterprises. The full list of the organizations involved is provided in *Appendix A*. Project materials for community partners are included in *Appendix B*.

5.5 Author's roles over time

As the author and a primary participant, it is appropriate to speak to the various vantage points I have gained. As noted earlier in Chapter Three (Methodology), I come to this research via multiple pathways and roles, which I detail in this section.

5.5.1 Project coordinator

As an early course and project coordinator, my first role was to identify the roles and responsibilities of such a position. For this, I looked for guidance from the faculty member and lead instructor, Dr. Art Bomke. I partnered with Dr. Bomke in identifying and recruiting potential partners and projects for each term and was the lead contact for the community partners. I coordinated logistics for the: classroom plenary sessions (including coordinating with classroom guests and ensuring the classroom technology was working); TA homerooms (including agendas, announcements, logistics for presentations); and some of the fieldtrips. I participated in developing the reading list and developing assignments, and I took on a share of

the marking, which was distributed between the whole teaching team. Finally, Dr. Bomke and I were the contacts for the student integrator teams. With each of the three successive iterations of the course, the workload lessened slightly, as a foundation was laid and the protocols and course rhythm were established.

5.5.2 Research assistant

As research assistant, I began to develop protocols for student and community partner engagement with the project. I participated in the behavioural research ethics review so that the students would be able to take on CBR projects, and I took the lead on the ethics review so that I would be able to access the community partners as research participants. For the coursework, I developed journal questions for the students to respond to, in consultation with Drs. Art Bomke and Margo Fryer, the then-director UBC-Community Learning Initiative and the UBC Learning Exchange. Finally, I developed the post-participation survey for the LFS 350 students, which was adapted from a similar survey developed by the UBC Community Learning Initiative.

5.5.3 Co-Instructor

In 2008 and 2009, Dr. Bomke invited me to partner with him as a co-instructor. This role was in addition to my roles as research assistant and project coordinator, however as those hours were decreasing, it was more realistic to take on additional responsibilities. Such responsibilities included taking on some of the lectures and more of the marking.

5.6 Projects

5.6.1 Project partnerships

Community partnerships were initiated mostly through the professional and personal connections of the teaching teams within food system networks across BC. Such connections have enabled entryways into discussions of shared interests and the possibility of partnerships, starting with questions such as, *“What questions are on your (organization’s) ‘wish-list’, i.e. those questions that are not necessarily your number one priority, but that you would love to explore if you had time and resources? Can you imagine paring that down to student team-sized agendas? Is there hands-on service that students might be able to contribute to your organization?”* Such conversations, often informal and ongoing, have led to exploratory investigations, evolving projects, and developing partnerships. This approach taken by the course and project organizers aligns with Stoecker and Beckman’s (2009) notion of “shifting the locus of higher education civic engagement.” Community partnerships deepen as the community partners tend to take increasing ownership over the process of project development. Over time, the successes of projects and partnerships have attracted the attention of community leaders outside the sphere of professional and personal connections, enabling a “snowball” approach to community partnerships. As of 2009, members of various food system groups that were not yet involved in the BC FSP began to initiate contact with the coordinator and faculty to pursue partnerships and project development.

Community partnerships are ideally developed for a minimum of two to three years, although some partnerships that began in 2006 were still going strong as of 2011, such as the Richmond

Fruit Tree Sharing Farm Project and the Terra Nova Schoolyard Society. There have been very few occasions where the partnerships did not make it past the first year; this only happened in the rare examples when a position was terminated or the job description unexpectedly changed and there were simply not the resources to support a partnership. The large majority of partnerships do continue for several years, with the goal of providing enough time and depth for some useful outcomes to emerge for the community partner.

Each research project commenced with primarily university-identified activities centered on community inquiry. This strategy enabled the university partner to: become familiar with a new context for teaching, learning, and research; understand the particular food systems in question; and identify and establish relationships with key stakeholders. Through ongoing, iterative cycles, the depth and strengths of the community partnerships have grown over time.

5.6.2 Project scenarios

From its' inception, the BC FSP was project-based and team-based. Over time, the development of the project scenarios moved from university-identified to primarily community-identified, so that project scenarios are developed in partnership with community leaders, who are considered community partners. Approximately thirty projects are developed each year. About half of all scenarios are developed within Vancouver, with the other half situated in suburban and rural communities across southern (and now, southwestern) BC. Detail on some of the projects is provided below, and a full list of projects appears in *Appendix C*.

Detailed examples of a few project scenarios follow:

- (2006-2008): Three teams of students worked with the Bella Coola Valley Sustainable Agriculture Society to investigate alternatives to the newly proposed legislation that eliminated provincially and community-inspected slaughterhouses, thereby greatly reducing remote communities' access to local meat. Students helped to plan and implement a conference about these issues and contributed to pilot projects for renewal of such services in several remote communities.
- (2007-2009): Two student teams and one independent student worked within the West Kootenays looking at community foodshed mapping. Students contributed directly to several new community food system ventures.
- (2009-ongoing): Student teams collaborated with new farmers in Pemberton and Squamish to initiate development of formal networks to share resources and contacts.
- (2006-ongoing): Urban agriculture connections investigating access, nutrition, production, compost, social enterprise, community needs (MOBY Community Garden, Cedar Creek Community Garden, Environmental Youth Alliance, Fresh Roots Urban Farm, Richmond Fruit Tree Sharing Project)
- (2007-ongoing): Food system education in Vancouver schools with Think&EatGreen@School Community-University Research Alliance, in Richmond with Terra Nova School Yard Society, also in Quesnel and New Denver high schools. One specific example is projects over time with the Terra Nova Schoolyard Society had LFS 350 students create and pilot surveys for schoolchildren who visited the farm site as part of their schooling; distribute and collect the surveys; and finally analyze them and return the results to the program contact and the LFS 350 students' community partner. The

community partner and organization are now able to use the data in reports and funding applications, and to continually improve programming and policy.

These examples comprise just a few of all of the project scenarios that students have worked on since 2006; see *Appendix C* for the complete list of all BC FSP projects, as well as <http://blogs.ubc.ca/lfs350cfsp/>

While successful student projects usually contribute only incrementally to larger agendas, over time these smaller successes can equate to more notable outcomes (some of which are noted above). Successive student teams begin by integrating previous student research and evolving community needs to advance the research agenda. One student team over one semester could not have achieved the sum of those activities, but a research agenda developed in partnership with the community over two to three years, with as many student projects, can contribute more significantly to an organization and program. Community partners thus access beneficial help for research and project ‘wish-lists’ over time, and ideally the project partnerships offer reciprocal benefit for all those involved.

5.6.3 Descriptive project statistics

Since 2007, the faculty member(s) and course coordinator develop approximately thirty community projects per year, with as many or more community partners, in a variety of regions and communities across southern (and now southwestern) BC. About half or more of all partners each year are returning, allowing for both multiple project iterations and responsiveness to new community food system scenarios. As of 2009, people beyond the teaching team’s immediate

network were beginning to initiate contact with the project to suggest partnerships. See Table 5.2.

Table 5.2. Descriptive statistics of the BC FSP, highlighting the number of regions, projects, new projects, community partners and new partners each year, from 2006 to 2010

| Year | Number of BC regions with community partnerships | Number of projects | Percentage of new projects (%) | Number of community partners (or liaisons) | New partners (or liaisons) (%) |
|-------------|---------------------------------------------------------|------------------------------------|---------------------------------------|---------------------------------------------------|---------------------------------------|
| 2006 | 5 (all new) | 6 community inquiries | $6/6 = 100$ | 9 | All new = 100 |
| 2007 | 5 | 25 community engaged (CE) projects | $19/25 = 76$ | 18 | $9/18 = 50$ |
| 2008 | 6 (1 new) | 32 CE projects | $11/32 = 34$ | 34 | $13/34 = 38$ |
| 2009 | 12 (8 new) | 30 CE projects | $14/30 = 47$ | 33 | $13/33 = 39$ |
| 2010 | 9 (3 new) | 30 CE projects | $10/30 = 30$ | 29 | $17/29 = 59$ |

5.7 Outcomes

In addition to describing the case, I share outcomes of the action research of transitioning and transforming a large class to incorporate sustainability education through CBEL. The outcomes are relevant for other educators who wish to transform their classroom and pedagogical practices; they include: curriculum development for the Land, Food, and Community core series of courses, including LFS 350; a depiction of the transition from community inquiry to community engagement; and lessons learned from the integration of CBEL into a large course.

5.7.1 Curriculum development in the Land, Food, and Community series

In 2010 and 2011, about a dozen faculty and graduate students, myself included, along with several staff from the UBC-Community Learning Initiative, were facilitated through a “DACUM” process of “Developing a Curriculum” by Janice Johnson of the UBC Centre for Teaching, Learning, and Technology. More than a decade into the LFC series, the curriculum was well-developed and now needed to be better articulated. The results of the DACUM process included collective effort to find a common language to describe the courses processes and content, culminating in updated objectives for the Land, Food, and Community series, as well as specific outcomes for each course within the series, including LFS 350. See below for the series’ General and Learning Objectives, as well as the Learning Outcomes for LFS 350 (LFS 350, 2012).

Land, Food, and Community Core Series: General Objectives

Students who have completed the Core Series are systems thinkers, able to work collaboratively in multicultural, interdisciplinary teams to develop solutions for complex,

multi-stakeholder issues related to food, health and the environment. Incorporating academic and community perspectives, they apply their knowledge in an environmentally, socially and economically sustainable manner to community food security challenges. The LFS Core Series Courses provide students with the opportunity to acquire and apply the fundamental knowledge, tools and expertise required for successful participation in food security and sustainability initiatives.

Learning Objectives

Upon completion of the Core Series Courses, successful students will be able to:

- Anticipate land, food and community systems challenges and opportunities, and design sustainable strategies to address them.
- Think critically and reflectively about land and food systems issues.
- Collaborate effectively and professionally as members of inter-professional, multicultural, interdisciplinary teams and communities of learners.
- Engage with multi-stakeholder communities at UBC and across British Columbia in an ethical and reciprocal manner to investigate complex food, health and environmental issues.
- Apply food system sustainability knowledge, values and skills to enhance food security within urban, suburban and rural communities, using qualitative and quantitative research methods.
- Communicate clearly and respectfully to diverse audiences through individual and collaborative reports and presentations.
- Engage with others to initiate and implement positive, sustainable change within their varied and diverse communities.

These overarching objectives prepared the ground for the specific objectives for each course. For LFS 350, the focus is on developing the required tools and skills.

5.7.1.1 Design is the first sign of intention: LFS 350 Learning Outcomes

“Design is the first sign of intention”³⁴ describes LFS 350 because it took until 2011 for the course learning outcomes to reflect what was already happening in the class (i.e., the design that had already been implemented). Similar to the Land, Food, and Community series as a whole, it was only after multiple years of engagement and development that the course developers were able to fully articulate what was intentionally unfolding through the course and project. Similar to the process described above for the series, the LFS 350 Learning Outcomes were updated in 2011 by a group of core curriculum teaching team members:

LFS 350 Learning Outcomes (articulated in 2011, relevant from 2006 onwards)

Introduction to tools and skills required in assessing the economic, ecological, social, and technological components of managed landscapes, agrifood systems and communities comprising the land, food, nutrition, and health continuum

The Land and Food Systems 350 course is designed to follow the foundation established in LFS 100, 250 and 252 for the study of land and food systems. Using the UBC Community-based Experiential Learning (CBEL) projects as our main focus, the LFS 350 students will research and act on food and agriculture issues of concern in partner communities throughout BC. These communities include organizations, industry, government, and individuals located [in different communities across BC] representing urban, suburban, and (semi-)rural.

Overarching Goal

To develop a successful service-learning community of practice, to participate and respond to community needs, and to promote a socially responsible, ethical, and

³⁴ Quote by McDonough, W., and M. Braungart. (2002). *Cradle to cradle: Remaking the way we make things*. NY: North Point Press

culturally sensitive framework to potentially contribute to healthier and sustainable communities, primarily in BC

Course Outcomes

By the end of the course, successful students will be able to:

- 1) Critically analyse land and food systems sustainability and community/public/population health
- 2) Design and carry out a CBEL food systems project using appropriate methodologies
- 3) Apply evidence-based practice in a community-based food systems project
- 4) Develop as caring, critical and reflective thinkers

Students are assessed through course assignments and peer evaluation. The BC FSP includes a project proposal, final presentation, and final report, all of which are assessed according to criteria described in the course outcomes and assignment description. Students are assessed as “caring, critical, and reflective thinkers” through their reflective journal entries and a reflective essay about their CSL experience. Quizzes on the readings and plenary sessions comprise the rest of the course grade.

5.7.2 Transition from community inquiry to community engagement

When the BC FSP was initiated in 2006, it began with university-identified questions (e.g., what do various community food systems look like throughout the province of BC?) and centered on community inquiry activities (e.g., students conducting surveys for their own, or previously determined, research questions). Over time, and through the development of community partnerships and cautious movement through a community inquiry process, the projects evolved to more profound community experiences that provide deeper student engagement and enhanced

community outcomes (e.g., helping to plan and facilitate community workshops and develop and evaluate resources as identified by the community). The evolution from community inquiry to community engagement was able to occur through seeking understanding of community issues as the basis of the course.³⁵ See Figure 5.3 for a visual depiction of this change over time.

One of the community partners, in reflecting on the experience of community-led project development, expressed the following sentiment:

“The best part about this project for me was that we developed the project and deliverables in a participatory fashion with the students. I pitched six or seven possible ideas, and we allowed the students’ interest to dictate what they were going to do out of those. I felt that that was really helpful; rather than saying, ‘This is what you’re going to do, this is what we want, this is what we need,’ it was just very collaborative. We said, ‘Here are some things we could benefit from; where do your interests lie? Is there synergy between these projects and your interests?’” (Community Partner 2)

Figure 5.3 may provide a useful framework and concept map for others wishing to integrate CBEL into their own large undergraduate class, using a strategy of transition from community-based inquiry to community engagement and from university-generated research agendas to community-generated agendas. It could also serve as a diagnostic tool for universities and communities to assess where their projects and approaches lie on the two continuums and where there is room for movement toward more and better community-engaged projects.

³⁵ It is important to note that there is no judgment placed on community inquiry versus community engagement or a university generated agenda versus one generated by community. Every community project requires consideration of the strategies that are most appropriate given the time, resources, and goals of all parties.

