Exploring Teaching and Learning Perspectives in Research Service-Learning: A Case Study of a Community-Based Sustainable Food Project

by

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Abstract

This qualitative case study explores the teaching and learning experiences of faculty, community organization staff and students who were part of a “research service-learning” (Goss et al., 2010) project in an Environmental Science capstone course. These students collaborated with a community organization to undertake a research project that examined food sustainability and the effects of climate change in the Lower Fraser Valley of British Columbia. Through semi-structured interviews this study examined the teaching and learning roles and relationships of students, faculty and the community partner, what participants learned about doing community-based research through this project, and what students learned about the social, political and cultural landscapes of the local food movement. Findings were organized and presented through three major themes; an expansion of teaching and learning roles, an expansion on the notion of research, and an expansion of students’ food movement learning and knowledge. Participants’ experiences suggest that teaching and learning roles and relationships were much more fluidity and dynamic nature than teacher/learner relationship of a traditional classroom. Faculty discussed their role beyond what might be considered that of the “teacher”, including facilitator, critical support, and negotiator. Students saw faculty as advisors, project supporters, and as providers of resources including, at times conflict managers. The community partner enthusiastically took up an educator role, something students came to understand more explicitly through interview process of this study.
Participants grew their notions of research and what counts as research and knowledge and through the project and course both faculty and students gained a better understanding of what it means to engage in community-based research. Furthermore, students went beyond technical elements of conducting a scientific inquiry in their project to examine and learn about social, cultural and political aspects of the food movement. This study offers recommendations for faculty, students and community partners for similar type engagements and offers up research service-learning to integrate community-based experiential learning into STEM courses.
Preface

This thesis is an original, unpublished work of the author, J. Penner. The interview findings reported in Chapters 4-5 was covered by UBC Ethics Certificate number H13-02993.
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Chapter 1. Introduction

A long-standing curiosity of mine has been around spaces of learning, the dynamic nature of these spaces and those involved in the learning processes. Over the years, like many others, I have found myself drawn to community-engaged pedagogies and experiential learning. I am interested in both the opportunities and challenges these kinds of learning processes present for teaching, for learning, and for the spaces and places in which these processes occur. My role of practitioner and experiential educator has allowed me to explore both the theories and practices that inform and shape these various pedagogies.

My interest in community service-learning (CSL) was born in a graduate course that critically examined this approach, and developed further as I found myself in a role that allowed me to test my understandings of CSL. In my work at the UBC Centre for Community-engaged Learning (CCEL) I began to develop a multitude of experiential learning courses and programs, including community-service learning, all framed under the broader conceptual banner of Community-based experiential learning (CBEL) - a concept I will discuss later. At around the same time I was also involved in several local community-level food conversations. These included dialogues about food security, food and culture, food and social inequities and community gardens as spaces for education and learning -- to name a few. The more engaged I became, the more these local food movement communities and dialogues began to fascinate me, both as spaces of action and activism at the grassroots and municipal levels, and relatedly as spaces of learning, where a vast amount of knowledge was exchanged and (re)constructed through social interactions and experiences. The lens
of learning and action through which I began to understand food movement spaces created a natural bridge to my work at the university and to further examining how educational frameworks of community service-learning, community-based research and community engagement practices might further open these spaces to include students, faculties and institutions of learning. In 2014, in my position as a staff member at CCEL, the opportunity arose to work with two faculty members from Earth and Ocean Sciences to redevelop an Environmental Science capstone course. The capstone focused on four broad overarching outcomes oriented to bridging: 1) theory and practice, 2) university and community, 3) values and actions, and 4) education and experience. Part of the curriculum development involved building relationships with community partners interested in working with the course. It was through this process that I introduced one of the faculty members to a member of an organization named Village Vancouver – an organization with which I had previously been involved during my explorations of local food movement communities. Village Vancouver brought forth a conceptual project known as a Food Energy Decent Action Plan or FED-AP to the course, and invited interested students to collaborate with them on a research component of this larger project. Thus was born a relationship, partnership and the teaching and learning triad that became the foundation for the case study of Research Service Learning or RSL reported here. I will say more about RSL in the coming pages. This research tells part of the teaching and learning story within this particular project.
**Purpose and Objectives**

The purpose of this research is to explore the experiences and perspectives of community partners, faculty and students, who were all involved in a research service learning (RSL) (Goss, Gastwirth, & Parkash, 2010) project which was the center of the final fourth year capstone course of an Environmental Science degree. Food security was the focus of the students’ project and the partner organization’s mandate, which was the reduction of energy use through local, sustainable food systems. Through this study I wanted to meet three objectives. First, this study will explore the teaching and learning spaces and practices created by RSL, a community-based experiential learning pedagogy. More specifically I explored how participants understand their teaching and learning roles and relationships with one another in this learning space. I was also interested in how the learning and teaching spaces created by RSL courses enabled students’ to acquire an understanding of the local food movement and food security, potentially in new ways. I hoped that this exploration of the various participants’ experiences would enhance future RSL projects by providing a deeper understanding of the different views of those involved. Furthermore, this work also contributes to knowledge about the pedagogy of RSL, a relatively new term in literature with older ties to the more commonly used term ‘community service-learning’ (CSL).

**Research Questions**

The research is framed by one overarching question and a guiding subset of more specific research questions. This case study aims to broadly explore the experiences of students, faculty and the community partner in this particular case of research service learning.
Through answering the question and respective sub-set, I explored how each study participant understood their teaching and learning roles and relationships to one another throughout the course and project, how a pedagogy of research service-learning interacted with their disciplinary perspective of environmental science, and finally what other learning experiences occurred beyond those within a scientific paradigm. This case study will hopefully inform future development and strengthening of this course and future community-engaged projects, and assist in further understanding the possibilities and limitations of RSL within the discipline of environmental science. The overarching research question and subsequent sub-questions were:

What are the teaching and learning experiences of the students, community partner, and faculty within a research service-learning course?

a. How does each of these three groups (students, community partner, and faculty) perceive the roles and relationships amongst themselves and with the other groups, in these teaching and learning processes?

b. What are each group's experiences and understandings of what constitutes knowledge and research with respect to a) environmental science and b) community-based research?

c. What are each group's experiences and understandings with respect to the social, economic, and ecological environments of the local food movement?
The following sections further introduce the community partner, Village Vancouver and their FED-AP project, and then I provide a deeper description of the course framework and structure.

**Village Vancouver and FED-AP**

Village Vancouver is part of the worldwide transition movement, which is a movement of local grassroots community efforts to look at big picture things such as climate change and peaking resources and economic inequity and stability. Village Vancouver can be described as the local version for Vancouver and the lower mainland (CP1 interview). An example of transitions movement activities is examining how society and communities might transition from a high-energy, non-renewable, resource dependent economy to one that’s not dependent on high-energy and fossil fuels. Village Vancouver’s website (http://www.villagevancouver.ca/) describes the organization as a hub of knowledge and resources, helping both to spawn walkable neighbourhoods in Vancouver and to assist other cities in the region with their own transition movements. Village Vancouver’s goal is: “promoting social, environmental and economic change in the face of profound ecological stresses and economic crisis, we encourage individuals and groups to unite and collaborate in support of common goals and actions” (Chaterjee, 2010). Their website offers a long and diverse list of community projects and networks supported by the organization, some examples include local economics and livelihoods, permaculture and zero waste, emergency preparedness, energy, demonstration days, and food. A significant

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1 CP1 refers to ‘community partner 1’, one of the community partners who participated in the study. They also provided information on the organization, Village Vancouver and the type of work they do, as well as the history of FED-AP and how it fit within the organization and the Environmental Science course.
amount of their work resides in neighbourhood food networks and includes an array of community projects: beekeeping, community gardens, chicken co-ops, urban farming, seed libraries, all aimed at moving communities to a more localized food and resilient food system (Village Vancouver, 2016).

In 2010, Village Vancouver put forward the conceptual form of a Food Energy Descent Action plan, or FED-AP, and in 2011 began a visioning process and working group in partnership with the Museum of Vancouver and the Vancouver Food Policy council to further the plan's development. Through several community dialogues and working group meetings, FED-AP became a conduit through which a number of critical food system questions were raised that drove the project forward: How do communities reclaim control over food systems? What is food resilience? How does Vancouver feed itself in a resilient way? How do we move from a framework of food security to food sovereignty? What has to be done differently? All these questions began to shape FED-AP and discussions on a local, sustainable, resilient food system in Vancouver Lower Mainland (Tay & Penner, 2012).

After about a year of building the conceptual framework, key research needs were identified, one of which was to examine the effect of regional climate change on agricultural lands and the ability to grow food locally. At this stage, FED-AP seemed like a ‘natural fit’ with the environmental science course (CP2 interview) – a place conveniently seeking community-driven research questions as spaces for learning.

The Environmental Science Capstone Course

The Environmental Science capstone course (ENVR 400) was the third in a series of three core courses within students’ degree program. Capstone courses can be broadly understood as a
course at the end of a student’s degree, which “caps” their learning. Goldstein and Fernald (2009) noted that a capstone course should both “integrate and cap previous academic learning” and “prompt self-examination leading to both personal and professional growth” (p. 28). A further advantage of capstone courses is the synthesis of multiple disciplines under one project (Kleier, 2011). The Environmental Science Program provides a broad perspective on the environment which “concentrates on understanding the major environmental issues facing human societies and adopts an integrative cross-disciplinary approach to the study of these issues” (University of British Columbia, n.d.). Program curriculum includes significant study in chemistry, social sciences, life sciences and earth and ocean sciences. The series scaffolds students into ENVR 400, introducing students to topical issues and complexity in ENVR 200 and methods and scientific approach to answer questions posed in ENVR 300. ENVR 400 is then a “manifestation of this learning” that is bridged outside the university into “practical”, local, community research projects (F2 interview). For the faculty, the course is meant to provide students the opportunity to practice doing work in environmental science, with an experience that resides somewhere between an academic experience and a COOP work experience and/or internship (F1 interview).

Over the summer of 2013, with the support of UBC’s Centre for Community-Engaged Learning, the course underwent a redevelopment phase in which I took part as staff of this unit. To allow for longer engagement with partners, this 3-credit course was set-up to take place over two terms. Each week consisted of an hour and a half of class time that involved a mix of lectures, preparatory and reflective workshops and discussions. However with

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2 F1 and F2 refer to the faculty members who participated in this study.
assignments and project work in addition to class time, students spent considerably more than 1.5 hours each week and it has since further been expanded into a 6 credit course. Other changes included further integration of community projects into the course and curriculum, and forefronted topics such as ethics, role negotiation, and community-engagement principles through both the theoretical framework of the course and in the lecture and workshop content and in-class discussions with students. The following overarching course outcomes were developed and informed reflection activities and other pedagogical elements. These higher level articulations of outcomes can be linked back to above topics on community-engagement principles, role negotiation and ethics:

1. Bridging theory and practice
   1.1. Students will apply scientific knowledge to contemporary environmental challenges that exist within a community
2. Bridging University and community
   2.1. Students will build relationships with community organizations to do meaningful scientific work that extends beyond the university
3. Bridging values and actions
   3.1. Students will use their scientific education to contribute to environmental organizations that work for the betterment of social, economic, and ecological environments.
4. Bridging education and experience
   4.1. Students will have the opportunity to reflect on and make meaning of the expertise of community members and peers.

The capstone course was designed to facilitate students’ engagement with a community organization/partner for the purpose of co-developing a research project, which
the students would then carry out with their partner. Research projects were first brought to the class by community organizations, structured around a community priority identified by the organization. Prior to the course launch in September, faculty met with community partners who would be interested in working with student research groups; the community partners themselves then pitched scoped research ideas to students early in the course. Students were then expected to collaborate with the organization to further scope the project and refine the research question. Village Vancouver was one of 10 organizations invited to pitch a research idea to the course in early September and FED-AP was taken up by four students of this course.

**Positionality of Researcher**

This research was born out of my role as university staff and my involvement in experiential learning course development. From a professional perspective, I approach this research as an educational program planner and practitioner in CSL. My work is positioned in a central department on campus (UBC Centre for Community-Engaged Learning) that works with faculty, staff and community partners to develop community engagement and experiential learning opportunities at the university. Prior to its beginnings in September 2013, I was involved in the planning and re-development of the Environmental Science capstone course curriculum, including content, assignments, instructional strategies and learning activities as well as the early stages of relationship building with community partners. Furthermore, I had a previous working relationship with the particular community partner from our brief work together in the local sustainable food movement. Thus was born an opportunity to explore
this teaching and learning space and the roles and relationships of those involved in the context of a community issue in which I had a particular interest and history. I am uniquely positioned in that my own lived experience as a planner and practitioner enables me to better understand some of the complexities that lay within CSL relationships. Part of my work involves fostering relationships between faculty, community partners, and students and facilitating the development and articulation of teaching and learning roles, which helped me ask better questions in exploring these aspects of the research. It also means that I have an established relationship with both faculty and both community partners that will inevitably have an effect on the interview dynamic.

My involvement in the development of this course from a professional position means I simultaneously take on a research interest as a researcher, and a professional interest as an experiential learning planner and practitioner. In my professional role I have worked with a diversity of community-based experiential learning models and approaches. Some of these models worked to disrupt traditional one-way power dynamics inherent in community engagement and community-based experiential learning, while others unfortunately further reinforced them. Learning through the successes, challenges and failures and first-hand experience into what happens when these models further privilege some partners at the expense of others, has led me to take a critical approach to my work. For me the ethics of engagement, power dynamics within university-community institutional relationships and between individual participants of such endeavors, and reproduction and resistance of hegemonic practices are at the forefront of my concerns. These inform my critical position in
this research, which I discuss further in the next section and in outlining my conceptual approach.