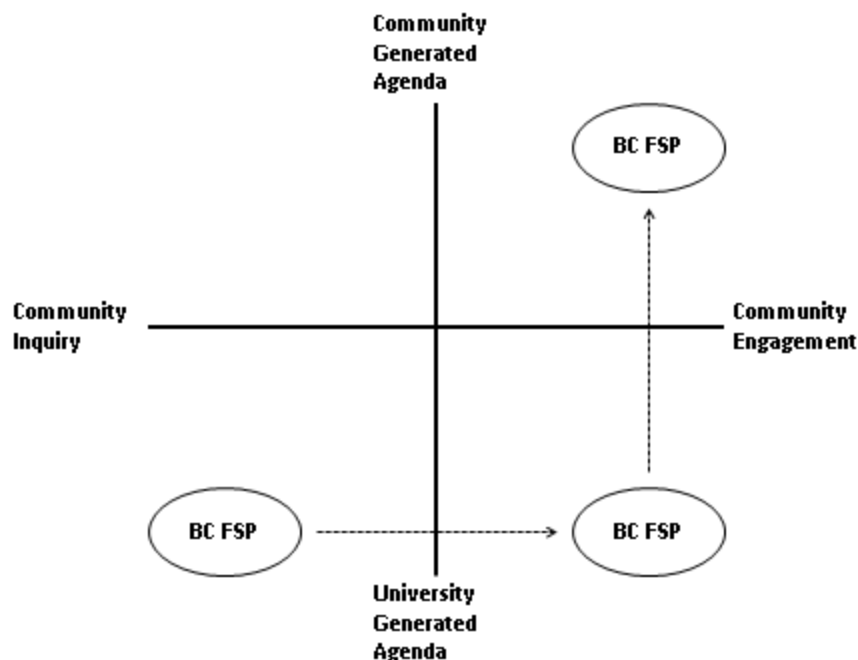


Figure 5.3 Map of community-university research approaches, adapted from Rojas, Sipos, and Valley (2012), highlighting the path that LFS 350 and the BC FSP took from community inquiry about a university-generated agenda to community engagement around a community-generated agenda. Rojas, Sipos, and Valley (2012) posit that projects within the top-right quadrant best characterize community-engaged scholarship. Note that this map is non-normative in that it provides a representation of options available within community-university approaches, without ascribing judgment.

5.7.3 Lessons learned from integrating CBEL into a large course

Three main lessons were learned from the development of the LFS 350 course through the integration of CBEL. These lessons fit within the larger experience of developing the Land, Food, and Community core series, as described by Rojas, Sipos, and Valley (2012) and include: Relationship building takes time; Integrative learning themes support collaboration; and Large class size in community-engaged courses can be challenging, as well as offer unique opportunities to increase the scope of community-university collaborations.

5.7.3.1 Relationship building takes time

Relationship building takes time and is aided through iterative cycles of activities, starting with inquiry and leading to engagement. It is pragmatic to start small when designing meaningful activities for undergraduate students in and with the community. Initial inquiry activities allow each student team to slowly acclimate to the processes and to each other. As relationships build and logistical competencies solidify, more complex engagement activities can be undertaken. Through the inherently iterative nature of the school calendar, activities in the community from one year can, ideally, inform the following round of initiatives. Of course, the course calendar also provides a source of concern for community partners because of the very different timelines within community and academic projects.

In 2011, the Faculty of Land and Food Systems, in partnership with the UBC-Community Learning Initiative, hired a Community Based Experiential Learning Coordinator for the Faculty. Part of the coordinator's job is to help incorporate community-based projects into multiple university courses in the academic year, whereby the activities of one class support the development of spin-off projects in a related class. This strategy allows more continuity in terms of timing, but adds an additional layer of complexity by introducing more faculty members, students, and courses into the mix. Although university student populations are transient, the stability of professors, Faculty-wide coordinators, and community partners allows this model to be used as a long-term strategy for change.

5.7.3.2 Integrative learning themes support collaboration

Issues within the food system are interdisciplinary by nature and require a diversity of perspectives and expertise to tackle. This example of an integrative issue draws from multiple disciplines, areas of experience, and expertise to create fertile environments for collaboration along many planes, including student-to-student, student-to-teaching team, student-to-community partner, and community partner-to-university. Research project teams include students developing a specialization in each aspect of the food system (i.e., nutritional and food sciences, agroecology, applied biology (including soil, animal, or plant focused streams), food market economics, global resource systems, and food policy at various scales). Interdisciplinarity also occurs in the Faculty's research programs, where faculty and community members with varying expertise (e.g., dietitians, landscape architects, soil scientists, sociologists, anthropologists, teachers, and organic farmers) compose diverse research teams. This collection of disciplinary lenses becomes an element of strength in recognizing that no one disciplinary approach is sufficient to overcome complex community issues.

5.7.3.3 Large class size in community-engaged courses can be challenging and offer unique opportunities to increase the scope of collaboration

LFS 350 enrolls approximately 200 students per term. The benefit of such large numbers is the potential impact of the activities of hundreds of undergraduate students each year. The experience of LFS 350 and the broader Land, Food, and Community series has been of undergraduate students bringing an unassuming nature that provides a non-threatening element that can catalyze community interactions. This element can be essential in rebuilding (or

sometimes building for the first time) relationships between universities and their surrounding communities.

An ongoing concern is how to manage such large numbers of students, who often lack experience in collaborative community engagement. Further, even as service learning has been increasing in North American post-secondary institutions over the last twenty-five years, still only seven percent of US faculty members use service learning in their courses (Campus Compact, 2010). While community engagement encompasses more than service learning, and while the Canadian context has differences from the US, this number (seven percent of faculty) provides some insight as to the uptake of community-engaged curricular practices. As such, there is still limited experience within the general university culture to foster relationships between students and with community partners. While the LFS 350 course and the Land, Food and Community series has had some significant successes (including growth over time of projects and partnerships), more institutional support, or even culture change, may be necessary to expand such programs beyond a small, interdisciplinary Faculty such as Land and Food Systems.

5.8 Conclusion

This action research case study clearly demonstrates how to integrate CBEL, sustainability education, and food system study (as an example of an integrative learning theme) into a large undergraduate class to provide mutual benefit to students and community partners. Several key features proved useful in enabling this incorporation, starting with an integrative, multidisciplinary theme, in this case, food systems. Further, development and inclusion of the BC FSP as the foundation of the course enabled sufficient time for students to immerse in the

project and community partners to see some concrete results, especially over multiple years. It is imperative to have a teaching team to support the large numbers of students by way of creative organizational strategies, including team-based, project-based, and radial course organization. Finally, through multiple iterations of involvement, community partners increasingly lead the project development process. All of these aspects have allowed the BC FSP to progress from a community inquiry, university-initiated foundation to a community-engaged and community-generated agenda, where the community includes the engaged scholars *and* community members representing the BC food system.

Active experimentation in the course and through the project allowed for the articulation of the curricular learning outcomes to follow the development of the curricular practices. A few of the take-home lessons from this process include: Relationship development takes time and multiple iterations; Integrative learning themes support collaboration; and that CBEL is possible within a large class – replete with both challenges and unique opportunities for engagement and impact. The next two chapters focus on innovations that emerged as part of this iterative process of engagement and active experimentation, as well as insights from interviews with community partners about their experiences of engagement.

Chapter 6. Results and findings I. Incorporating community-based experiential learning into a large class: Issues and innovations

Synopsis

In this chapter, I highlight five issues that arose while incorporating community-based experiential learning into a large undergraduate class, as well as the innovations that were developed to address them. I then discuss how the innovations emerged from the action research process. I contextualize the analysis within a larger discussion about innovation and innovators in higher education.

6.1 Context and research question

Post-secondary institutions face limitations due to a disproportional focus on research and a lack of resources, time, and institutional systems directed to support community engagement (Wenger, Hawkins, and Seifer, 2011). Further, large undergraduate class sizes are increasingly common (Zundel and Deane, 2010; Karabenick, 2003). This basic model of undergraduate education predicated on large class sizes limits opportunities for relationship-development, between faculty and students, students and students, as well as faculty and external (community) partners (Stoecker et al., 2010; MacGregor, 2000). A large university class has been described in the literature as having anywhere from 54 to 350 (or more) students, while a small or “regular” class has been described as having between 13 and 38 students (Johnson, 2010). The limitations of large classes, as well as the additional time and resource requirements to organize CBEL

opportunities, results in accredited undergraduate CBEL occurring mostly in advanced or restricted courses, with relatively few students.

To increase the number of undergraduates with access to CBEL, change is needed within universities. While some of this change may involve total reorientation of universities to become more community-based, some organizational systems may prove useful in reorienting the large classroom into a more conducive environment for community engagement. I draw on my case study of the British Columbia Food System Project (BC FSP) in Land and Food Systems (LFS) 350 to experiment with such possibilities. In this chapter, I address the question: What innovations were developed through the creation of the BC FSP to integrate CBEL into a large undergraduate course of 200 students per term?

6.2 Organization of the chapter

To address this research question, I first briefly review the literature on CBEL in large classes. Then, I present additional issues with incorporating CBEL into a large class with 200 students, as well as innovations that were developed to address these issues. I discuss the implementation of the innovations and their associated outcomes. Finally, I discuss characteristics of innovators, particularly in higher education.

6.3 Community-based experiential learning in large university classes

6.3.1 CBEL requirements in large classes

Previous research demonstrates that CSL courses require: faculty commitment, time, and expertise; community commitment, time, and expertise; coordination and planning; student time

and commitment; transportation; resources to fund supplies, materials, and products (Holland, 2001), as well as a community development model and focus on community goals (Stoecker et al., 2010). In addition, opportunities for undergraduate CBR must also include student training in research methods and skills (Strand et al., 2003). Large courses that offer CBEL opportunities require everything listed above, as well as additional support through the involvement of teaching assistants or other teaching or support staff who understand community-based learning, are able to train, supervise, and coordinate students in community collaboration, and who are prepared to facilitate and grade students' reflections on their experiences in community (Hondagneu-Sotelo and Raskoff, 1994; University of Minnesota, n.d.). Experience within the UBC Faculty of Land and Food Systems showed that another critical logistical component is dividing up a large class into numerous breakout rooms (or homerooms) with an average of 30 students per room for team work facilitated by the teaching assistants. This type of radial organization was discussed in detail in Chapter Five, the overview of the action research case study.

Further systems to support CBEL in large classes so far remain unarticulated. This deficit in the literature is likely because most CSL and CBR is undertaken by senior-level students in small, elective courses, generally with fewer than 30 students. Organizing CSL requires additional faculty time and commitment, as well as logistical and administrative oversight (Hill, Loney, and Reid, 2010). Exceptions in the literature include CSL in large introductory courses in sociology (e.g. Ender et al., 2000; Corwin, 1996), political science (Markus et al., 1993), and medicine (Dharamsi et al., 2010). The lack of examples of CBR within large classes is likely due to skepticism about its feasibility because “numerous small CBR projects within a large

class may create a particularly heavy workload for the instructor” (Strand et al., 2003, p. 143). The next section highlights additional issues that arose in incorporating CBEL into a large, required, third-year course with 200 students.

6.4 Land and Food Systems 350: Strategies that grounded CBEL from the beginning

As detailed in the previous chapter, the LFS 350 team began incorporating CBEL in 2006 through project-based and team-based learning and by incorporating thematic, multidisciplinary opportunities to bring students out of the classroom to grapple with the complexity of real-world community issues³⁶. In particular, project-based learning is noted as an effective antidote to maximize outcomes of short-term service learning (Bradford, 2005; Draper, 2004). Food systems provided the integrative learning theme to attract diverse stakeholders as community partners and to develop a range of sustainability learning opportunities for students (as per Clugston and Calder, 2007). The course was supported by a teaching team model with one or two instructors, five or six teaching assistants (TAs), and a project coordinator³⁷. These human resources enabled the radial course organization, which also contributed to the model to support CBEL in such a large class.

³⁶ LFS 350 initiated the BC Food System Project with community inquiry activities, for example, students conducting secondary research on various community food systems across southern British Columbia, in consultation with local community leaders. Over time, the tentative consultations evolved into community partnerships through more profound community experiences that enabled deeper community engagement, for example, helping to plan and facilitate community workshops. See Chapter Five and Rojas, Sipos, and Valley (2012) for detail on the transformation from community inquiry to community engagement.

³⁷ While the Faculty of Land and Food Systems supports the costs for the instructor(s) and TAs, outside funding was sought to secure the project coordinator position, as most university courses do not have the funding to support such a role. Funding was obtained from the UBC-Community Learning Initiative. The number of TAs aligns with what might be expected in a typical natural science course, where a large class is divided into smaller laboratory or tutorial sections, each of which is led by one TA.

6.5 Findings: Issues with CBEL in a large course and innovations that may help

6.5.1 Issues with CBEL in a large course

Incorporating CBEL into a large class raised unexpected issues. Five main issues were identified and include:

1. Numerous food system projects need to be connected to each other for a common student experience, a 'bigger picture' perspective (i.e., with shared learning from the various project scenarios), and increased student understanding of complex topics;
2. Relationship development between university and community organizations costs money and time;
3. CBEL is still new for most members of the teaching team and for the students;
4. Students want opportunities to engage in hands-on learning with community partners³⁸;
5. The logistics of student teams contacting and working with community partners can be overwhelming for community partners

Each of these issues is significant and in combination they can be considered daunting. Through action learning and research, each teaching team was empowered to innovate strategies that would address (or at least begin to address) these issues. The innovations developed through iterative processes of planning, action, and reflection and grew out of feedback from students, teaching teams, and community partners³⁹.

³⁸ Students also suggested asking the UBC-Community Learning Initiative for help in developing hands-on learning opportunities. At the time, the UBC-Community Learning Initiative focused primarily on CSL (with a more recent additional focus on CBR), which combines hands-on learning with reflective practice, as part of course work.

³⁹ Student feedback was formally solicited through post-project surveys and reflective writing throughout the semester; students also provided informal feedback at various points throughout and after the semester. Teaching team feedback was solicited at weekly teaching team meetings and end-of-semester reflective meetings. Community partners provided ongoing, informal feedback throughout the project, as well as formally through semi-structured interviews, described in detail in Chapter Three (Methodology).

6.5.2 Innovations

Innovations in higher education can be understood as significant changes with potential to transform practice (Hannon, 2009). While innovations are most commonly associated with technologically-oriented change (*ibid.*), they may also describe new pedagogical and organizational approaches (Alexander, 2006). As such, innovations can be considered as product or process-oriented, where the former is often technological and the latter is often pedagogical or organizational (*ibid.*). The innovations developed through LFS 350 and the BC FSP are process-oriented in that they focus on pedagogical and organizational strategies to address the issues identified above.

Table 6.1 describes the process-oriented innovations developed for each of the five issues identified above, along with their associated implementation and outcomes. The community partner insights that are included in the last column are excerpted from the interviews; these insights (where applicable) provide further feedback as to how the innovations are playing out.