In recent years my activity in food movement circles and communities has decreased. However during my years as a food movement ‘insider’, I occupied a very particular space of privilege within these food dialogues, discussions and events. As a white, middle-class male, I was often very aware of my position, particularly in discussions around food and culture, sovereignty, justice, and discussions that examined issues of race, class and gender and de/colonization in relation to food security and food in/justice. Though I would argue I am now more an ‘outsider’ to food movement communities, it is from this particular standpoint that I examined whether similar issues and discussions were also evident in the experiences of those involved in this course project, which is also situated in the local food movement.

These positionalities and critical approaches to and examinations of community-engagement and food movement politics, and my own social location place me in a particular space in which I examine and critique spaces of which I am part. Through my role and position as a researcher, I can inquire about the experiences of participants in the learning and knowledge production process, and bring attention to critical issues through the research process. In the next section I discuss how my understanding of and theoretical approach to knowledge and learning informed my research process and chosen methodology.

**Conceptual Approach**

I bring to this study an assumption that the relationships that form between community partners, students and faculty can become spaces for the development of new knowledge
that can be applied to a particular community priority, which in this case, is local food
security. From this I derive theoretical and epistemic alignment to my own understanding of
knowledge construction. A more intimate understanding of knowledge creation processes
in these spaces, and how the actors perceive their roles can give us insight into improving
such educational contexts. I believe we can look for places to provide extra support and be
more attentive to what is and what is not being learned and applied as a result of shifting
roles and responsibilities, and the power dynamics undergirding student, faculty and
community partner relationships. While the specific focus of this research is not how power
operates between participants and their roles, nonetheless it is an undeniable dimension
that shapes their experiences and cannot be ignored. It is from this intersection of power
and knowledge construction that I approach this research, drawing on Joe Kincheloe (2005)
and the perspective of critical constructivism as a way to understand this positioning.

**Critical Constructivism**

The notion that these types of teaching and learning spaces and relationships have the
potential for knowledge production is reflected in constructivism, theoretical lens through
which I view this research. As an educational philosophy, constructivism asserts that we
create knowledge and meaning through our interactions with one another and our ideas
(Franklin, 1998). For some, greater emphasis is placed on cognitive areas as core ordering
processes and deep structures or ‘schemas’, consistent with the theories of developmental
psychologists, such as Jean Piaget. For others, such as the work of cultural historical


psychologist Lev Vygotsky, there is greater significance on language, and socio-historical and cultural processes, (Franklin, 1998). Wood (1998) describes the move from an individual focus on learning to the collaborative and social dimensions of learning as a social constructivist orientation that brings together the work of Piaget and Vygotsky as well as cognitive learning theorist, Carl Bruner. Social constructivism posits that knowledge is a constructed through social interaction, interpretation and understanding. Knowledge can therefore not be separated from the social and environmental contexts in which it is formed (Adams, 2006).

We exist within social and cultural contexts and structures that shape the world in which we operate. These structures, alongside our past and present experiences, inform our interpretations and ways we see the world. The way we encounter and experience these structures is affected by the power dynamics that function through the interaction of our social identities within these larger social systems. Power dynamics function through social structures and systems that privilege some and marginalize others, shaping the social realities, experiences, and thus learnings and knowledge of individuals. While a constructivist approach to learning addresses cognitive and social aspects of learning, it lacks attention to how power operates within knowledge construction. It is in relation to this theoretical concern that critical constructivism has its place. Critical constructivism, like social constructivism, contends that knowledge is socially and historically constructed. Its added contribution is its concern with how power operates in these construction and validation processes; critical social constructivism sheds light on both the privileging and marginalization of knowledge and peoples through these processes (Kincheloe, 2005). The merging of critical theory with constructivism provides a lens through which I attend to how power is operating.
and informing the relationships of students, faculty and community actors. As critical constructivism concerns itself with the privileging and subjugation of certain knowledge, it brings an important analytical lens to consider the knowledge created through the teaching and learning relationships of participants, and the knowledge paradigms from which they work.

In this chapter I have introduced the purpose and objectives of this research which explored the teaching and learning experiences of students, faculty and community partner organizations involved in what I have framed as a “research service-learning” project and as part of the Environmental Science Capstone course. I have introduced the Environmental Science Capstone course and outlined its redevelopment to further integrate community-based projects into the course. I have also introduced Village Vancouver, one of the community partner organizations who participated in the course and this research through their local food movement project, FED-AP. The following chapter explores community service-learning literature, including definitions, models, and the pedagogy as it translates into teaching and learning practices; I also provide an introduction to food movement literature and the different discourses of the movement, which was the context of the students’ project. In chapter three I describe the methodology for this research including a discussion on methods, participants, data analysis and limitations of the research. In Chapter four I present the findings, which I have divided, into three main sections – teaching and learning roles, understandings and experiences of research, and local food movement learning. Chapter five discusses these findings in greater depth, examining what I have interpreted as an expansion of roles, notions of research and local food movement learning.
as these relate to literature. The final chapter provides a summary of the research and findings, suggestions for future research and closes with my own reflections on this research process.
Chapter 2. Community Service-Learning and the Food Movement

In this chapter I explore relevant service-learning literature before moving into a brief discussion on the food movement. I begin by briefly exploring what UBC refers to as community-based experiential learning (CBEL) and its link to the more commonly used term ‘community service-learning’ (CSL). Next I move to a general discussion of some of the theory and definitions of community service-learning. Service-learning literature has grown significantly over the last decade as it is further institutionalized within Canadian and American higher education. Given the vast amount of service-learning literature this review can only provide a brief summary of community service-learning (CSL). I will cover some definitions of CSL, varying perspectives and models from which it is approached, challenges and critiques to CSL pedagogy and practices, and lastly a few examples that exist within science education. These last examples will be most relevant to disciplinary content and aspects of this case study.

The final section presents a relatively new term, “research service-learning”, a hybrid model of community service-learning and community-based research (CBR) (Goss et al., 2010). The concept of students conducting research as part of service-learning is by no means new, but use of this term is scant within service-learning literature. It is a particularly useful framing for the course studied here, which does not fit perfectly with the traditional models of either CSL or CBR.
Community-Service Learning

CSL Definitions

CSL is a form of experiential learning, rooted in Deweyan educational philosophy and pragmatism (Beatty, 2010; Chambers, 2009). Beatty's (2010) historical review of service learning in US institutions points to several changes to service-learning as it was taken up differently with the changing political, social and educational landscapes. She maps how “service-learning” was a term first used in 1966 and its connection to social movements in the US such as the Civil Rights Movement and anti-poverty programs, then notes how in the late 70s and 80s, there was a shift in focus to teaching and learning benefits of service learning associated with the educational assessment movement. Beatty points to the *Michigan Journal of Service Learning* as evidence of its growing credibility, and how in today’s higher education system, CSL was “becoming institutionalized as a mainstream pedagogy” (Beatty, 2010, p. 185). It is important to note that while CSL has decades of history in the US, it is a much newer educational practice in Canada (Chambers, 2009).