Table 6.1. Innovations to integrate community-based experiential learning (CBEL) into the UBC Land and Food Systems (LFS) 350 course, with approximately 200 students each term. The table indicates: An issue that was identified; the innovation that emerged, its implementation and associated outcomes; and relevant insights from interviews conducted with community partners.

| <i>Issue Identified</i> | <i>Innovation</i> | <i>Implementation</i> | <i>Outcomes</i> | <i>Community partner (CP) insights</i> |
|---------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Numerous food system projects need to be connected to each other for a ‘bigger picture’ perspective | Create teams of student integrators | <p>Developed student integrating teams to identify themes & commonalities across communities</p> <ul style="list-style-type: none"> – This option was first presented as CBR, where the classroom was the community | <p>~5-10% of students have opted to be integrators, but express that they miss out on interacting with community partners</p> <ul style="list-style-type: none"> – Still refining this role to ascertain whether it is best considered as CBR or CSL | <p>Note: While the community partners did not interact directly with the student integrators, they saw value in a more integrated approach to food systems.</p> |
| 2. Relationship development between university and community organizations costs money & time | <p>Develop projects over multiple years</p> <p>Establish a “collective memory” of project reports that students (and community partners) can access</p> <p>Foster relationships between faculty/ project coordinator and community partners</p> | <p>Developed community partnerships for a minimum of 2 to 3 years</p> <ul style="list-style-type: none"> – Student teams review previous reports before beginning on next stage of the project | <ul style="list-style-type: none"> – Enables small project outcomes to accumulate over time – Allows community partners to think longer-term for the projects and better utilize university resources | <p>“Students read previous groups’ work as a foundation for further investigation. Then they don’t redo the same kind of information; they can springboard into something meatier. I don’t think we could have done this research in such detail four years ago. We still needed to lay that foundation” (CP1).</p> <p>“My advice [for other partners] would be to think strategically about what can be done that will benefit programs or projects for the long-term, rather than just little one-off projects. I hope we can find a way to keep the relationship with UBC – now I’m talking more about with the Faculty – so we can collaborate in the future. It was a good experience, and it’s one that is mutually beneficial. Cultivating relationships is so important. It takes times & after investing that time, it would be great to keep it going” (CP4).</p> <p>“Think of it as building a longer term relationship with the faculty where hopefully you provide a meaningful learning opportunity for students & if you’re looking for something in return, in a kind of crude sense, don’t put all your eggs in the students’ basket, but think about other ways of engaging the faculty to have mutually beneficial partnerships” (CP12).</p> |

| <i>Issue Identified</i> | <i>Innovation</i> | <i>Implementation</i> | <i>Outcomes</i> | <i>Community partner insights</i> |
|----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3.CBEL is still new for most members of teaching team & students | Develop training workshops for teaching team & students | Developed workshops, with the UBC-CLI & UBC teaching and learning centre, to cultivate shared understanding, language, & expectations. – Students invited to suggest topics | Topics: Connecting with community (protocols, expectations, ethics); CBEL themes & methods; Reflective practice (incl. marking) – Favourable response by participants – Workshops continue to be refined | N/A |
| 4.Students want opportunities to engage in hands-on learning with community partners | Add option for Community Service-Learning (CSL) | Partnered with the UBC-Community Learning Initiative (CLI), a campus unit that supports curricular CSL – Hands-on CSL was directly connected to the community-based research (CBR) already being undertaken | CSL first introduced as extracurricular option; 1/3 students opted in – CSL is now 20% of final; between 2/3 and 3/4 students opt in Student & CP feedback: CSL may be foundational to CBR by enabling more intimate understandings of community. Combining CSL & CBR may advance research potential & student experience | “Having hands-on work, where students physically work at the project or in the community, is so helpful in their learning. It almost should be done first, just to ground the students so they can conceptualize what this community is about” (CP1). “We milled flour for the project with the students, & they were really, really interested in that very practical stuff. We did have a co-creation there of knowledge-they were able to ask questions that inspired me to go home and do a little bit more learning and re-tailor some of my work” (CP2). “What does it mean to have ag students graduate without ever having planted a seed or grown a garden? The students have to integrate what they know & do something. That is way better than some abstract representation because they integrate what they’re learning with something real” (CP8). |
| 5.Logistics of student teams contacting & working with community partners can be overwhelming | Develop engagement protocols to clarify communication pathways | Developed resources for students & CPs to clarify expectations, timelines Asked student teams to designate contacts for communication with CPs & teaching team | Better understanding of what to expect Role definition in student teams helps with focus & communication | “I like that there was one point person, and there weren’t all these emails from other people, so communication was a lot easier. If there was something that I needed to know, or they needed to know, it went through [one student]” (CP7). |

6.6 Discussion

Table 6.1 highlights five innovations developed to address issues that arose as CBEL was incorporated into LFS 350. The innovations include:

1. Creation of student integrators to connect numerous food system projects for a “bigger picture” perspective and to increase student understanding of complex topics;
2. Development of projects over multiple years, along with a “collective memory” of previous project reports, to maximize the returns on costly relationship development;
3. Development of training workshops for teaching teams and students to support limited experience with CBEL;
4. Addition of community service-learning to community-based research to advance student understanding of community and the potential of the project research;
5. Engagement protocols clarify communication pathways with community partners to not overtax their time and resource

While some innovations are still in development, the outcomes to date and insights from community partners (as seen in Table 6.1) indicate that the course and project are on the right track.

This retrospective obscures the trial-and-error approach used to address issues as they arose; further, this write-up might make it appear that the course and project development team knew more about what was being attempted than was the case. Rather, the frameworks of action learning and action research provided a dynamic mandate for the teaching teams to experiment with new strategies and new ways of conceptualizing the constraints and potential of the university classroom. There was room to creatively and incrementally develop the resultant innovations over time, informed by critical and formative feedback from students, community partners, and the teaching teams. Such a learning environment is markedly different from the

most common alternative, that of a passive, lecture-based classroom. The associated unknowns may seem more manageable in light of these parameters. The issues that arose in this large class may be familiar to others undergoing a similar pedagogical transformation—especially within another academic program that desires an integrative, meaningful, core experience for its students. The innovations are useful and relevant to faculty and instructors who are taking the risks to try and adapt CBEL into their courses.

6.6.1 Innovators in higher education

Innovators in higher education intentionally introduce teaching and learning methods that are new to their own situation, for example, through their course, department, or institution, with the goal—but not the guarantee—that the innovation will improve teaching and learning (Hannan, English, and Silver, 1999). Innovators are thus necessarily risk-takers, who are willing to try something new without guarantees of success; these risks may include that the innovator be viewed with suspicion by colleagues wary of breaking with tradition (Ayscough, 1976). Where possible, innovators in higher education may benefit from close association with faculty ‘champions’ (or they may be one and the same), where a champion is willing to engage other faculty, lead a change process, help conduct research, and facilitate meetings (Wolf, 2007).

Within the Faculty of Land and Food Systems, a lead innovator and champion was certainly Moura Quayle, who served as Dean during the Faculty’s process of transformation. It was Dean Quayle’s vision and inclusive leadership style that sparked the potential for rapid change within the Faculty (Rojas, 2009). Further, faculty members charged with the development of a core curriculum and led by Dr. Alejandro Rojas, also fit the descriptions of both innovators and

champions.⁴⁰ These key players set the stage for innovation and leadership within each of the core courses. While not every member of every team would necessarily be considered as an innovator or champion, collectively each team was involved in active experimentation and pedagogical risk-taking.

Hannan et al. (1999) interviewed 221 innovative faculty and administrators from fifteen universities across the United Kingdom and showed that common characteristics included being ‘at home with change’ and ‘willing to take risks’. The interviewees offered a variety of reasons as motivation to innovate, including: improving student learning; responding to changes in student intake (e.g., increasing student numbers and diversity); addressing demands of external agencies; and adapting to curriculum change or internal reorganization. This combination of internal and external pressures drives innovators to take on additional work, learn new skills, and take risks with their colleagues and careers, in order to improve teaching and learning or as a means to cope with changing demands. Regardless of whether one is comfortable with the label of innovator, those who identify with the description above should feel encouraged to start somewhere, find out what works and what doesn’t for their program, institution, communities, and student bodies, identify potential partners in collaboration, and be prepared to learn from both failures and successes.

⁴⁰ The Faculty of Land and Food Systems also has examples of students who are innovators and who have been willing to take risks to enact change. The UBC Farm is a wonderful example of faculty and students acting as innovators and risk-takers. Dr. Art Bomke has been a key faculty leader in the establishment of the UBC Farm (and the associated Centre for Sustainable Food Systems). Dr. Bomke, other faculty, and numerous students were extremely innovative in establishing the Farm as an integral, interdisciplinary unit on campus and for the broader community. The UBC Farm is now included in official university plans.

6.7 Conclusion

The issues and innovations described in this chapter contribute to a conversation about growing CBEL into the mainstream of large (and regular) sized undergraduate classrooms. The chapter shares some strategies to enhance communication across and beyond the classroom, as well as to support relationship development over time. Insights from community partners substantiate the notion that community-university partnerships can generate new knowledge to enrich both university and community. A review of literature on innovators, particularly in higher education, highlights the characteristics of being comfortable with change and being willing to take risks. It appears that the faculty leaders of the Land, Food, and Community core courses fit these characteristics.

The next chapter highlights further community partner insights on their experience with CBEL in a large class. Before CBEL can become a norm in large undergraduate classes, more active experimentation is needed to determine the considerations and systems to support such growth and the necessary conditions to make it a success.

Chapter 7. Results and findings II: Insights from community partners

Synopsis

I share insights from community partners about their experience of engagement so as to strengthen the potential of CBEL as part of a just sustainability education. I add to the small but significant literature about community partner experiences with CBEL, both by corroborating key challenges and benefits, and by adding to the discourse with a new insight about how universities and communities need each other.

7.1 Context and research question

While community-based experiential learning (CBEL) provides certain benefit to university students⁴¹ (Celio et al., 2011; Hill et al., 2010), the exchange is less certain for community partners (Hill et al., 2010; Stoecker and Tryon, 2009; Stoecker and Beckman, 2009; Blouin and Perry, 2009). The CBEL and community-university engagement literature describes both community service-learning (CSL) and community-based research (CBR) as intentionally fostering collaboration between universities and associated communities, ideally enabling reciprocal learning and benefit (Bringle and Hatcher, 2002; Strand et al., 2003). Much of the research, however, positions universities as the key stakeholders (Barr, Reid, and Stoecker, 2008; Creighton, 2008), probably because the impetus for community-university engagement often emerges from universities rather than communities (Hill et al., 2010; Stoecker and Beckman,

⁴¹ Student benefits from CBEL can include: “Better grades, more effective learning, student retention, collaboration skills, stronger commitment to service, volunteerism, and civic responsibility, enhanced moral and ethical reasoning, employment benefits, development of such “soft skills” as increased tolerance of diversity, multicultural sensitivity, promotion of racial equality and conflict resolution” (see literature review in Mooney and Edwards, 2001).

2009). This positioning may reinforce the charity model of service-learning, as opposed to one aiming toward social justice (Marullo and Edwards, 2000). As such, the resulting emphasis has focused primarily on student learning (Flicker, Senturia, and Wong, 2006; Ward and Wolf-Wendel, 2000) over community development and enhancement (Stoecker and Tryon, 2009). The overt focus on students means that research into community outcomes has been underdeveloped.

There are relatively few published studies focusing on community partner perspectives on community-university engagement (some exceptions include: Stoecker and Tryon, 2009; Creighton, 2008; Worrall, 2007; Sandy and Holland, 2006; Dorado and Giles, 2004; Bringle and Hatcher, 2002; Cruz and Giles, 2000). While the literature and scholarship on civic engagement lacks understanding of community partner perspectives (Creighton, 2008), scholars are emphasizing the need to prioritize community voices, assets, processes, and outcomes, so that community-university partnerships can be more likely to achieve the reciprocity articulated as a central goal (Blouin and Perry, 2009; Stoecker and Tryon, 2009; Creighton, 2008; Sandy and Holland 2006). However, as Stoecker and Beckman (2009) articulated: “Those who stress mutuality with community partners, and who want to place more emphasis on what students accomplish with them, struggle to figure out just how to make such aims reality.”

The fields of CBEL and community-university engagement must therefore highlight community partner perspectives to enable strengthening of the relationships between institutions of higher education and community partners (Creighton, 2008). To add to this discourse, this chapter addresses the following research question: *What insights did the community partners of the British Columbia Food System Project share that can help develop more effective community-university engagement for CBEL?*

7.2 Organization of the chapter

First, I revisit and present in more detail the methods of data collection to address the research question of this chapter. Second, I review literature related to defining the community and community partner, as well as previous research into community partner perspectives on CBEL and community-university engagement. Third, I present the insights of the community partners of the British Columbia Food System Project, followed by a discussion on how such insights can contribute to more effective community-university partnerships.

7.3 Review of methods of data collection

Between 2006 and 2009, forty-four community partners were involved in the British Columbia Food System Project (BC FSP), the core project associated with the Land and Food Systems (LFS) 350 course. Through the four years of developing the project, community partners were invited to provide feedback to the lead faculty instructor or the project coordinator at any time; opportunities to do so included annual planning meetings with the project coordinator or core faculty member, as well as throughout the semester of CBEL engagement with the students. Feedback was passed along by email or via notes taken from informal conversations. All community partners were invited to the students' final presentation. Each year, between five and twelve attended. Those who were able to attend were invited to provide feedback on the projects through feedback forms. Students returned final projects to their community partner by email, with an invitation to provide further feedback by email or phone to the course instructor(s) (although feedback was not specifically solicited at that time). Each year, five to ten community partners shared comments about the final projects with Dr. Bomke or me. This feedback

generally accounted for at least half of the project scenarios, since many partners had more than one scenario and often there was more than one community partner per project.

In the spring of 2010, I invited the forty-four community partners via email to participate in semi-structured, qualitative interviews about their involvement, experiences, and reflections on what worked, what didn't, and why and how the experience with the BC FSP could be improved. Thirteen community partners were available to be interviewed. I asked four main questions, which are included in the next section.

7.3.1 Interview questions asked of community partners

1. Please tell me the story of your involvement with the UBC Land and Food Systems 350 class and the BC Community Food System Project (BC FSP). (Follow-up questions: *Highlights? Successes? Roadblocks? What worked? What didn't? What did you learn?*)
2. What short-term outcomes have emerged through your involvement in the BC FSP? Do you envision any medium-term or longer-term outcomes? (Follow-up questions: *Generally? Specifically regarding community food system sustainability?*)
3. Was there anything about the partnership that surprised you?
4. Based on your experience as a community partner, what advice would you give to the university about how it should be building partnerships with organizations (or communities) like yours? What advice would you give to other community partners about how to get the most from partnership with the university?

Thirteen community partners were willing and able to participate in the interviews (n=13; 30% of all community partners); the results presented here are insights gleaned from those conversations. All interviews took place in June and July of 2010. In February, 2011, the transcribed interviews, along with preliminary analysis, were returned to the participating

partners with a request for review and feedback. Quotes of interest were determined by their reference to positive, negative, or constructive feedback, as well as concerns and ideas for improvement. Such quotes were highlighted for community partners to review.

Responses from community partners were incorporated into further analysis. Atlas.ti Qualitative Data Analysis Software 6.2.27 was used for qualitative, interpretive coding of the raw data and flexible interview analysis that identified and linked major concepts. One interview was not properly recorded due to a technical malfunction and is therefore not included in the analysis.

7.3.2 Constraints and opportunities

Due to the small sample size of community partner interviewees, the findings are descriptive as opposed to statistical. However, the seemingly small sample size is justifiable as research has shown that response saturation can often be achieved between six and twelve interviews (Guest, Bunce, and Johnson, 2006). Further, having only thirteen participants afforded the interviewer time to conduct in-depth interviews and spend between an hour to two hours with each interviewee, to probe deeper into the questions and answers, and to follow-up with all participants to request feedback and further reflection. Whereas simple satisfaction surveys are often used to gauge community partner experience with students, they tend to stop short at evaluating the program and do not extend to assessment of the actual outcomes and whether community needs were met (Quiring, 2010).

As project coordinator, interviewer, and researcher, the author had ample opportunity to establish rapport with participants through the various roles. The multiplicity of these roles can be seen as a constraint and an opportunity, where objectivity may have been reduced but familiarity and trust may have been increased. The latter point may be especially valid because I was no longer

acting in the role of project coordinator while conducting the interviews. Instead, I was able to represent the project and convey a message of genuine desire for honest and useful information from the partners' experiences to deliver to the new coordinator and teaching team. Several participants noted their appreciation for the opportunity to reflect deeply on their experiences and the interest in their perspectives.

7.4 Defining community

The critical questions of “who is the community”, “who represents the community,” and “who speaks for the community” must be addressed because there are various conceptions of how a community can be defined (Flicker et al., 2006; Cruz and Giles, 2000). Stoecker and Beckman (2009) clearly state that: “The community consists of the people whose lives are directly affected by the issues at hand and the community organizations that they control.” Similarly, Stringer (2007, p. 6) identifies the “community” as a “community of interest”, where all those with a stake in the issue are engaged in its systematic inquiry. The Prevention Research Centre of Michigan defines “The Community with the Problem” as those individuals affected by and experienced with the problems being addressed (Flicker et al., 2006).