CSL, like all pedagogical tools, has its limitations. There is no “one-size fits all” model or ‘best practice’, nor is it an appropriate pedagogy in all settings and situations. Multiple definitions exist around what exactly is “service-learning” (Gemmel & Clayton, 2009) reflecting the variance of service-learning practices across educators and institutions (Mitchell, 2008). While there is no single agreed upon definition, there appears to be four consistent key elements of service-learning evident across the literature: engagement, reciprocity, integration with course content, and reflection. Service-learning involves working
with and being introspective about what is happening in those moments of being in relationship with another, most often relationships between student and community. In order to justify service-learning as a ‘legitimate’ practice in academia, linkages must be made to theoretical/conceptual components (Kronick, Cunningham, & Gourley, 2011). Beyond these elements, there is significant variation in how service-learning is framed and implemented, often dependent on a teacher’s individual philosophy (Beatty, 2010). The Canadian Alliance for Service Learning (CASL) defines service learning as “an educational approach that integrates service in the community with intentional learning activities. Within effective CSL efforts, members of both educational institutions and community organizations work together toward outcomes that are mutually beneficial” (CASL, n.d.). Thomas Ehrlich’s definition of service learning emphasizes the linkages to Dewey’s philosophical underpinnings in education:

Service learning is the various pedagogies that link community service and academic study so that each strengthens the other. The basic theory of service learning is Dewey’s: the interaction of knowledge and skills with experience is key to learning.... Learning starts with a problem and continues with the application of increasingly complex ideas and increasingly sophisticated skills to increasingly complicated problems (Elrich in Jacoby, 1996, p. xi)

Other definitions in literature draw connections to Kolb’s experiential learning cycle (Kolb, 1984). Eyler and Giles’ definition highlights Kolb’s theory, defining CSL as:

A form of experiential education where learning occurs through a cycle of action and reflection as students work with others through a process of applying what they are learning to community problems, and at the same time, reflecting upon their experience as they seek to achieve real objectives for the community and deeper understanding and skills for themselves (Chambers, 2009, p. 78)
Despite the multiple definitions of service-learning, maturation of the field and the recent abundance of theorizing and critiques of “service-learning” has created a general understanding and agreement around the components of CSL pedagogy in the design, partnership and learning processes of CSL (Gemmel & Clayton, 2009).

**Research in CSL**

Service-learning has been traditionally heralded for increasing engagement in the wider community and for giving students the opportunity to apply knowledge to real-world situations. Earlier CSL studies and research often focused mainly on student outcomes with little attention given to community outcomes and impact. More recent literature has begun to explore impacts for community organizations that engage with CSL, though student and academic outcomes continue to dominate research agendas. An even greater gap exists in relation to the actual impacts for community members; these impacts are often offered as speculations or they are assumed to be the same as the impacts on organizations (Stoecker & Tryon, 2009). Furthermore the blanket use of the term ‘community’ to represent all those external to the academic institution groups together and homogenizes otherwise diverse groups of people with varying interests, outcomes and impacts through service-learning.

Student learning outcomes from service-learning literature are often divided into three larger categories of intellectual growth (Bringle & Hatcher, 1996; Eyler & Giles, 1999; Gemmel & Clayton, 2009), civic engagement or social responsibility (D. W. Butin, 2007; Gemmel & Clayton, 2009; Kahne & Westheimer, 2006; Smye, Josewski, & Kendall, 2010) and personal growth (CAS Standards and Guidelines, 2005). Student outcomes are also closely
related to course content and the perspective informing the CSL approach (Beatty, 2010). As service-learning becomes an integrated pedagogy that is being embedded into a course and explicitly connected to content, it can become a method for achieving set learning outcomes in addition to the outcomes inherent to the pedagogy itself.

Models and approaches: Charity vs. Social Justice

Community service learning has created quite a buzz in Canadian higher education institutions. An increasing amount of literature in recent years has assumed that service learning coupled with classroom learning inherently connects to a model of social justice (Mitchell, 2008). Mitchell maintains that there are two approaches to service-learning: “a traditional approach which emphasizes service without attention to systems of inequality, and a critical approach that is unapologetic in its aim to dismantle structures of injustice” (p. 50). According to Mitchell, three elements distinguish traditional service-learning from critical service-learning: (1) an orientation to social change, (2) working to redistribute power, and (3) authentic relationships in the classroom and community. If service-learning is to be used as a pedagogy through which students learn about and conduct research with community partners, a critical model should guide CSL practices to support ethical community engagement that does not reproduce inequitable relationships between communities and classrooms and within broader social contexts in which research issues lay. Traditional models of service-learning that fail to address inequitable power relations, only further perpetuate the status quo. These traditional models of service-learning have been criticized for “transmitting ‘mission ideology’” (Yoder Clark, 2009, p. 1); an imposition of a
dominant group’s worldview on a non-dominant group, in the name of “service”. Some scholars have turned to critical theory in their discussions and criticisms of service-learning. Ivan Illich’s famous speech to a group of American students about to embark on a volunteer mission trip to Mexico is one example where scholars began to call into question and critique service-learning models that perpetuate a power imbalance and a ‘helping’ narrative while imposing a dominant ideology. Illich exclaimed to students unapologetically:

Next to money and guns, the third largest North American export is the U.S. idealist, who turns up in every theater of the world: the teacher, the volunteer, the missionary, the community organizer, the economic developer, and the vacationing do-gooders. Ideally, these people define their role as service. Actually, they frequently wind up alleviating the damage done by money and weapons, or "seducing" the "underdeveloped" to the benefits of the world of affluence and achievement. Perhaps this is the moment to instead bring home to the people of the U.S. the knowledge that the way of life they have chosen simply is not alive enough to be shared” (Illich, 1968)

Illich’s speech, which took place almost 50 years ago, demonstrates the calling for a greater critical examination of service-learning experiences and the power that unavoidably operates within them.

Yoder Clark’s (2009) doctoral dissertation provides a thorough discussion on the implication of power in the service-learning. She argues that critical theory and service-learning both emerged in the US during the times of social unrest and upheaval of the 60s and 70s and, although absent in much of the literature, points to the influence of the works of Freire in the early stages of service-learning and its development (Yoder Clark, 2009).