Complications arise when determining who represents and speaks for the community and who is best suited to be a community partner (Bringle et al., 2009). While it may be ideal to partner directly with those affected by the community issue, that option is not always available (Flicker et al., 2006). Community-based organizations that have developed from the community of interest may be the best conduit to the community, where a representative from the community-based organization can speak for (and with) the broader community. In addition to these grassroots efforts, community partners may also include representatives from governmental

organizations, such as school boards and local health authorities, and non-governmental organizations, such as YMCAs, who aim to represent and support communities more formally and often from a somewhat removed perspective (Stoecker and Beckman, 2009). The approach of partnering with community leaders from community-based organizations and representatives from other relevant community organizations may help surpass change at the individual level by working toward systemic change at multiple societal levels (CDC, 1997).

7.5 Community partner perspectives from the literature on benefits and challenges of community-university engagement

Even with the limited literature focusing on community partner experiences in CSL and CBR, there are studies demonstrating both the benefits and challenges that organizations identify from involvement in CBEL and more broadly, community-university engagement. See Table 7.1.

Table 7.1. An overview of some benefits and challenges to community-based experiential learning (CBEL) and community-university engagement (CUE), as articulated in a range of studies

| Benefits of CBEL & CUE | References | Challenges of CBEL & CUE | References |
|--------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|---------------------------------------------------------------|
| Increased resources for community or organization (e.g. labour, access to university resources) | Blouin & Perry, 2009; Worrall, 2007; Sandy & Holland, 2006; Cruz & Giles, 2000 | Limited integration between community & course objectives | Blouin & Perry; 2009 |
| Contribution to projects, mission, & research | Blouin & Perry, 2009; Bushouse, 2005; Vernon & Ward, 1999 | Conflicting schedules between community & academic calendar | Vernon & Foster, 2002; Vernon & Ward, 1999 |
| Involvement with university helps raise profile of community or organization | Sandy & Holland, 2006; Cruz & Giles, 2000 | Limited time & communication with professors | Blouin & Perry; 2009; Lantz et al., 2001; Vernon & Ward, 1999 |
| Networking with other organizations | Nduna, 2007; Sandy & Holland, 2006 | Drains on community resources (e.g. staff time) | Blouin & Perry, 2009; Bushouse, 2005; Vernon & Foster, 2002 |
| Students bring fresh energy, perspectives, & ideas | Blouin & Perry, 2009; Vernon & Foster 2002; Ferrari & Worrall 2000 | Limited time of students | Vernon and Ward, 1999 |
| Students inspire community & staff with motivation & creativity | Blouin & Perry, 2009 | Limited student experience (Community partner often provides additional training) | Vernon & Foster, 2002; Vernon & Ward, 1999 |

As seen in Table 7.1, there are various benefits and challenges that community partners face in working with universities and university students. Most research on community perspectives report both benefits and challenges to the community or organization, and many report that the benefits outweigh the costs (Blouin and Perry, 2009).

7.6 LFS 350 and the BC FSP: Community partners

The communities of interest for the British Columbia Food System Project (BC FSP) include representatives of the complexities of the BC food system. As a feasible and directed entry point into this broad range of communities, the lead faculty member and project coordinator initially looked primarily to personal and professional contacts who formally or informally represent a community-based food system issue, including, agriculture and food production, food processing, food access, education, health systems, and all social, ecological, and economic impacts associated with these processes (as per Harmon et al., 1999). The course organizers made an explicit decision to follow existing community interest and energy to find viable projects and partnerships that would be most appropriate for students (in terms of their experience and availability) and that seemed keen to engage with students.

A primary criterion was that organizations be community-based, although this approach evolved beyond that measure to include a couple of large chain grocery stores and developers. This evolving approach was meant to bring in a broader range of food system perspectives. The initial sample of community partners also extended through a casual form of snowball sampling (Goodman, 1961), where community members identified or brought in new potential partners with interest and experience appropriate to the project. In this way, partnerships also emerged

from connections of connections, via a social network of food system leaders across the province.

The community partners for the BC FSP thus represented community in various forms: through community projects (such as community gardens), community-based organizations (that often began as community projects), groups of farmers or activists (grouped regionally), government (such as public high schools and colleges, health authorities, and municipal governments), NGOs (such as YWCAs), and food industries (such as grocery stores and social enterprises). Notably, it was more challenging to connect with large-scale distributors and major grocery chains. While these groups represent key players of the food system, the focus of the project was to connect with community-based organizations and projects. Many community partners were indeed grassroots and intimately connected with the community of interest, however, learning about the complexities of the food system arguably benefits from a broader breadth of vantage points. The plenary sessions provided important opportunity to move from the local projects to the more global food system issues.

Notably, the community partners also represented different regions of British Columbia, including urban, suburban or peri-urban, and rural or semi-rural. Because rural communities often do not access the same level of engagement by universities (Hill et al., 2010) and urban and rural communities face different challenges and needs, the inclusion of this range of community partners—and their voices—is an important contribution and potential advancement to the literature on community-based learning. Table 7.2 contains further description of community partners who were interviewed.

Table 7.2. Descriptive statistics for the community partners from 2006 to 2009 who were interviewed about their experiences with the BC Food System Project (BC FSP). **The table indicates each community partner role within the food system (i.e. community-based organization leaders, community project leaders, government representative, or farmer), the type of region of British Columbia represented (i.e., urban, suburban, or rural/semi-rural), and the number of years each individual was partnered with the BC FSP at the time of the interview (minimum=1, maximum=4).**

| Community Partner (CP) code | Role within the food system | Regional representation within British Columbia | Years with the BC FSP at time of interview | Connection to food system |
|------------------------------------|-------------------------------------|--------------------------------------------------------|---------------------------------------------------|----------------------------------|
| CP1 | Community-based organization leader | Suburban | 4 | Production & Education |
| CP2 | Community project leader | Urban | 1 | Production & Processing |
| CP3 | Community project leader | Urban | 2 | Production & Access |
| CP4 | Community-based organization leader | Rural / Semi-Rural | 4 | Policy & Community outreach |
| CP5 | Farmer | Rural / Semi-Rural | 2 | Production |
| CP6 | Community-based organization leader | Urban | 1 | Education & Access |
| CP7 | Community-based organization leader | Suburban | 4 | Education & Access |
| CP8 | Community project leader | Urban | 3 | Production & Access |
| CP9 | Government | Suburban | 1 | Waste |
| CP10 | Community-based organization leader | Rural / Semi-Rural | 1 | Land stewardship |
| CP11 | Community project leader | Urban | 1 | Production & Distribution |
| CP12 | Community-based organization leader | Urban | 1 | Production & Education |

The community partners who were interviewed represent six community-based organizations, four community projects, one farmer, and one government group. Half of the interviewees were from urban Vancouver, one-quarter were from suburban areas around Vancouver, and one-quarter were from rural or semi-rural BC. Half had only been in partnership with the BC FSP for one year, two for two years, one for three years, and three had been community partners over four years. This distribution approximates the descriptive statistics of all the community partners involved in the BC FSP.

7.7 Findings and analysis

Each benefit and challenge noted in Table 7.1 was raised by the BC FSP community partners during the interviews. Most were offered when community partners addressed the question about outcomes of the BC FSP or about surprises of the partnership. Tables 7.3 and 7.4 present these benefits and challenges, along with supporting community partner quotations. These tables are followed by analysis of the challenges to consider how they may be better understood and potentially addressed.

In addition to better understanding the benefits and challenges that community partners face in working with universities, there is a need to hear from community partners about what will make the partnerships and projects better, that is, what will improve their experiences with and outcomes from engagement with students and the university (Sandy and Holland, 2006). As such, the benefits and challenges from the community partner interviews are supplemented with additional insights that may contribute to these processes.

7.7.1 Benefits and challenges

Table 7.3. Quotes from BC FSP community partners confirming benefits of community-based learning (CBEL) and community-university engagement (CUE) indicated in the literature.

| Benefits of CBEL & CUE | Community Partner (CP) Supporting Quotations |
|----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Increased resources (e.g. labour, access to university) | “We run the project with limited resources & it was great to have those extra bodies” (CP2: Urban, community project leader). |
| | “The [community members’] behaviour change because of the direct contact wouldn’t have happened without the students. I am a one-woman show at my job; even crossing departments, people are careful about time because it’s a small [unit] & we have a large mandate. Having students as a resource made a huge difference to the outcome of the project” (CP9: Suburban, government). |
| Contribution to projects, mission, & research | “What the students did was really useful for us. It was a survey about what the program’s been doing & how we can improve [it]. Based on last year’s study, we actually did follow some of the recommendations & changed how we taught the curriculum. We had a curriculum written up & used that as a tool to run lessons & lesson plans; this year they came up with more recommendations, which we will consider as well. So, when you think undergrads have that much power to help a group focus more & deliver something that’s impactful, it’s a fantastic partnership to have” (CP7: Suburban, community-based organization leader). |
| | “All the research has been really valuable going forward for funding. It’s been very useful to say, ‘this is the research we’ve had, these are the stories of change we can report to our funders.’ The students analysed all the data from our community consultation, sent it back to me & I had all that data that I could put into our reports. So, there’s been very specific, targeted work done that helps the project in terms of evaluation, in terms of figuring out our outcome, mission & framework” (CP8: Urban, community project leader). |

**Benefits of
CBEL & CUE**

Community Partner (CP) Supporting Quotations

**Involvement
with
university
helps raise
profile of
community or
organization**

“Having people come from the university or Vancouver to participate lends projects validity because somebody else is paying attention, somebody else values it enough to participate, so maybe we [the community] should pay more attention” (CP4: Rural/Semi-Rural, community-based organization leader).

“I think for organizations that are newer or younger - & we’re still pretty young - you need to have that academic recognition. The tie-ins & collaborations with the universities or colleges give an organization credibility. It helps with grant-writing. You’re not a Nascar with all these labels on it, but who you collaborate with makes you a larger partner in the community, it says you’re involved, that they trust you & you trust them, that you’re not a ‘here today, gone tomorrow’ kind of organization. So, I think that for small organizations just starting out, I think it would be a great boost for their structure, for their staffing, to go, ‘wow, somebody values what we do’” (CP7: Suburban, community-based organization leader).

**Networking
with other
organizations**

“[Students] can really work with the community to engage & sometimes even start the conversation because often students can ask questions that community partners can’t. Having a group of UBC students, I think, there’s no baggage & there’s no agenda. They can ask the questions like “why?” which I probably wouldn’t get a truthful answer from, because people already know me as an activist in the community & they are guarded about some of the answers that they can give. So, I really count on students to be able to ask those kinds of questions. I’m constantly, through my work, making note of, ‘ok, this is a situation I probably can’t get into, but make a note for a student group’” (CP1: Suburban, community-based organization leader).

“Just through [the students] opening up that dialogue & going to these different parties, I feel like that has created the potential & the reality of more networking & collaboration” (CP5: Rural/Semi-Rural, farmer).

“It was very helpful to begin building bridges [between our organization & another]; it was a great first step, a great first piece in that conversation, just to have a really positive interaction & be able to share experiences. It was a great open door to what can hopefully become a collaboration” (CP12: Urban, community-based organization leader).

**Benefits of
CBEL & CUE**

Community Partner (CP) Supporting Quotations

**Students bring
fresh energy,
perspectives,
& ideas**

“One of the biggest highlights was just having students come up here. Meeting the students, hearing their passion, seeing them get really engaged with what we were doing & engaged with the project, & having that sort of outreach, just the idea of having those students up here” (CP5: Rural/Semi-Rural, farmer).

“Just that interesting perspective of a student with fresh eyes, assessing and then compiling something, is, I think, really powerful. They bring something different to it that our small group of staff in here can’t always spend time on” (CP10: Rural/Semi-Rural, community-based organization leader).

**Students
inspire
community &
staff with
motivation &
creativity**

“For me, my energy level goes up when I work with the university students. Not to say that I’m glum and gloom & doom every day, but it’s like, wow, I’ve got another group to work with. For me, I like 15 balls, juggling them in the air, that’s what I do best & I really thrive on that. So, the university students... give my life purpose” (CP7: Suburban, community-based organization leader).

Table 7.4. Quotes from BC FSP community partners confirming challenges of community-based learning (CBEL) and community-university engagement (CUE) indicated in the literature. *Note: italics indicate slight variation in theme from Table 7.1.*

| Challenges of CBEL & CUE | Community Partner (CP) Supporting Quotations |
|---------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Limited integration between community objectives & student interests | <p>“I don’t know how feasible it is in the context of the class, but I think it would be hugely beneficial if you were better able to match students who have some expertise and/or passion for the specific project, or maybe even be able to take the time to tweak the project a little bit so that it does match up, [so that we can] say, ‘These are the students we’ve got... how can we shape this project a little bit so both sides will get the most out of it? And/ or here’s a project that seems really great; what are the students that would match it the best?’” (CP5: Rural/Semi-Rural, farmer).</p> |
| Conflicting schedules between community & academic calendar | <p>“The tight timelines we had to work with because of the way the school year goes was a bit intense because community development & community change takes a really long time, so our timelines are a bit different” (CP4: Rural/Semi-Rural, community-based organization leader).</p> <p>“I recognize that there’s limited time frame to do it, community partners [have to] familiarize ourselves with the realities of a student schedule & how much time they actually have to commit to the project and what realistically the students will be able to produce within one of these projects” (CP5: Rural/Semi-Rural, farmer).</p> |
| Limited time & communication with professors (and teaching team) | <p>“I don’t know if it would be logistically possible to have, before the course starts, at the very beginning of September, or end of August, have as many community partners as possible meet with the teaching team & develop those relationships, or just have everybody there to be able to meet face-to-face” (CP6: Urban, community-based organization leader).</p> <p>“The form we have to fill out [to articulate project ideas & service opportunities] & the guidelines are good. It seems like there could be another insertion point for guidance once the project starts, when the students aren’t emailing back & you’re wondering if they want you to do something or if it’s that they’re busy. That’s where you need the prompt, after the first meeting and the first rush of enthusiasm” (CP9: Suburban, government).</p> |

Challenges of CBL & CUE

Community Partner (CP) Supporting Quotations

Drains on community resources (e.g. staff time)

“On the one hand, it’s, ‘great, students that’ll be fantastic, we can get some labour, we’ve got ditches that need to be dug, we’ve got all kinds of things they can do. And, an influx of a healthy group of however many is going to be wonderful.’ On the other hand, it would be, ‘oh no, another group that we’re going to have to manage. That we’re actually going to get in total less than we put into it because it’s just not that easy to parachute into a project & be helpful on it, as it sounds like to everyone at the start, when it sounds like such a great idea” (CP3: Urban, community project leader).

Limited time of students

“Students are taking four other classes, or they have limited resources or whatever it is & communication needs to be built stronger” (CP6: Urban, community-based organization leader).

“My experience was that the students, between all of their classes, work, their lives, everything that was going on, they needed to plug in, then go on & do the rest of what they needed to do. I didn’t get the sense they had a lot of open-ended, unscheduled time. Because this was one of many classes & most of them seemed to have some kind of job as well” (CP9: Suburban, government).