Service-learning critiques focus heavily on power imbalances and issues of privilege that exist and the dangers of affirming the status quo. Mitchell (2008) claims that power and privilege are inescapable aspects of service-learning:
Students will undoubtedly have a greater societal privilege than those whom they serve. Whether it is race, class, age, ability or education level, and in some cases the privilege of time (which may also manifest as class privilege), students in some way (or in all these ways) have more power than the constituencies than were they work (p. 56).

Mitchell brings forward important considerations on how privilege and power may be operating within the multiple and diverse identities of service-learning participants. However the notion that all students will be in a greater position of privilege makes dangerous assumptions, both about students and community constituencies. There are many instances of community partners operating from a place of privilege and power over students and caution needs to be taken in making such claims.

The model and approach brought to service-learning will greatly influence the way the course unfolds, from development and planning delivery and assessment and evaluation. It will also greatly affect the roles, relationships and dynamics between students, faculty and community partners. In the next section I focus on the literature that addresses teaching and learning roles and responsibilities. It is here we see the above pedagogies translated into practices and what these look like from a teaching and learning perspective.

**Teaching and learning roles and relationships in CSL**

Community service-learning pedagogy requires us to rethink traditional (western) teaching and learning roles and relationships where the teacher occupies the ‘sage on the stage’ position, transmitting knowledge to passive learners (King, 1993). From a CSL perspective, students shift to more active learners and in turn faculty members take on a much different role, with teaching becoming more student-centered. Hickcox (2002) argued that
experiential learning, including service-learning, creates opportunities for different faculty-student relationships and for changing the dynamics of interaction. She saw benefits of a more personal component to the teacher-learner relationship. Faculty roles broaden to include one-on-one consulting, off-campus site visits, and facilitating small group discussions; these engagements become important parts of the learning experience. Student-teacher dialogues move beyond solely academic content, and include a social-emotional component to learning where emotional issues also becomes a part of student-faculty discussions. As Hickcox notes: “faculty involved need to listen as students describe emotional reactions to events; conflicts with others; or doubts about their knowledge, skills, and career plans” (p.127).

In their study of the relationship dimensions among faculty, students, and community partners in service-learning, Conville and Kinnell (2010) reported on four key themes of relationship dimensions – control, involvement, preparation and oversight. Control refers to the degree to which group (student, faculty or community partner) set the service-learning project parameters. Involvement was the degree of participation in classroom or community-based activities. Preparation referred to the degree of training that students received to be able to carry out the project, as well as the degree of collaboration between faculty and community partners prior to the course. Finally, oversight was defined as the degree of guidance or monitoring provided to students during the project. All four themes were shared across conversations with students, faculty and community partners. Conville and Kinnell also made several key observations about the roles of these three groups, two of which are particularly relevant here. First, they argued
that “effective service-learning requires that participants experience both a quantitative and qualitative change in their conventional roles as faculty members, students and community partners” (p. 32), where quantitative changes mean that the number of duties and rights for each role must increase. A second observation was that boundary expansion in service-learning was unique in that expansion in one role doesn’t necessarily result in boundary contraction for alternate roles. Rather, relationships between service-learning participants result in overlapping boundaries where “each role in the system at times takes on behaviours that might normally be reserved for other roles” (p.32).

Service-learning not only requires rethinking traditional roles and relationships between teachers and students, but also requires opening the teaching and learning space to include community partners. This brings its own pedagogical considerations. What role a community partner takes on in a service-learning course can vary greatly and relates to the service-learning model and approaches discussed above. It is here we see Yoder Clark and Mitchell’s (2008) critiques of service-learning play out in the roles and relationships between students, faculty and community partners. The chosen approach to service-learning will significantly influence how these three groups -- students, faculty and community partners--work together and how they negotiate and understand their roles and expectations. For example, do faculty see the community placement as solely a site for students to experiment and apply skills and a place to impose a particular set of knowledge – what Yoder and Clark described as “transmitting ‘mission ideology’ (p. 1)” Or do faculty and students value community sites and partners for their knowledge and pedagogy (Butterwick, 2015). In his recent critique of the critical service-learning discourse, Butin
(2015) offers several tenets of practice to move away from solely a theoretical critique, or what he calls ‘dreaming of justice’, towards practical elements that move closer to ‘enactment of justice’ (p.7) in service-learning. I include an abbreviated list of these ideas as they pertain directly to the role of instructors and partners and their relationships. To Butin (2015), it is NOT critical learning if:

- Instructors do not have community partner’s phone numbers programmed into their phones
- Instructors do not know the name of the administrative staff member at the organization
- The community partner did not have a say in the community project
- If the instructor did not have a say in the community project
- If the project coincides with the course timeline, and not project scope
- If student grades are determined more by service-learning hours rather than project and program outcomes
- If the main outcome of service-learning is a final paper
- If the main outcome of service-learning is not evaluated by the community partner
- If the project outcomes can’t be found in the community 6 months after the project

These ‘tenets of practice’ (p. 8), Butin argues, have deep implications for the way service-learning unfolds, and for Butin, are ways in which critical service-learning pedagogies begin to take shape in practice. However, similar to the critique of Mitchell’s assumptions on power and privilege in service-learning relationships, Butin’s list makes its own assumptions about how CSL relationships and partnerships operate. Perhaps a community partner has
chosen email as their preferred form of communication. Quite possibly, as was the case in the project under study, the community partner asked for a final report because this was what they wanted. Rather than focusing on lists that dictate the outcomes by which “critical CSL” is to be judged, perhaps we need to focus on processes that disrupt traditional flows of power.

In her guide to service-learning and community partnership development, Brown (2001) brings together service-learning, critical pedagogy, and participatory action research to develop a theoretical framework and methodology for developing service-learning programs and activities built on sustained partnerships between faculty, community partners and students. Her work translates Freire's (1997) theoretical concepts of praxis into practical steps for partners and faculty to collaboratively develop shared goals, activities and assessment. In this case, moving from a critical pedagogy into practice focuses on the way faculty and community partners relate and the processes by which they plan, deliver and assess teaching and learning activities. Brown also considers student perspectives of CSL and how students perceive themselves in relation to community partners. Rather than assuming a power position of ‘expert’, imparting a ‘fix’ to a problem or ‘need’, how do students position themselves in relation to bringing something to the table and as learners open to the different knowledge, skills and perspectives of community partners? Are assignments, projects, or course work done in isolation or do students engage community partners collaboratively in their work, and bring in partner perspectives into their own reflections when appropriate? In her guide, Brown (2001) highlights a common issue with student project work:
Students will often naively present their research findings, proposals or projects to the organization as if students are (after a semester of research and writing) the experts on the issues organizations face. These projects may be high quality academic work, and they may be products or information the organization can use, but often those products reproduce efforts or materials that already exist, or provide the organization with information they already have (Brown, 2001, p. 25).