Limited student experience (*Students acting as if they are experts when they are not*)

“The problem is that you get [students] looking to be experts. I’ll do my best to follow protocols that I learn & then sometimes, I still make mistakes, but I can’t underline enough that you can’t afford to make those mistakes. Some mistakes you just don’t want to have to repay. The feelings are too much to repair, so that kind of cultural competency training for anybody involved might be worth doing” (CP8: Urban, community project leader).

“I had the same feeling I had when I was an undergrad, that is, we think as undergrad students our job is to convey expertise & it’s not! Because we don’t know anything at that point! What we have is idealism, energy, excitement. We’re engaged in a stage of our life when we are excited to research, learn, ask questions & understand the way that the world works & we’re looking for mentorship at that stage. To then turn around & be expected, in a short period of time, to demonstrate expertise & provide research that’s really going to have teeth, I think it’s a bit of an unfair expectation, or at least it misses the point” (CP11: Urban, community project leader).

Tables 7.3 and 7.4 support the previous literature's findings on the benefits and challenges of CBEL and CUE from community partner perspectives. While benefits certainly exist for community partners working with students and being connected to a university, there are also challenges that can result in significant costs for the community to bear. The large majority of BC FSP community partners return for multiple project iterations, which may indicate that the benefits outweigh the challenges, or that community partners are unwilling to risk ending a university partnership, regardless of the costs.

7.7.2 Analysis of challenges

Table 7.4 presents a range of challenges that must be addressed to enhance the potential of community-university engagement. There seem to be three main types of challenges being raised.

- 1. Foundational: Need for better communication and coordination between community partners, the teaching team, and students, as well as additional student orientation and training.*

Limited integration between community objectives and student interests can be addressed through better communication and coordination between the teaching team and the community partner, as well as the community partner and the students about the specifics of the project. The limited student experience, for example when students act as if they are experts when they are not, can be addressed directly with students and providing resources to help position them as

learners and contributors, *not* as experts. The project coordinator can be central in addressing this need.⁴²

Another key learning is the difference between newer and longer term partnerships. Over time, partnerships and projects deepen and outcomes can become more meaningful. Communicating this trajectory over time would benefit newer partners by encouraging them to cultivate a longer term perspective and adjusting expectations accordingly.

2. Restructuring: Potential for academic calendar restructuring to be hugely beneficial

Conflicting schedules between community and academic calendars and the limited time of students both point to the potential of restructuring academic calendars. Student learning could become community-based over extended periods of time, either iteratively over multiple years or for longer blocks of learning. Such restructuring would address concerns about students ‘parachuting in’ and being a drain on community resources; it would also allow opportunities for students to work with one organization and project over a longer period of time. As of 2013, the LFS 250 course is taking place over a full academic year, instead of compressing six UBC credits and the whole community project into one term. This change should help the timing of student activities within community organizations.

⁴² The project coordinator can also act as per Brundiers’ and Wiek’s (2011) transacademic interface manager, “a neutral person who facilitates the transacademic collaboration between and among students, their professors, and stakeholders and thereby mediates the interface between science and practice.”

Some community partner ideas on this idea follow:

“Maybe it could be like a real internship, not just a course-long, ‘do this for a few hours a week and this many hours,’ but somehow where you’re actually immersed in that, so you’re not juggling eight balls at once. Maybe this is what you’re doing for six months, and you’re not doing the other stuff; you’re freed from those other duties, and now you are doing [community-based learning] for as long as you’re doing it. This is what you’re doing” (Community partner 3).

“I wonder if there’s a way to build the relationship over a couple of years, rather than over a few weeks, so students who work with us can come back ... over subsequent years. A different way of approaching it, I don’t even know if it’s possible, but it would be great to work with a second year student and then the following year, to already have worked with them, to already know their strengths and weaknesses, to know what to expect and to be able to put a new task or collaboration” (Community partner 4).

These quotes raise the question of whether these forms of partnerships can be achieved at all with large classes, or if they require a totally different model based on immersion or internships. For universities to fully embrace the value of CBEL, they may have to restructure courses, learning opportunities, and the entire notion of an academic calendar to allow these alternative forms of engagement to be possible. Ongoing Faculty-level coordination could enable undergraduates to more effectively stratify their learning for increasingly specialized projects within the same community over time, for example through directed studies and undergraduate theses.

3. *Recognition and rewards: Need to address the limited system of recognition and rewards within universities, both for professors to engage with community and for community members to be compensated for sharing their time and expertise as part of university learning.*

The former point is well addressed in the literature (e.g. Abes, Jackson, and Jones, 2002). For the latter point, community partners had the following comments:

“I was thinking about some kind of pairing that could go on between, say somebody with an indigenous knowledge system and an academic. Say you’ve got a forestry or agroforestry student who’s interested in researching plants in the forest that could be harvested for medicinal purposes [paired with] an [Aboriginal] Elder that knew a lot about plants. Now, what would you do with that Elder? Would you pay them what you would a university professor? I think you know it’s come the time when we should be looking at honorariums commensurate with the day rate of an academic, and then some kind of acknowledgement of how that student that works with that Elder is going to take that knowledge going forward” (Community partner 8).

The community partner, in the above quotation, raises serious concerns about inequality within community-university partnerships, as well as the question of how community members benefit from partnership with universities. It is imperative that universities properly compensate community partners—especially those from groups more economically disadvantaged and vulnerable.

“I think universities, if they’re actually going to embrace community-based learning, like UBC is saying, they have to completely re-incentivize it for students, for staff, and faculty. You need to value people who are out in the community and doing that work and taking the time to set up [these opportunities]” (Community partner 12).

In the above quotation, this community partner highlights the need to value those involved in CBEL, including within the university and the community.

While there is certainly justification for paying community partners for their teaching services, the reality is that university budgets are likely not sufficient to do this fairly for all community contacts. Until this situation changes (for example, through targeted fundraising efforts), universities need to seek appropriate non-monetary ways to repay the contributions from the community. Some of these have been mentioned above. For CBEL to be truly reciprocal and

successful there must be a serious effort on the part of universities to give some good products or service to the community.

7.7.3 Additional insights

7.7.3.1 Universities and communities need each other

The interviews with the BC FSP community partners raised one salient theme not explicitly found in other studies, that: *universities and associated local or regional communities need each other*.

For example (emphasis added):

“Partnerships between university and community groups help both realize they’re not mutually exclusive. I think that traditionally, the university has stayed separate and the community groups have stayed separate, not because they don’t get along, but they’ve just seen themselves as two separate realms. And, I think they both have something to contribute to one another; they have the opportunity to learn from each other and to teach each other about different ways of doing things. It helps community groups realize that the university does actually have a vested interest in helping with research and development on the ground. In a sense, it humbles the university, and it brings the community groups up and asks them to be a little bit more specific about [their] objectives and start envisioning a way to bring in other people. **More of these partnerships can help both the university and the community groups understand that we need each other. There are skill sets and opportunities and challenges and this whole diverse array of possibilities that just become greater and are expanded upon when we go into partnership together”** (Community partner 2).

The quotation above highlights the disconnection, as well as the potential of deep connection or partnership between universities and the local or regional communities in which they are located. That universities and communities *need each other* is potentially a missing link in the literature on community-university engagement, which often positions universities as the partner with more to offer, whether through charity or even social justice. Typically, universities “view the

community as the domain of the problem and the college as the domain of the solution” (Yappa, 1999). Community-university partnerships are touted as leveraging resources to address critical issues in communities (Bringle and Hatcher, 2002)

The alternative perspective is that universities and communities are of the same community — and specifically the same community of learners—and therefore share interests and resources (Enos and Morton, 2003). This approach helps to reorient the nature of the relationship toward shared need and resources flowing both ways—from university to community and from community to university—to address critical issues within each. This perception also aligns with Boyer’s (1996) reference to “abundant evidence [that] shows that both the civic and academic health of any culture is vitally enriched as scholars and practitioners speak and listen carefully to each other.” He concludes that:

“Ultimately, the scholarship of engagement means creating a special climate in which the academic and civic cultures communicate more continuously and more creatively with each other, helping to enlarge what anthropologist Clifford Geertz describes as the universe of human discourse and enriching the quality of life for all of us” (Boyer, 1996).

Boyer’s perspective appears to be supported by BC FSP community partners:

“There’s every excellent reason to bridge the gap, for the benefit of both [universities and communities]. The universities are, like a lot of things in society, in crisis, and the society definitely needs help.... There’s every opportunity; it is an exciting time” (Community partner 3).

The above quotation both recognizes the era of change within universities (and the broader society), as well as the possibility for transformation of the systems to enable mutual benefit.

“I feel like there would be huge benefit to both sides if there was the opportunity to learn a little bit more about where each side was coming from” (Community partner 5).

The quotation above both recognizes the cultural divide between communities and universities, as well as the possibility to grow together through learning about each other. Both of these quotes speak to Boyer's vision of a climate in which open communication and shared culture can create common experience and mutual benefit.

7.7.3.2 Cultural differences between universities and communities

Universities have traditionally been detached from their associated local and regional communities in favour of connecting with national and international research communities (Chatterton, 2000). To that end, "the university has always claimed the world, not its host city, as its domain" (Bender, 1988, p. 294). Universities' physical and cultural locations have generally been valued less than the abstract and generalizable knowledge that can connect to international scholarship; local communities have thus rarely benefitted directly from the universities situated in their midst (Maurrasse, 2001, p.4). While not the case in every institution or program, there is a strong history of the academic quest for universal truths as opposed to locally-grounded, diverse, and more idiosyncratic knowledge, which has often been dismissed as parochial. Still, universities can and do contribute to local communities through various outreach programs, work-study jobs, and remedial courses to compensate for impoverished local education systems.

With growing interest in community-university engagement, why is the disconnection between universities and associated communities ongoing?

In addition to logistical challenges such as scheduling and semester timelines, a key challenge expressed by community partners of CBEL and community-university engagement is the cultural difference between universities and communities. This sentiment has been expressed as the university being "in" but not "of" the community (Enos and Morton, 2003). Such distinction can

be based upon different motivations and perspectives on learning and expertise (e.g., Sandy and Holland, 2006; Bacon, 2002; Lantz et al., 2001). It can also be based on a hierarchical perspective, where the university views itself as somehow better than the community. Community partners of the BC FSP note different value systems between communities and universities and mistrust of universities by communities.

For example (emphasis added):

“I never get that sense that [the university] is the community, [or]: ‘We live here, we are you; you are us. How can we do this thing better?’ It always seems like, ‘We are observing you and will you let us observe you? And, we’re going to help, we’ll bring shovels...’ But I never really trust that they really have their hearts in it, that they really want to help and that they really are going to dig that ditch. They might if you guilt them into it, or a few of them have got too much pent-up energy or whatever, but not really, **you can’t really count on them to do anything...** The two seem so far apart, it just seems a really hard thing to just get them to meet” (Community partner 3).

The above quote is a harsh perspective on how universities can attempt to engage with communities. As stated above, the “heart” of the university is too often not involved in the interaction.

“The marks-based system has a lot of trouble co-existing with genuine, honest community-based learning. It’s a paradigm shift; it’s a value shift, it’s a shift in how students feel entitled. There’s this feeling of, ‘I’ve paid all this money in tuition, I want my damn training, and I want to get out of here and get a high paying job.’ Obviously that’s generalizing and obviously not every student feels that, but **[the university has to say], ‘It’s just as valuable for you to be out there in the community; that is job training.’**”

I love the interaction with the students, but it’s made me quite cynical about universities themselves. **I don’t entirely trust their motives for getting out into the community,** as a higher level, broad-stroke strategic visioning check mark on the check list of things we want to do to be a better institution. I feel it’s disingenuous sometimes the way it’s marketed, or even just the fact that it is marketed” (Community partner 12).

The second quote identifies that a university degree that is perceived to be simply transactional is at the root of the conflict with CBEL. While the community partner acknowledges the generalization, they highlight a reason why engagement with community is not valued by the university or by the students. The community partner does identify a different avenue, however, whereby the university says to students that community engagement is valuable, for their education and for their future.

The disconnections noted in these community partner quotations highlight some of the deeply rooted challenges that must be addressed to overcome the cultural divide between universities and communities and move into enacting the need they have for one another. As Morton (1997) stated, “No self-interest... can be authentically shared and no intentional interdependence can emerge as long as the basic institutional relationship assumes that [universities and community partners] are members of separate communities” (p. 8). How is such a cultural divide overcome? Can a new “shared public culture” be embraced, whereby the university and community are seen as one entity with different skillsets and experiences (Chatterton, 2000)?

7.8 Discussion and conclusions

Many of the disconnections noted as challenges may benefit from being viewed as part of the larger problem of the fragmentation of knowledge. This deep disconnection has emerged from a “reductionist culture that objectifies and simplifies reality, fragmenting it into isolated independent parts while at the same time disconnecting people from each other and from nature’s complex interrelations” (Rojas, 2009). The (re)connection of universities and communities is one of the possible strategies to overcome the fragmentation of knowledge, whereby universities and communities not only benefit from being in relationship, but are actually part of the same whole

and therefore functionally need each other. The potential for this integration can be advanced through CBEL, which can be seen as an organizational process in which complex relationships can form and interact in a multiplicity of ways. Giving careful attention to all components of the interaction can help to guide the relationship toward the positive end of the spectrum. Each challenge needs ongoing reflection, evaluation, passion, and support (Nduna, 2007).

The size, scale, and scope of LFS 350 and its embedded BC FSP (as well as the whole of the Land, Food, and Community series) provide a microcosm of broader investigations into CBEL in large classes. In particular, the voices of community partners lend credibility to the investigation as a robust inquiry. The theme of food systems and inclusion of multiple perspectives allow exploration of global food system and sustainability issues through local lenses. Employing action research and integrative learning to transform a large, multidisciplinary class into a network of community-university engagement is enabling the emergence of a “mycorrhizal learning” analogy that may contribute to sustainable and resilient growth of CBEL. This analogy is discussed in the following chapter, the Conclusion.

Chapter 8. Conclusion.

This action research case study of a course and embedded community-based project provides a critical example of how tertiary education can accommodate multidisciplinary, thematic, community-based experiential learning—even in a large, required course—as part of the sustainability transformation so urgently required (Hegarty et al., 2011; Wiek et al., 2011; Sipos et al., 2008; UNESCO, 2005a; Sterling, 2004a; Lotz-Sisitka, 2004; Orr, 1991).

Synopsis

In this final chapter, I present an integration of the research within this dissertation, including a summary overview of the dissertation, highlighting conclusions of previous chapters. I share a biomimetic metaphor that emerged through the analysis of this case to help envision learning that mimics living systems. I conclude with reflections on strengths and limitations of the research, as well as future research directions.

8.1 Overall analysis and conclusions of the research

8.1.1 Context review

The case presented in this dissertation demonstrates the growth of CBEL in a large Canadian undergraduate class. This demonstration is important because increasing numbers of North American universities are identifying sustainability education and community engagement as institutional priorities (Rowe, 2007; Harkavy, 2006; UNESCO, 2005a; b). While universities make pledges to support sustainability education and CBEL, few institutions are actually implementing associated curricular options for the majority of undergraduate students

(Armstrong, 2011; Harkavy, 2006). The impediments that universities face in actualizing these priorities are multifold and include: large class sizes (Hancock et al., 2010), the domination of lecture-based teaching (Deslauriers et al., 2011), financial constraints (Selingo, 2013), disciplinary learning and lack of student opportunities to confront complex real-world problems (Francis et al., 2013). Faculty and instructors, furthermore, frequently lack training or reorientation both to understand the concepts and develop skills in implementation of sustainability education and CBEL (Armstrong, 2011). In addition, the structure of incentives and disincentives, as well as how obligations are defined, fail to encourage faculty engagement in sustainability education and innovative, student-centered, and community-based teaching and learning.

In combination, these realities reinforce many of the cultural norms of contemporary university teaching, such as lecturing in large, discipline-specific classrooms. Further, the culture of universities tends to favour national and international research communities at the expense of local and regional communities (Chatterton, 2000). This bias reinforces the different cultures of universities and local communities, where academic quests for universal truths too often dismiss local opportunities and contexts for engagement (Maurrasse, 2001, p.4). One movement of some assurance is that CBEL is receiving attention at the national level, for example through the SSHRC-funded Community-University Research Alliances and the Partnerships Program. On the other hand, at the institutional level, neither sustainability scholarship nor CBEL are common criteria for students to attain degrees or faculty to be tenured.

While the Land and Food Systems (LFS) 350 course is the focus of my case study, it is contextualized within the broader case of institutional change at the Faculty level and

demonstrated throughout the core courses. The UBC Faculty of Land and Food Systems, which was restructured from the more traditional Faculty of Agricultural Sciences, has developed elements for an alternative to the dominant university disciplinary culture. It is important to note, though, that there is ongoing tension between a more traditional, disciplinary approach and the newer, integrative approach, represented by the Land, Food, and Community core series. Better communication with faculty and students of the Faculty of Land and Food Systems and with community stakeholders from the BC agricultural sector may help to maintain the Faculty's position as an agricultural institution and to highlight the importance of a food systems perspective.

The Land, Food, and Community courses, which are interdisciplinary, community-based, and team-taught, provide the common experience for the diverse student body, who engage in food system study largely through community-based food system projects. Student involvement in the core series of courses means that the Faculty of Land and Food Systems has the highest number of students, compared with all other (much larger) UBC Faculties, participating in CBEL. The UBC-Community Learning Initiative also reported that at UBC, LFS 250 and LFS 350 are the two courses with the highest numbers of students engaged in CBEL (Nelson, 2013).⁴³

I participated in the development of LFS 350 and the embedded BC Food System Project (BC FSP) via action research from 2006 to 2009. Through case study, primary engagement, and semi-structured interviews with community partners, I investigated two research questions. First, what innovations were developed to integrate CBEL into a large course? Second, what insights did

⁴³ As of 2011-2012, LFS 250 had 251 students and LFS 350 had 186 students, all of whom were involved in CBEL.

community partners share for more effective community-university partnerships, as part of the sustainability transition?

8.1.2 Case study conclusions

This action research case study of integrating CBEL into LFS 350 highlights the obstacles to integrating sustainability education and community engagement into a university class, while also demonstrating that it is possible to overcome those barriers. My primary investigation of the ongoing iterations of the BC FSP confirms that it is feasible to integrate CBEL into a large class with 200 students per term. Based on the community partner interviews, and supported by the literature I reviewed, I can confirm that the use of CBEL generally results in more benefits than challenges. The use of an integrative learning theme—in this case, food system study and the accompanying food system lens—accommodates multi- and transdisciplinarity, complexity, multiple relationships, and an emphasis on civil society.

In the dissertation, I share innovations to allow implementation of CBEL in a large class. These innovations were developed through active experimentation and implementation over four years and include: 1) Student integrators who connect numerous food system projects to encourage better understanding of complex issues among the many students, 2) Projects spanning multiple years to maximize the return from costly relationship development, 3) Community service-learning alongside community-based research to advance student understanding of community and project research potential, 4) Workshops for teaching teams and students to support their limited experience with CBEL, and 5) Engagement protocols to clarify communication pathways with community partners in order not to overtax their time and resources. Further, the radial

organization of the LFS 350 class, implemented through a teaching team, enabled more intimate learning environments where active learning could flourish.

For CBEL, it is essential to take the learning out of the four walls of the classroom and into local communities. Partnerships with community organizations and community leaders are thus an essential aspect of this case study. Prioritizing voices of community partners is too often overlooked (e.g. Stoecker and Tryon, 2009); I therefore invited all community partners from 2006 to 2009 to be interviewed. The interviews with community partners corroborated challenges and benefits described in previous literature, such as difficulty dealing with student inexperience and awkward semester-based time constraints on the one hand, as well as the advantages of working with enthusiastic students who often have unorthodox, creative ideas and who help reach out to the broader community on the other hand.

The interviews also contributed a new insight, that universities and associated communities need each other. While it is likely more realistic to focus on moving community-university relationships toward mutual benefit (which still requires major changes within universities), the community partners indicated that such an attempt requires recognition of shared needs. Community partners articulated significant cultural differences between communities and universities and see partnerships as a way to overcome perceived disparities. The alternative perspective they offer is that universities and communities share needs, interests, and resources. Rather than universities striving to be universal and ultimately placeless, CBEL offers options rooted in community, helping to localize knowledge and explore more nuanced aspects of global issues. Engaging in CBEL can empower communities to demand more from universities, such that resources flow more freely, particularly from universities to communities.

8.2 Integration of the research into biomimetic metaphor

Through the analysis of my case study, I have been considering a biomimetic metaphor to replace the more mechanistic perspectives of increasing community-university engagement, represented in language such as “building bridges” and “scaling up” (Fryer, 2010a, also see Sandy and Holland, 2006). Society is moving from the industrial revolution to a biomimicry revolution based on living systems, where biomimicry refers to innovation and design inspired by nature (Benyus, 1997). Industrial metaphors may hinder the responsive, resilient collaboration that is needed for universities to stay relevant in a changing world. As such, I have been reflecting on “mycorrhizal learning” as a way to envision community-university partnerships and networked engagement (see: Williams and Brown, 2011; Engeström, 2007; also Deleuze and Guattari, 1980, for a rhizomal metaphor⁴⁴). Mycorrhizae, or fungal-plant root networks, refer to the common, mutualistic association between fungi and plant roots (Brundrett, 2009). The fungi extend the plant roots to form intricate below-ground networks that connect different plant individuals and even different plant species for nonlinear, reciprocal transfer of minerals and water (Beiler et al., 2010).⁴⁵ The mycorrhizal network is resilient, regenerative, responsive to local conditions (which determine the growth and size of the fungus), and recursive (in that it entails processes of establishing and maintaining relationships with multiple plants). The below-ground mycorrhizal network truly enables the aboveground communities to thrive.

⁴⁴ A mycorrhizal metaphor for learning and engagement may be considered an extension of Deleuze and Guattari’s rhizomal approach, which highlights the importance of horizontal and multidirectional connections in human lives, in contrast to the dominant vertical, pyramid images of hierarchy. The rhizomal approach is limited, though, because rhizomes are simply belowground roots, whereas mycorrhizae speak immediately to interconnected relationships and mutualistic exchanges facilitated via a complex, resilient, regenerative, and recursive network. Engeström (e.g. 2007) skillfully utilizes a mycorrhizal metaphor to describe online learning and to extend communities of practice. Williams and Brown (2011) share an ecologically grounded metaphor for pedagogy rooted in living soil full of microbes, including mycorrhizal fungi.

⁴⁵ Specifically, the plants provide the fungus with carbon, while the fungus provides the plants with mineral nutrients such as phosphorus and increased access to water.

8.2.1 An analogical argument for CBEL as mycorrhizal learning

Similar to mycorrhizae, CBEL and community-university partnerships can extend the reach of both university and community, creating conditions for community-based projects, civic engagement, student learning, and community access to university resources. As with mycorrhizae, CBEL and community-university partnerships require a support network; reciprocity; mutualistic, non-linear transfer of information and resources; recursivity (through the project collective memory and iterative nature); and responsiveness. These characteristics lead to resilience, or the capacity for complex systems to persist and transform, to sustain a shock and continue to function and cope with change (Anderies et al., 2012; Folke et al., 2002). Analogous to the fungus connecting different plant species, an engagement model based on mycorrhizal learning allows for the development of a full network with interaction between all participants, including: community partners and students; community partners and teaching team members (including faculty); community partners and community partners; students and students; and students and the teaching team. Through this robust network, knowledge and resources can be exchanged in a rich sense. In this way, the mycorrhizae are all of these relationships, and they represent the processes of engagement.

The mycorrhizal association also requires external, solar energy to function analogous to the need for university financial and administrative support. The interdependence of the components of a mycorrhizal association is not well understood, but the work of the UBC below-ground ecology group (of which I was a member during my Master's degree) shows that there are critical fungal connections to old, established "mother trees" that support the survival of smaller trees and seedlings. If forest management does not retain these key "mother trees" during

harvesting, regeneration is slow and difficult (see Amos, 2011).⁴⁶ In this analogy, the integrity of CBEL in a university environment requires both a collective memory of relationships and projects, as well as connection to central and faculty administration. The sustainability of CBEL efforts requires ongoing institutional support for projects such as within LFS 350 to survive and flourish, so that society gets the highest sustainable yield from its universities.

Similar to the food system, post-secondary models for community-university engagement can be represented by industrial (e.g. productionist) or biomimetic (e.g. ecologically integrated) paradigms (Lang and Heasman, 2004). Transforming post-secondary imagery from “silos” to complex “polycultures” of learning (Rojas, 2009) is paramount to a deeper conceptualization of civic engagement. Another living systems perspective is offered by Widhalm (2011):

“Imagine a learning community as a wetland or a forest. Imagine a group of learners as an organic, highly interdependent community, a living system not unlike an ecosystem in nature. Listen to the hustling and bustling of all its life forms; feel the pulsation of this living organism as a whole. Now remember participating in a learning experience that felt particularly vibrant, an experience that had a palpable sensation of aliveness. Remember a time where the group of learners seemed to embody an organic whole, an ecosystem with a life of its own, pulsating with energy and creating something new and exciting, something no single participant could have foreseen or created on his or her own.”

While this imagery does not specifically apply to community-university partnerships, it provides a rich landscape of options by which to visualize the potential of a learning community as a living system. It is worth imagining the possible processes and outcomes that might transpire if we envision universities as living systems.

⁴⁶ I developed this mycorrhizal learning analogy after watching a video that features Dr. Suzanne Simard, of the UBC below-ground ecology group, describing the mycorrhizal network that connects different plant species via mother trees: <http://www.youtube.com/watch?v=-8SORM4dYG8>

Another appealing aspect to the mycorrhizal metaphor and the broader imagery of living systems is the inherent assertion that universities ought to function as open systems, allowing for interactions between aspects of their internal and external (i.e. local community) environments. Open systems are associated with adaptive capacity and resilience. An open system exists in contrast to a closed system, which is isolated from the surrounding environment (see Bertalanffy, 1969)⁴⁷. While universities are not always isolated per se, they are often inaccessible to the local communities external to the institution. In British Columbia, universities have arguably been systematically isolated from their home communities. The physical locations chosen for the main campuses of UBC, Simon Fraser University, University of Northern British Columbia, and Thompson Rivers University, and others were all separate from the local populations at the time of establishment. This placement may have been partly due to the expediency of cheaper land at the fringe of the cities, but the physical separation reinforced the social separation of universities from local communities. This separation persisted at least until Simon Fraser University pioneered the downtown Vancouver campus in 1989.

Finally, biomimetic metaphors may help orient sustainability education, CBEL, and food system study toward two concepts previously introduced: just sustainability and transformative sustainability learning through engagement of head, hands, and heart. Mycorrhizal learning that is networked, responsive, and resilient may help to more fully include all participants of CBEL in a manner that is reciprocal and context-appropriate. The use of living systems as a source of inspiration can reinforce the integration of all ways of learning.

⁴⁷ The notions of open and closed systems have been adopted by the social sciences, notably by Gregory Bateson, an anthropologist who used systems theory to describe interactions between ideas and environment (e.g. 1979).

8.3 Strengths and limitations

The strengths of this case study lie primarily in my deep immersion in the case over four years. Through my have multifaceted experience with LFS 350 and the BC FSP, I have unique insider knowledge about transforming a large class to sustainability education through CBEL, as well as food system study as an integrative learning theme. The strength of my deep immersion, however, may also be a limitation because my involvement as a passionate participant may have hindered me with biases.

8.4 Recommendations

The course coordinator is an essential component to integrating CBEL into a large class, as it is unrealistic to expect faculty members to be able to develop and maintain the necessary community relationships. This additional cost of a coordinator is an appropriate expense to be centrally supported and borne by UBC, given its stated commitment to CBEL. While the teaching budgets of most Faculties can support the TAs and other expenses associated with a community-based project, the real cost of the course coordinator can pose an obstacle to Faculties and units looking to participate in this form of community engagement.

In addition to course coordination, it is essential to have ongoing coordination within the Faculty of Land and Food Systems to maintain community relationships (for example, during semesters when specific courses are not in session), as well as connect the core LFC courses and the courses within the students' majors. Such coordination would enable undergraduates with more advanced knowledge to return to a community and undertake a more specialized and higher level project. In this way, internships, directed studies, and undergraduate theses can be added to the options for extending community-university relationships. The UBC-Community Learning

Initiative uses a distributive model of coordination and places CBEL officers within Faculties across UBC, including Land and Food Systems. The development of this type of role can be instrumental in Faculty-wide coordination.

As CBEL expands at UBC and within the Faculty of Land and Food Systems, there is a need to critically examine how community members are recognized and rewarded for sharing their time and expertise as part of university research, teaching, and service. Specifically, universities need to reciprocate. While the reciprocation can take non-monetary forms, there is also the potential to fundraise to provide community partners with appropriate pay or honoraria.

8.5 Possible future research directions

There are many possible future research directions that could emerge from this case study. Particular to the case study, there is much more to learn about both student and community partner outcomes. For students, I would propose a longitudinal study of graduates of the course (and of the Land, Food, and Community series), following up with them six months, one year, and five years following the course. This longer-term perspective would permit investigation into whether the connections and experiences they developed through CBEL are relevant for their careers, and more broadly, in their lives. In parallel, I am interested in the longer-term outcomes of the students' research and service on the community partner organizations and food system operations. I am also interested in the outcomes on the overall British Columbia food system.

Another research direction would be a cross case comparison and analysis. It would be valuable to investigate the common ground and different experiences between this case and others that are integrating CBEL into large undergraduate classes, especially those utilizing food system study as an integrative learning theme.

Finally, in my research, community partners said that communities and universities need each other. As a follow-up, I would investigate more deeply what each needs from the other, as well as what each can offer. I would also look into the feasibility of whether those needs could be met, and how. Another ecological metaphor that might be relevant here is “carrying capacity”, which refers to the maximum load (for example, of a particular species) that an environment can sustain over the long-term. A large community or organization can easily accommodate a few CBEL projects, however, can smaller communities or even larger ones support the substantial numbers of projects that will be generated by a commitment of a sizeable institution like UBC? There is an obvious need to continue monitoring the effects of ongoing CBEL and to identify ways to sustain CBEL via supporting communities and community partners. This research would be situated in the context of the culture clash between universities and communities, which is a foremost problem of academia. Future scholarship on the interface between CBEL, sustainability education, and food system studies (and other integrative learning themes) can explore the potency of these realms of knowledge to bring universities and other communities into better alignment with one another.

8.6 Conclusions

Through this research, I position CBEL as an essential pedagogical strategy of sustainability education. Sustainability education provides the “why”, CBEL provides the “how”, and integrative learning themes (such as food system study) provide the “what” to extend the combined efforts of sustainability education and CBEL. I find that food system study provides an exceptional integrative learning theme in that using a food system lens accommodates complexity, multiple relationships, and an emphasis on civil society.