Brown brings attention to a common issue in service-learning projects, and highlights the need for students to recognize work already done by community partners and how they might actually contribute. While research reports and projects can be useful work for students to undertake, the process through which the work is undertaken is important to explore. Did the organization contribute to the scope of the project? Does it fit into their priorities without duplicating work done?

Lastly, Mitchell’s (2008) comments, noted earlier, on the power imbalances and spaces of privilege within service-learning relationships, raise questions about whether students have awareness of their social location and if they consider how their identities influence their interactions in their service-learning work. For Brown (2001) such critical reflection could be addressed by exploring the notion of ‘expertise’ and ‘expert’. Do students see partners, not just faculty, as experts? Here faculty play an important role in the framing of partner-student relationships and positioning partners as experts with expertise; faculty can further these notions through in-class discussion and facilitation of student reflection. Seeing community members as placement supervisors leads to one set of conversations, but seeing them as co-educators or field-based faculty can create an entirely different set of conversations. What becomes important for those involved is defining what roles community partners occupy within a service-learning course. There needs to be shared language developed and agreed upon by all parties (students, instructors and
community partners). Ideally, a language is created that recognizes community partners and ‘community cultural wealth’, that is, cultural knowledge, skill and abilities of communities and partner organizations that often go unrecognized and unacknowledged within the academy (Yosso, 2006). Furthermore, because every service-learning project, course or activity is different, with new students and potentially new partnerships, there is no one-size-fits-all approach; one cannot assume roles and processes are understood. Each iteration requires a new discussion and negotiation to ensure everyone is on the same page.

Good practice requires that in the early stages of the relationship, prior to students’ involvement, some negotiation and understanding of roles should take place between faculty and community partners (Freeman, 2003; Brown, 2001). While in some CSL literature, community partners’ role is often described as ‘co-educator’, there is little clarity about what this means and what processes need to be in place to support this perspective. Some have even critiqued CSL and the downloading of teaching and learning onto community partners under the guise of co-education (Stoecker & Tryon, 2009; Tryon et al., 2008). Done without attention to how faculty should share these processes and community partners can only reinforce, rather than disrupt, the imbalance in power dynamics.

University and college community engagement and service-learning resources have begun to address how community partners are co-educators. For example, a Washington University handbook describes in detail how community partners have a role in student learning:

In the service-learning relationship the community partner’s role, if well understood, is equal to that of the campus partner. As co-educator the community partner will demonstrate intelligence and expertise that will be essential to what the student is learning in class through text and lecture. He or she has been educated for the role
that is played in the organization/agency/school. He or she has had years of practical experience. The community organizations/agencies/schools have assets and strengths upon which the campus partner can build a solid learning experience for the student (Freeman, 2003, n.p.).

The handbook points out how community partners, if supported, can work with faculty to better understand course learning objectives to find appropriate activities to better match the course. Community partners can provide comprehensive orientations to their organizations and the contexts in which they work. They may be well acquainted with the course syllabus and play a role in facilitating student reflection (Freeman, 2003). Similarly Brown (2001) suggests that community organizers can provide valuable input into the curriculum, thus more effective issues-based course content could be developed in collaboration with community partners.

**Teaching and learning challenges in CSL**

There are significant challenges within service-learning pedagogy, several of which pertain to teaching and learning, including role expansion and negotiation, and navigating complex relationships. For starters, community organizations and universities function differently. Bacon (2002) describes community partners and universities as having different ‘discourse communities’, particularly with respect to how each one frames and seeks evidence of student learning. Her study found that faculty saw students’ learning as achieved expertise and sought evidence of this outcome in how students’ were able to articulate such knowledge; community partners framed learning as a continual activity acquired from experience and sought evidence in students’ ability to act effectively. Community partners
also prioritized collaborative learning while faculty tended to give priority to solitary activity. Relatedly, Conville and Kinnell (2010) also emphasize the need for community partners, students and faculty to develop a common language between all parties.

Expansion of roles means there is a significant increase in the amount of time required of both faculty and partners. Courses based on a principle of deep collaboration require significant time investment from all involved. In the CSL literature, it is common for faculty to point to challenges with respect to logistics, coordination, administrative tasks and program managing (Calvert, Kurji, & Kurji, 2011; Abes, Jackson, & Jones, 2002). Partners may also find this role expansion particularly taxing. Some organizations may already be under-resourced, and taking on a greater role in planning, educating and assessing students may be beyond a partner’s capacity.

Another challenge is the integration of service-learning into a course. To be an effective pedagogy, community service-learning must be fully integrated into the course, linking community experiences and projects to content, assignments, and learning activities (Kronick, Cunningham, & Gourley, 2011; Harkavy & Donovan, 2000). This may require a significant restructuring of the course syllabus and development of new materials and activities. Furthermore, faculty wishing to take on a more critical approaches to teaching and learning may find it challenging to shift the way they teach. Moving from a transmitter of knowledge, to a facilitator of classroom dialogues, or what Paulo Freire referred to as problem-posing method of teaching (Freire, 2000), will be challenging for those not familiar with this style of teaching. Faculty may need to learn new skills for new ways of teaching. Equally challenging may be the shift for students to more active learning. For many of us,
schooling taught us to be more passive agents in learning. If we are to expect students to take on a more active role in the learning process, we must first teach them how; we cannot expect the switch to take place over night.

**Summarizing Teaching and Learning in CSL**

So what does all this say about teaching and learning in CSL? The literature and this discussion focused on the roles of students, faculty and community partners engaged in service-learning courses. What this demonstrates is that we need to re-envision what teaching and learning looks when talking about service-learning. It not only includes the addition of community partners as an important component, it requires us to broaden the definition of teaching and learning to include tasks that may not have been traditionally thought of as such – planning, role negotiation, administration, relationship development (although this, I would argue, should be a part of any teaching and learning process). It also requires recognition that teaching and learning roles shift at different stages, where faculty become learners and community partners become teachers. Conville and Kinnell (2010) provide a nice summary of these shifts:

Ideally, over time faculty members and community partners collaborate to prepare students for a quality learning experience and provide substantive assistance to the community. Beyond preparation, over time the faculty member ideally is no longer the only educator in the service-learning process and the student is no longer the only [one] learning. Community partners become instructors when they prepare students for work at their site, and faculty members become learners as they become involved on the ground along with their students. The triad of roles expands and evolves into a system of reciprocal educators and learners collaborating on the common and vision of the project (p.35).
To move towards Conville and Kinnell’s conception of service-learning involves a complex understanding of roles and when and how they shift; the power and privilege inherent in relationship dynamics cannot be ignored. Finally, what is mostly absent from literature are instances of students as teachers, as perceived by themselves, or faculty or community partners. Additionally, what does the teaching role look like for students in comparison to that of the faculty and community partner?

**Research Service Learning**

The literature exploring research service-learning is beginning to grow. While there has been a considerable amount written on community service-learning (CSL) and community-based research (CBR), ‘research service-learning’, (RSL) has received very little attention in literature. It is possible that significantly more CSL is reframing research as service, although the term itself is not commonly found. Like much of CSL literature, what has been written on RSL focuses mostly on the outcomes of such courses. Goss, Gastwirth, and Parkash (2010) describe RSL as a pedagogical approach pioneered at Duke university “that requires students to provide service to a community-based organization while conducting original field research on a question typically worked out with the community partner” (p. 119). Reynolds and Ahern-Dodson (2010) define RSL as an expansion of the traditional service-learning model that includes research as service. They contend that RLS “teaches students to ask research questions that are relevant to their communities’ needs, and work with faculty and community partners to design and implement research projects that address those needs” (p. 25). One empirical study of an RSL ‘gateway option’ in political studies found the following outcomes for students: motivation to continue research, heightened capacity for peer-peer
learning, increased motivation for local community engagement, and a greater appreciation for the complexity of problems facing communities and their capacity to contribute to solutions (Goss et al., 2010). For Goss et al, the research component was a contributing factor to such positive outcomes.

In their review of the design and delivery of a first year RSL course in conservation biology, Reynolds and Ahern-Dodson (2010) include perspectives of community partners, students and faculty. Community partners reported benefiting from a “much needed people power for research projects” (p. 27), as well as greater access to information at the university, such as peer reviewed journals (Reynolds & Ahern-Dodson, 2010). Students benefited through the integration of active learning and learning promoted through challenging the connection of course material with “meaningful and productive community applications” (p. 26). Lastly, faculty also benefited from active learning as a teaching strategy, as well as the creation of research opportunities through interdisciplinary collaborations within and beyond the university.

Changing the conceptual framework from CSL to RSL does present a danger of deemphasizing the importance of ‘communities’ and attention to ethical engagement by shifting a focus from ‘community’ to ‘research’. However drawing on and embedding principles and practices of community-based research within an RSL course and research practices hopefully maintains the integrity of such a model that seeks to connect communities and universities. There is little in RSL literature about the implications of ‘research’ as service for teaching and learning practices. The same considerations with respect to power imbalances between students, faculty and community partners are
required; perhaps more attention needs to be given to the universities’ historical record of research that positions communities as objects of research, not as partners. Conville & Kinnell’s (2010) four relationship dimensions of CSL: control, involvement, preparation, and oversight, are akin to some CBR principles such as community-driven issues, shared power and control throughout the research process and readiness and sensitivity to communities (Stocking & Cutforth, 2006; Strand, 2000). Brown’s cautions with respect to students positioning themselves as ‘experts’ and Bacon’s observations of the difference in discourse between universities and communities, are both applicable and transferable to attending to the teaching and learning concerns under a RSL framework. These concerns will similarly push the scope of teaching and learning roles within RSL for students, faculty instructors and community partners as an increasing number of courses are moving away from a traditional ‘service’ model and seeking to engage differently through research projects and courses.

The next section explores some of the discussions emerging from food movement literature. I briefly discuss the food movement more broadly and the different discourses and perspectives. I refer to these later in the thesis when I discuss how the organization in this RSL capstone course approached its work and how it located itself within the local movement, as well as what students learned about the food movement.
The Sustainable Food Movement

The Broader Food Movement

The food movement can be characterized as multi-faceted and complex, complicated by the various, at times conflicting foci, conversations, critiques and advocacy groups. From sustainable farming practices and local food economies (Ladner, 2011), local food (Starr, 2010), food justice (Gottlieb & Joshi, 2010) and food sovereignty (Morrison, 2011), the food movement encompasses a myriad of discourses and analyses. Indigenous food sovereignty has been a way to assert Indigenous rights, revive traditional harvesting practices and foods and decolonize food systems (Morrison, 2011; Walter, 2012). Community gardens exemplify a particular type of space for the food movement, and have been argued as not only sites of food, but identity production (Wen Li, Hodgetts, & Ho, 2010), civic participation, social capital (Shinew, Glover, & Parry, 2004; Glover, 2004), and community development (Hansen, 2011; Ladner, 2011; Saldivar-tanaka & Krasny, 2004). Some have criticized the broader food movement for the lack of attention to racialized and gendered spaces, and its exclusiveness as a white, middle-upper class movement (Guthman, 2008; Slocum, 2006, 2007). These are just some of the various discourses through which people engage in the food movement. More relevant to this study are the scientific and economic concerns through which people enter food movement discussions, particularly with respect to climate change, peak oil and financial turmoil (Sage, 2014).
Discourses of Security, Justice and Sovereignty

Several strategies for transforming the current food system have emerged and appear in food movement literature and discourse. Food security, food justice, and food sovereignty are three major strategies that have been developed in opposition to the current system. These strategies often overlap, some more than others and at times, it can be difficult to differentiate between them. The Food and Agricultural Organization of the UN (2001) describes the more commonly used definition of food security as a situation where “all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life” (as cited in Weibe & Wipf, 2011). Food sovereignty, first coined in 1996 in Tlaxcala, Mexico, was born in response to the inattention to power relations in the food system:

Food sovereignty, broadly defined as the right of nations and peoples to control their own food systems, including their own markets, production modes, food cultures and environments, has emerged as a critical alternative to the dominant neo-liberal models for agriculture and trade. (Weibe & Wipf, 2011, p. 4)

‘Food Justice’ has become another strategy to discuss inequities and injustices that exist within the current food system although there are different views with respect to what constitutes food justice (Gottlieb & Joshi, 2010). Holt-Giménez (2010) summarized food justice as a progressive food agenda which calls for access to healthy food by marginalized groups defined by race, class, gender and economic status, as well as ‘family first, sustainable agriculture advocates” (p.2). Holt-Gimenez distinguishes food justice strategists from the more radical approach of food sovereignty, which focuses on changing structures and creating conditions for more equitable and sustainable food systems. While their driving political frameworks vary, he notes how there are significant overlap between these two
strategies where “radicals and progressives are the arms and legs of the food movement” (p.2).

In further efforts to untangle these three strategies, Holt-Gimenez created what he calls The Food Regime-Food Movement Matrix which “helps describe the dominant trend in the food system according to the politics, production models, tendencies, issues and approaches to the food crisis” (Holt-Giménez, 2010, p. 2). This matrix is useful in locating the work of students and community partners within these varying strategies. While the food movement was not the focus of this research, it is important to consider the discourses students may have been exposed to during their research and interaction with the community partner, including what boundaries they may or may not have crossed with respect to the socio-political and cultural aspects and critical discourses of the food movement. From a critical constructivist approach these discourses of the food movement cannot be ignored as they bring attention to and raise questions of power.