The integrative learning theme of food system study, as well as the use of CBEL as a pedagogy of sustainability education, is a powerful means to integrate diverse community interests and academic disciplines. Such integration requires changes in university form and function, for example, into networked systems that are responsive and resilient. The metaphor of mycorrhizal learning—and biomimicry more generally—provide further inspiration for the development of universities and classrooms as networked entities in relationship with their associated communities.

Post-secondary sustainability educators who wish to grow CBEL and sustainability education in their classes and institutions can look to this case study as an example of transformation within a large class. Those who consider the strategies of the case effective may find it helpful to draw on the UBC Faculty of Land and Food Systems and the Land, Food, and Community core series of courses as sites of innovation and inspiration. Educators specializing in food system study will be attracted to this case and will certainly have further ideas regarding the facilitation of learning about such a complex system. Finally, those who experiment with sustainability education, CBEL, and integrative learning themes will be able to contribute to this ongoing dialogue about post-secondary learning.

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Appendices

Appendix A: Community partner organizations of British Columbia Food System Project, 2006-2009

(48 in total)

Adapted from: <http://blogs.ubc.ca/lfs350cfsp/community-partners/>

Last accessed: August 15, 2013

Educational Institutions or Units

- Centre for Sustainable Food Systems at UBC Farm
- Okanagan College
- Quesnel Senior Secondary
- UBC Faculty of Land and Food Systems
- UBC Land and Food Systems 250, Vancouver Food Security Project (pre-cursor to the Think&EatGreen@School Project)
- UBC Orchard Garden
- University of Northern British Columbia
- Vancouver School Board
- Windermere Secondary School

Non Profit Organizations

- BC Association of Farmers' Markets
- Delta Farmland and Wildlife Trust
- Environmental Youth Alliance
- Farm Folk City Folk
- Fresh Roots Urban Farm
- Friends of the Farm (UBC Farm)
- LUSH Valley Food Action Society
- My Own Back Yard Community Association
- Nat Bailey's Farmers' Market
- New Denver From the Ground Up
- Portland Hotel Society
- Public Health Association of BC
- Richmond Fruit Tree Sharing Project
- Society Promoting Environmental Conservation (SPEC)
- Surrey-White Rock Food Action Coalition

- Terra Nova Schoolyard Society
- Vancouver's Farmers on 57th
- Vancouver Fruit Tree Society
- YWCA Crabtree
- YWCA Vancouver Downtown
- Zero Waste Vancouver

Health Authorities

- Fraser Health Authority
- Vancouver Coastal Health

Municipalities and Affiliated Units/Groups

- Bella Coola Valley
- City of Richmond
 - Parks & Recreation
- City of Surrey
- City of West Vancouver
- East Richmond Community Garden
- New Denver
 - Village Office
- Pemberton
- Quesnel
- Richmond Food Security Task Force
- Sunshine Coast Agricultural Advisory Committee
- Surrey Agricultural Advisory Committee

Businesses

- District Main
- Edible Vancouver
- Nesters Market

Appendix B: Project materials provided for community partners

Note that the BC Food System Project was previously known as the UBC-based Community Food Assessment Project. The letters refer to the project as the UBC-based Community Food Assessment Project

Appendix B1. Summer letter to community partners

Appendix B2. Project overview sent to community partners

Appendix B3. Mid-semester letter to community partners

Appendix B4. End of semester letter to community partners



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Appendix B1. Summer letter to community partners (example from 2009)

To: ****Organization name****

Dear: ***Name***

Last fall you or your organization generously participated in the UBC-based Community Food Assessment Project (CFAP). We are writing to thank-you for your valuable participation thus far, and to invite your participation again this coming fall.

In December, 2008, you or your organization should have received final report(s) from the students who collaborated with you. Please contact yona@interchange.ubc.ca if you need another copy sent. We hope that you are able to review the report(s), and that the executive summaries will be useful in remembering the scope of their projects. For your information and/ or to refresh your memory, we included basic information about the project and partnership below.

If you are interested and available, we are keen to work in partnership with you on both research and hands-on service needed by your community. For examples, perhaps you need background research for a funding proposal, the development of a survey or the review of a policy or programme. The research question(s) you propose should be achievable for team(s) of 5-7 third-year students over the course of approximately two months, October and November, 2009. As for community service examples, perhaps you would like help with putting garden beds to rest for the winter, volunteering at an event or creating community outreach materials. While the research is mandatory and team-based, the community service is optional and individual; last year, over 80% of our 200 students opted to participate. This year, we have increased the commitment from 10 to 12 hours of engagement, to be carried out between September and early November. Students are asked to reflect on the connections between their hands-on engagement and what they are learning in class and through their research.

We are attempting a new development model this year, whereby projects – including research and community service – will be negotiated directly with student teams, with the advice of the teaching team. We are therefore requesting that you indicate through the questions below your *general* areas of

interest. The specifics of projects can then be negotiated directly with students by mid-September. We are adopting this strategy to reduce the “middlemen” (so to speak) and hopefully enable stronger projects. Similar to previous years, each team will have one student acting as the contact person for and with the community partner, although ideally an early meeting can be held between the partner and all or most of the student team.

If you are interested and available as a community partner this year, please indicate:

1. Organization:
2. Overview of research project ideas (1-3 sentences):
3. Community service opportunities (briefly):
4. Contact person / community partner (name, title (if applicable)):
5. Availability for contact (particularly in September, and including October-November):
6. Contact information (email, phone, website):

Please return to Art or Yona (contact information below) by July 20, to ensure we can accommodate your projects.

Once again, thank-you for your valuable participation in the UBC-based CFAP. Our goal is to provide applied learning opportunities for our students that are of service to your community. Your feedback is welcome!

Please contact: Dr. Art Bomke, course instructor, 604-822-6534, fert@interchange.ubc.ca, or Yona Sipos, project co-ordinator, 778-865-1715, yona@interchange.ubc.ca with questions, ideas or concerns. Surface mail may be addressed to Art Bomke, 2357 Main Mall, University of British Columbia, V6T 1Z4.



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Appendix B2. Project overview sent to community partners

The UBC-based Community Food Assessment Project (CFAP) is situated in Land, Food and Community II, a third-year, required course, with approximately 200 UBC Land and Food Systems students participating in community-based engaged learning about food systems and food security. Approximately thirty teams, of 5-7 students each, engage with a range of British Columbia communities representing urban, suburban and rural food security issues. The students represent a diverse range of study: Food, Nutrition and Health; Agroecology (Applied Biology); and Global Resource Systems.

The course runs from September 9, 2009 – December 2, 2009, 1-4pm on Wednesdays. We generally have a plenary session from 1-2pm with lectures, presentations and class-wide discussion; and teamwork in breakout rooms from 2-4pm. It is expected that each student will work 3-10 hours/week on the UBC-based CFAP.

To make the projects as effective as possible for both students and community partners, it is important for these two groups to meet (ideally face-to-face) in mid-to-late September, to establish communication protocols and project focus. One student representative from each team working with you will contact you to set-up a meeting where all or most of the UBC students attend. Early opportunities for student hands-on volunteering or community service also helps with research project development. By early October, students will submit a 2-3 page proposal to you and ask for feedback on the proposed direction of their project. They will also receive feedback from the UBC teaching team. Students will then spend the bulk of October and November working on the projects.

Community partners are invited to the students' proposal presentations and the final presentations, both held at UBC-Point Grey campus. The proposals will be presented on Wednesday, September 30, from 1-4pm. The final presentations will be held Wednesday, December 2, from 1-4pm. All presentations are in the MacMillan Building. More information will be forthcoming, but please mark the dates!

Initiated in 2006, the UBC CFAP has put LFS 350 students to work on food security issues as prioritized by stakeholder organizations in several BC communities: Vancouver, Richmond, Surrey/White Rock, Quesnel, Bella Coola, and New Denver. Partnerships generally last for 2-3 years or cycles of the project. In some instances, the partnerships may be extended. New communities are welcome and being actively investigated.

The goals of the UBC-based CFAP are to:

- Contribute to community-based research to help resolve food security issues;
- Provide LFS350 students with a research opportunity that connects classroom theory and practical application. In this way, the project affords first-hand experience with Community-Based Action Research in the context of university-community partnerships and longer-term research objectives.
- Provide LFS350 students with hands-on community service opportunities that can be coupled with reflective practice to deepen the depth of community experience.

Since the Fall of 2006, over 600 LFS 350 students have participated in researching food security issues ranging from production, processing, distribution, transportation, access, and waste management. Each of the projects was founded upon research needs identified by the community. At the end of each term, the research was returned to the community. Community members offered feedback on the findings and suggested further research. In some cases, they have applied feasible research findings in their communities, and have acted on our students' recommendations. Since the UBC-based CFAP began, LFS 350 students have been assimilating some of the lessons learned from previous student groups, and incorporating them into the food security continuum of their community project.

Student research to date has contributed to: a policy forum in Bella Coola on food safety regulations; investigations into how to nurture future farmers in Quesnel; access to fresh food for socially marginalized communities in Richmond; documentation of a campaign to increase awareness of and access to local food in Surrey; and measuring urban food production in Vancouver. Key objectives for the course and project include the provision of opportunities that encourage citizenship within local/regional/global food systems and participation amongst a "community of learners." Student teams investigate linkages between food, nutrition, health, resource economics, and agroecology in the context of their chosen community.

For more information, please contact Dr. Art Bomke at 604-822-6534 or fert@interchange.ubc.ca, or our course co-ordinator Yona Sipos at 778-865-1715 or yona@interchange.ubc.ca



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Appendix B3. Mid-semester letter to community partners

Land, Food and Community II (LFS 350)
October/November

Dear Community Partners,

Happy fall to each of you! The school semester is about two-thirds complete and our Land, Food and Community II student teams are hard at work on their UBC-based Community Food Assessment Projects (CFAP). We are so thankful for the time and expertise you have been able to share with our UBC community of learners, including the students and the teaching team.

The student teams will present their UBC-based Community Food Assessment Projects on Wednesday, December 2, 1-4pm, focusing on what they learned over the past couple of months in pursuing the research agendas that community organizations such as yours helped to establish back in the summertime. Each presentation room will have 5 student teams presenting on food security themes across Vancouver, Richmond, Surrey/White Rock, Sunshine Coast, Pemberton Valley, Comox Valley, West Vancouver, Delta and New Denver (North Slokan Valley). Students in the integrator teams will present on integrative findings across and amongst these communities of learners.

The presentations will be held at the UBC Point Grey campus. We invite you to attend and will be grateful if you are able to do so, although we realize that the time and place is not necessarily accessible to everyone. If you are able to attend, we will reimburse your bus ticket or parking fee; please hold onto your receipt. ***Additional detail about the presentations, including the schedule, is below.*** Please note that you are welcome to attend any of the presentations, and to move between the rooms to attend those that are most relevant and interesting for you.

The students' reports are due on December 7, 2009, and they are asked to return a copy of it to you. If you are interested, we can also return the reports with our comments for your reference. We would like to invite your feedback on whether/how the students' reports prove useful to you and whether you would like to continue your involvement in the UBC-based CFAP in the next iteration occurring in September - November 2010.

Thank you for all of your time, energy and expertise that you are able to bring to the UBC-based CFAP!

As always, please feel free to contact Dr. Art Bomke, Principal Investigator and Course Instructor
Email: fert@interchange.ubc.ca Tel: (604) 822.6534

or Yona Sipos, Co-Instructor and Project Coordinator
Email: yona@interchange.ubc.ca Tel: (778) 865.1715



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Appendix B4. End of semester letter to community partners

UBC-Based Community Food Assessment Project (CFAP)

Land, Food and Community II (AGSC 350)

December

Dear Community Partner,

Thank you for your involvement in the UBC-based Community Food Assessment Project. We are so very grateful for the time, knowledge and experience you shared with our Land, Food and Community II (LFC II) teaching and student teams. Your partnership in this project enables practical learning about community food system concerns and opportunities.

This year, 30 teams of students worked with six British Columbia communities on projects related to affordability, accessibility, availability, appropriateness, safety and sustainability of the food system, from seed to table and back to seed. The communities include: *Vancouver, Richmond, Surrey-White Rock, Bella Coola, Quesnel and New Denver*. Student teams undertook research on community-identified research opportunities, and most of the students participated in some form of hands-on community service.

We have asked each team to attach their final project report - including focus, methods, findings and recommendations - to this letter, and send it to their community partners. These reports have not yet been marked or vetted by the teaching team, although they will be by the end of December. We invite your responses to these reports, particularly anything problematic or relevant that should be addressed further. We also welcome your feedback on how to improve these partnerships, including how to make the students' research and community service more relevant to your needs. We aim to contact you early in 2009 to request feedback and to discuss opportunities for future involvement. Also please feel free to contact Dr. Art Bomke or Yona Sipos (details below).

Once again, many thanks for your valuable participation in the UBC-based Community Food Assessment Project.

Happy holidays, and best wishes for a happy new year!

As always, please feel free to contact Dr. Art Bomke, Principal Investigator and Course Instructor

Email: fert@interchange.ubc.ca Tel: (604) 822.6534

or Yona Sipos, Co-Instructor and Project Coordinator

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Appendix C: Complete list of BC FSP projects, 2006-2009

2006 Community inquiry projects

VANCOUVER

Commercial Drive: A Walk on the East Side

- Community partner: M.O.B.Y. (My Own Back Yard Community Association)
- Project Objective: Determine the positive effects of community gardens with respect to improving community safety

The Portland Hotel Society Life Skills Centre: Help and Hope for People Living with Addictions in the Downtown Eastside

- Community Partner: Portland Hotel Society Life Skills Centre
- Project Objective: Determine impacts of drug abuse on diet and nutrition

RICHMOND

“Rich City, Hungry City”

- Community Partner: Richmond Fruit Tree Sharing Project and the Richmond Food Security Task Force
- Project Objective: Improve food security in Richmond by finding ways to improve the local food system

SURREY-WHITE ROCK

Suburban Centres: Moving Food Policy Forward in Surrey and White Rock

- Community Partner: Fraser Health Surrey/White Rock Food Action Coalition (FAC)
- Project Objective: Help integrate food policy into community decision making through research, campaign development, and outreach

QUESNEL

“Historic Centre of the North Cariboo”

- Community Partner: City of Quesnel
- Project Objective: Investigate and improve Quesnel food system by addressing areas of food insecurity (e.g. long distance land transport) and improving local strengths

BELLA COOLA VALLEY

Gather, Grow and Share—a Bella Coola Tradition: What's Old is New Again!

- Community Partner: Bella Coola Valley; Bella Coola Sustainable Agriculture Society
- Project Objective: Improve Bella Coola food system through addressing food insecurities (land transport of food), and cultivating strengths (local economy, fruitful climate)

2007 Community-based projects

VANCOUVER

2,010 New Community Shared Garden Plots by 2010

- Community Partner: Vancouver City Councilors & Vancouver Food Policy Council
- Project Objective: to establish more food-producing gardens in Vancouver (2,010 new garden plots by Jan 1, 2010)

Who's Eating What in Mount Pleasant and Why: A Window on the Conventional Food System

- Community Partner: IGA, Nat Bailey's Farmers' Market, several community gardens, Nester's Market
- Project Objective: to find out who's eating what in Mt. Pleasant and why

Vancouver Native Health Society groups: Health in the Community

- Community Partner: Vancouver Native Health Society
- Location: Downtown Eastside & UBC Farm
- Project Objective: 1. Aboriginal Diabetes Awareness and Prevention Teaching 2. Urban Aboriginal Food Enhancement Project (seed-to-table experience at UBC Farm) 3. Urban Aboriginal Community Kitchen Garden Project (sell good food box of fruits & vegetables & help come up with creative ways of using produce)

YWCA Crabtree: A Drop-in Centre for Women and Families

- Community Partner: YWCA Crabtree
- Project Objective: offer single mothers support & offers info for referral concerning parenting, sexual abuse, family violence and drug & alcohol dependency

On the Margins of the Mainstream

- Community Partner: Portland Hotel Society
- Project Objective: help break the barrier between institutional organizations and people on the street so they can be brought into the system and eventually gain employment

RICHMOND

"Rich City, Hungry City"

- Community Partner: Agricultural Advisory Committee
- Location: East Richmond
- Project Objective: to give advice on policies that affect farming & enhance food security issues

SURREY-WHITE ROCK

Suburban Centres and Rural Edges: Moving Food Policy Forward in Surrey and White Rock

- Community Partner: Surrey/White Rock Food Action Coalition (FAC)
- Project Objective: integrate food policy into existing organizations to bring together the food security issues of food supply, access, and consumption

QUESNEL

“Historic Centre of the North Cariboo”

- Community Partner: City of Quesnel
- Project Objective: Address key community food security issues & offer ideas to pursue

BELLA COOLA

Gather, Grow and Share – a Bella Coola Tradition

- Community Partner: Bella Coola Valley; Bella Coola Sustainable Agriculture Society
- Project Objective: to address key community food security issues & offer ideas to pursue

2008 Community-based projects

UNIVERSITY OF BRITISH COLUMBIA

Friends of the UBC Farm: The Future is Now

- Community Partner: Friends of the UBC Farm; Centre for Sustainable Food Systems at UBC Farm
- Project Objective: Explore academic connections to the Centre for Sustainable Food Systems at UBC Farm

UBC Land & Food Systems Orchard Garden: Outreach for urban agriculture?

- Community Partner: UBC Land & Food Systems Orchard Garden
- Project Objective: Determine if a new garden can be a useful outreach tool for those who want to get involved in urban agriculture

VANCOUVER

Integrating Food Security into the High School Curriculum

- Community Partner: Windermere Secondary School (Vancouver)
- Project Objective: Integrate a school garden and broader issues of food security into more school courses/programs

Vancouver Native Health Society Groups: Health in the Community

- Community Partner: Vancouver Native Health Society (VNHS)
- Project Objective: 1. Develop community resources for food preservation. 2. Develop a guide of the experience of the Urban Aboriginal Community Kitchen Garden Project (UACKGP) to be shared with urban Aboriginal communities.

Vancouver YWCA Rooftop Garden: Growing Food at Great Heights

- Community Partner: Vancouver downtown YWCA
- Project Objective: 1. Determine how the produce grown at YWCA can be incorporated into programs at Crabtree Corner Centre. Also brainstorm how to extend what is learned from this project to similar situations. 2. Investigate how to improve system management by discussing issues such as soil fertility, crop diseases/pests, composting

Vancouver Fruit Tree Project

- Community Partner: Vancouver Fruit Tree Project
- Project Objective: Research more developed Fruit Tree Projects and determine which aspects of their success can be applied to Vancouver's FTP

Growing Community in Community Gardens

- Community Partner: Vancouver Downtown Eastside community
- Project Objective: Analyze community gardens downtown in terms of the benefits from gardens, where the produce goes, their challenges, expected crop yields, etc.

District Main: How does densification and urban design affect food security?

- Community Partner: District Main (Vancouver)
- Project Objective: Investigate the direction and goals of Ecodensity and food security by researching District Main

RICHMOND

Terra Nova Schoolyard Society (TNSS)

- Community Partner: Terra Nova Schoolyard Society (Richmond)
- Project Objective: 1. Connect students to agriculture through hands-on activities. 2. Analyze the action plan of TNSS. Develop a database of funding options for TNSS.

Richmond Fruit Tree Sharing Project (RFTSP)

- Community Partner: Richmond Fruit Tree Sharing Project
- Project Objective: 1. Research safe strategies to ferment greens and other fresh produce. 2. Brainstorm ideas for the development of Richmond Farm School (e.g. marketing strategies, target audience, being close to local community)

Growing Community in Community Gardens

- Community Partner: East Richmond Community Garden; City of Richmond Parks & Recreation
- Project Objective: Assess how challenges of community gardens can be minimized and how benefits can be maximized.

Richmond: The Role of the Agricultural Land Reserve and what comes next?

- Community Partner: Garden City organizers and advocates
- Project Objective: Become familiar with farmland protection by studying Garden City in Richmond

SURREY-WHITE ROCK

Walking the Talk

- Community Partner: Surrey/White Rock Food Action Coalition (FAC)
- Project Objective: Integrate food policy into community decision making

Eating Close to Home

- Community Partner: The City of Surrey and the Surrey Agricultural Advisory Committee (AAC)
- Project Objective: 1. Encourage support for local production. 2. Assess local produce availability in Surrey, and analyze local eating in Surrey to better understand the local food system. 3. Help compile outreach materials covering food security initiatives. Identify strategies for how the compiled information can be effectively shared with the community

LOWER MAINLAND

An exploration of Chinese foodways from the kitchen garden to the rice bowl

- Community Partner: Chinese agriculturalists in the Lower Mainland
- Project Objective: Research the types of foods grown in Chinese gardens in Vancouver and how they are grown, prepared, preserved, and consumed.

QUESNEL

Understanding Local Agricultural Resources and Food Security

- Community Partner: Quesnel Senior Secondary
- Project Objective: Develop activities for a course dealing with agriculture and food security

Quesnel growth in local food production-opportunities and barriers

- Community Partner: Quesnel farmers
- Project Objective: Assess food production, growth + marketing of crops and livestock in Quesnel. Assess the potential for expansion

BELLA COOLA

Gather, Grow and Share—a Bella Coola Tradition

- Community Partner: Bella Coola Sustainable Agriculture Society
- Project Objective: Develop strategies to enhance awareness of local agricultural resources

NEW DENVER, NORTH SLOCAN VALLEY

The Future of Food Security “Slo-as-you-can”

- Community Partner: New Denver community
- Project Objective: Investigate how New Denver can increase its food security

INTEGRATING TEAMS

Integrating Teams' Focus: “Goals, Outcomes and Methodologies”

- Community Partner: LFS 350 class
- Project Objective: Provide a “bigger picture” by identifying food security themes that compare and contrast across communities and themes so that the knowledge is more readily available and accessible to the LFS 350 class, community partners and other interested parties.

2009 Community-based projects

UNIVERSITY OF BRITISH COLUMBIA

UBC Centre for Sustainable Food systems at UBC Farm: Integrating the UBC Farm into South Campus

- Community Partner: UBC Centre for Sustainable Food Systems at UBC Farm
- Project Objective: Explore ways in which the South Campus academic plan should position the Farm to be most effective in providing learning opportunities with respect to agriculture and possibly community forestry at the urban edge.

Developing the poultry component as a resource to support small scale & urban poultry producers

- Community Partner: Centre for Sustainable Food Systems at UBC Farm
- Project Objective: Given the impending change in policy towards backyard poultry in the City of Vancouver and other cities, we can expect a significant number of new, inexperienced small scale poultry producers. The UBC Farm has an emerging program on small scale poultry breeding and management and could be a significant source of information on chicken management in supporting small scale and urban poultry producers.

Outreach and campus connections to UBC SUB renewal

- Community Partner: UBC Centre for Sustainable Food Systems and UBC Orchard Garden
- Project Objective: Developing the orchard garden as an outreach installation and resource for other on- and off-campus community gardens.

Developing the Network of Centres for New Farmers

- Community Partner: UBC Centre for Sustainable Food Systems at UBC Farm
- Project Objective: Contribute first steps to establish how the UBC Farm can contribute to the emerging network of agricultural training centres, initiated by Metro Vancouver's Agricultural Advisory Committee

Developing the Community-University Research Alliance (CURA)

- Community Partner: UBC LFS 250
- Project Objective: The UBC Faculty of Land and Food Systems through the LFC core curriculum is planning to strengthen the collaboration between ourselves and the education system in the City of Vancouver. Working with LFS 250, contribute to this year's inventory of agriculture, food, and nutrition related activities currently under way within the Vancouver School District.

VANCOUVER

Vancouver – YWCA Rooftop Garden: Growing and encouraging the use of spices

- Community Partner: YWCA Vancouver
- Location: Vancouver, BC
- Project Objective: Contribute to the development of the herb garden including finding out which herbs and how much of each herb can be incorporated in the Crab Tree Corner (CTC) Kitchen, working with CTC Kitchen to adapt their recipes using fresh instead of dried herbs, how to store fresh herbs, and value added potential of herbs.

Contributing to the Hastings Folk Garden

- Community Partner: Vancouver Community Agriculture Network
- Location: Vancouver, BC

- Project Objective: Hastings Folk Garden, between Main and Columbia on Hastings two doors away from the Insite safe injection facility, is a community garden operated by the Portland Hotel Society with assistance from VCAN. Contribute to a study to learn more about harvest quality and quantity and whether the harvest is being successfully distributed, prepared, and eaten.

Investigating outcomes of the community nursery

- Community Partner: Vancouver's Environmental Youth Alliance
- Project Objective: Engage in primary research with past and potential recipients of vegetable seedlings from EYA's "Community Nursery". Speak with the community about what plants they prefer to receive in 2010 and any barriers they have to growing and producing food from plants and any other input deemed relevant to the Community Nursery Project

Factors of a successful community food security initiative

- Community Partner: Farmer's on 57th, Vancouver
- Project Objective: Investigate and document factors of a successful community food security initiative, using e.g. conducting and analyzing interviews and surveys with a range of participants

Distribution Pathways for Fresh Produce

- Community Partner: Farmer's on 57th, Vancouver
- Project Objective: Investigate and make recommendations about the marketing pathways available for the Farmers on 57th.

Developing social enterprises from recovered food

- Community Partner: Vancouver Fruit Tree Project (VFTP)
- Project Objective: Investigate social enterprise opportunities for the VFTP, to create a more sustainable source of income for the organization.

Experiment in eco-density, specifically to improve utilization of the rooftop garden

- Community Partner: Vancouver's District Main
- Project Objective: The District Main building is an example of one way in which Vancouver can accommodate the projected increase of people who wish to live in the city. It is unique in that it attempts to design in some social and physical attributes that are intended to build community. How does District Main succeed in meeting its objectives? What role does the rooftop garden play in its community?

Waste to Energy, Facts and Fictions

- Community Partner: Zero Waste Vancouver
- Project Objective: Explore the thesis that burning food is a waste of energy. The focus will be on understanding the opportunity costs of incinerating food waste, as well as the barriers and opportunities that exist in our local community to prevent food from going to waste and to put our leftovers to more beneficial use in the community.

WEST VANCOUVER

Food Scrap Recycling Demonstration Project

- Community Partner: City of West Vancouver
- Project Objective: West Vancouver is to be included in a six month Metro organics collection pilot, starting October 6, where residents will add food scraps and food soiled paper into their yard trimmings containers. Help to determine how the project will be rolled out most effectively.

DELTA

Education and Marketing

- Community Partner: Delta Farm and Wildlife Trust
- Project Objective: Farmers in Delta have access to cost-share programs which encourage land stewardship and wildlife conservation, but funding for these programs may be tenuous in the future. Is it possible to develop a locally-based marketing system that explicitly links food with environmental benefits?

COMOX VALLEY

Healthy Eating and food diversity on a budget

- Community Partner: LUSH Valley Food Action Society
- Project Objective: Develop a pilot project & grant proposal for a program on healthy eating, food diversity, or urban gardening on a low-budget.

RICHMOND

Richmond Food Security Society: Encouraging food production on institutional/private land

- Community Partner: Richmond Food Security Society
- Project Objective: Encouraging community garden development in Richmond on institutional (i.e. church or temple) and private land

Local Sources for Compostable Organics

- Community Partner: Richmond Food Security Society
- Project Objective: Develop a composting inventory of places that have high quality organic 'waste' to contribute to the development of high quality compost. Research will include the development of a questionnaire to assess the: type of material, amount, frequency of availability etc.

Investigating Program Outcomes over Time

- Community Partner: Richmond Terra Nova Schoolyard Society (TNSS)
- Project Objective: Begin where last year's project left off: Further refine the survey to assess the outcomes of involvement in the TNSS program for elementary and high school student. Delivery options can be assessed and implemented where appropriate. Some data analysis may be possible.

Developing Sustainable Community Gardens

- Community Partner: City of Richmond Parks and Recreation
- Community Partner: Work with the City of Richmond to encourage community gardening in Richmond and help the City become less "hands-on" in these processes.

SURREY-WHITE ROCK

Follow-Up Environmental Scan

- Community Partner: Surrey-White Rock Food Action Coalition

- Project Objective: Follow up to a Fraser Health Food Security Environmental Assessment for Surrey/White Rock.

Farm Fresh Buy Local Program Development

- Community Partner: City of Surrey
- Project Objective: Continue working with the City of Surrey to further develop and implement the “Farm Fresh Buy Local” campaign.

SUNSHINE COAST

Sunshine Coast Regional District: Agricultural Advisory Committee

- Community Partner: Sunshine Coast Regional District
- Location: Sunshine Coast, BC
- Project Objective: The Sunshine Coast produces approximately 0.05% of the food that is consumed. How do we increase that percentage?

PEMBERTON VALLEY

Developing community farming practices in the region

- Community Partner: Local farmer
- Project Objective: Explore community farming models between Squamish and Pemberton, where there are a significant number of new young farmers.

LOWER MAINLAND

Lower Mainland: Local Grain Bake-Off

- Community Partner: The Flour Peddler, Delta Farm and Wildlife Trust
- Project Objective: Conduct a food grains quality assessment (e.g. water absorption; types of protein; also sensory perception) of various grains being grown in the Fraser Valley. Make recommendations about the type of quality grains that should be grown here.

VERNON, OKANAGAN VALLEY

Developing a Student Farm

- Community Partner: Okanagan College
- Project Objective: Assess the situation at Okanagan College and make recommendations for how they might proceed in their goal to develop a campus farm - based on the UBC Farm experience and that of the many liberal arts colleges in the United States that have college farms.

NEW DENVER, NORTH SLOCAN VALLEY

Community Perspective

- Community Partner: Local farmers
- Project Objective: The general query is around food security for the New Denver village, and for the broader North Slocan Valley.

INTEGRATING TEAMS

- **Integrating Teams' Focus: “Goals, Outcomes and Methodologies”**
- Community Partner: LFS 350 class
- Project Objective: Provide a “bigger picture” by identifying food security concerns, stories, and trends themes that compare and contrast across communities and themes so that the knowledge is more readily available and accessible to the LFS 350 class, community partners and other interested parties.

BRITISH COLUMBIA

Farmers’ Market Nutrition & Coupon Project (FMNCP) Senior Expansion Research

- Community Partner: BC Association of Farmers’ Markets
- Project Objective: The FMNCP is a unique initiative, the first of its kind in Canada. It partners member farmers’ markets with Cooking & Skill Building programs serving low-income pregnant women & low-income families with children. The FMNCP is considering an expansion to include the Seniors community in the project. The research can include an inventory of food related programming for Seniors (with a focus on capacity building), discussions to identify needs of Senior community (e.g. food skills, nutrition, social), and potential community partners.