This chapter has presented some of the literature surrounding CSL, exploring different definitions, models and approaches and how these translate into teaching and learning practices. It examines CSL as diverse pedagogical approach influenced and informed by different philosophical underpinnings. I draw an emphasis to the problematics, paradoxes and dangers within CSL pedagogy, and the potential for negative impacts on those involved, particularly communities and community partners, when there is a lack of attention to the power dynamics inherent in CSL relationships. This is particularly important when learning and knowledge creation are understood through critical constructivist
theoretical lens. Finally, I offer a short discussion on the emerging term ‘research service-
learning’ (Goss et al., 2010; Reynolds & Ahern-Dodson, 2010), and suggest it as a useful
framing that draws together the pedagogies of community-based research and community-
service learning and provides a useful framing for this case study.

The section on the food movement, though brief, highlights the multitude of issues being
examined within it. Understanding the wider food movement discourses helps to examine
the different perspectives being discussed. Furthermore the discourses of food security,
sovereignty and food justice all attend to power relations within food systems and the
movement itself. These discourses became guide posts for my exploration of how
participants in this project thought, spoke and described what they learned about the local
food movement and how each were positioning themselves within it.

In the next chapter I describe the methodology and research design that I used to
explore participants’ experiences of RSL, their teaching and learning roles, and their
understanding of research and the food movement.
Chapter 3. Research Methodology and Design

In this chapter I outline the methodological approach, data collection methods, recruitment and selection of participants, and my approach to analysis. I also discuss matters of ethics and validity (as applied to qualitative inquiry).

Methodology

This inquiry uses an interpretive case study methodology (Yin, 2009; Stake, 1995, 2006; Merriam, 1985). Merriam's (1985) review of case study literature provides several key characteristics of the case study that can be applied here. According to Merriam, case study shares the philosophical assumptions underlying qualitative research and can be paralleled with naturalistic inquiry. Qualitative methods within case studies lend themselves to exploring an event, situation or phenomenon, moving from the specific to more general. From a naturalistic perspective, reality is a multiple phenomenon and the inquirer-participant relationship is interactive through such methods as interviews. Observations take place in real-world settings and interviews are conducted through open-ended questions in places that are familiar and comfortable to participants (Patton, 2004). Finally, (Merriam, 1985) points to how within a naturalistic inquiry, researcher subjectivity is central and should be acknowledged, and that researcher control is instituted through the multiple perspectives and methods.

I draw on Lijphart’s (1971) discussion of interpretive case study, in which theoretical properties are applied to the case in order to better understand it. This is different from theory building, a goal found in other types of case studies. Through the constructivist paradigm, the larger orientation of this study, I draw on both critical theory and
interpretivism to inform certain aspects of my methodology. Constructivism shares frameworks of inquiry with interpretivism (Schwandt, 1994), but differs in relation to the purpose of inquiry and the nature of human action. Interpretivism is concerned with the shared meaning and understanding, while constructivism extends this to the production and interpretation of knowledge. This research exists in the context of teaching and learning, actions that are part of the knowledge production process and so it stands that, given my epistemological view on knowledge, a constructivist approach is appropriate. However, in this study I am not only interested in participants’ experiences and understandings of what knowledge was produced, but I also want to further understand the process and experiences which contributed to knowledge production. Thus, in exploration of teaching and learning experiences of participants with respect to how their understand their own and others’ roles and relationships, I borrow from an interpretivist approach to understand the meanings and interpretations participants attach to these.

Lastly, because I am also concerned with power dynamics that function through and inform our relationships, and its role in the knowledge construction process, a critical constructivist approach is necessary, lending itself to the consideration of the power relations amongst participants who are individuals with different social identities, status, and social locations; these inform their teaching and learning roles. This critical constructivist approach also brings attention to university-community boundaries; a boundary that is itself a function of social power.

A qualitative methodology allows me to explore the multiple realities, or experiences of participants in this study. It also recognizes my own subjectivity within the research
process as interviewer and interpreter of data. Finally, a qualitative approach allows for flexibility in the research design, where the design may shift slightly as themes emerge from the data (Merriam, 1985). For example, themes of interest that emerge from document analysis may prompt more specific interview questions, and vice versa.

Data Collection Methods

Data for case study research is often gathered through three major methods – interviews, observations and document analysis (Merriam, 1985). This study employed two of these three – interviews and document analysis. Observations were not possible as the research was conducted after the capstone course was completed. Therefore interviews and document analysis (of curricula materials and students’ reports) were the key methods through which I explored participants’ perceptions of their learning and experiences.

Interviews

Interviews can provide knowledge about our realities and experiences and even be seen as a knowledge-producing activity (Kvale & Brinkmann, 2009). Here I understand the interview process as one of knowledge construction, rather than knowledge collection (Kvale & Brinkmann, 2009). The epistemological understanding of the interview as a site of knowledge production is aligned with a perspective of knowledge as socially constructed through interactions and interpretations and understandings, all part of the data collection and analysis process.
Recruitment and Consent

In September 2015, a letter describing the study and inviting participation was sent via email to the two instructors of the course (supportive of the study), the four prospective students and the two community staff members. The letter described the study and asked those interested in participating to contact the researcher by phone or email a week following receipt of the letter. As this was a capstone course and the final course in the students’ degree program the risk of students’ feeling some coercion to participate was significantly reduced. In order to maintain confidentiality and to keep study participants identity anonymous, participants were asked to contact the researcher directly to indicate their interest in the study. The contact information of those willing to participate in the interviews was recorded and they were contacted at a later time to discuss interview dates, times and location.

Informed consent was obtained from participants prior to, and again at the time of and conclusion of the interview. Kvale and Brinkmann (2009) describe informed consent as informing participants about the overall purpose of the study, main features of the design, and any associated risks and benefits from participating in the study. Consent forms were sent prior to the interview and reviewed during the interview and at the end, and signatures were obtained at that time. The forms provided the necessary details informing participants of all aspects discussed above and asked participants to contact the researcher should they have questions or like more information.
**Interview Process**

Six semi-structured, in-depth interviews were conducted (Longhurst, 2009) with two students, two faculty and two community partner representatives. There were four students in total in this capstone course and I was able to contact and interview two of them. The interviews were tape recorded, then transcribed for thematic analysis, which I discuss below. More particularly, I examined how participants defined and understood their role and the roles of other participants, how they may have taken on different roles at different times in the course, and how they understood and felt about their relationships with one another. Beyond the teaching and learning processes, I was concerned with how participants understood research, exploring questions such as ‘what counts as research and knowledge?’ and ‘what is the role of research in environmental science and in community based learning?’ These are topics of inquiry for all three participant groups (student, faculty, and community partner). For example, when interviewing students, I was curious as to whether there were instances when they saw themselves, and community partners in a teaching role. Finally, I was interested in the intersection of the ‘scientific’ and the socio-cultural dimensions of their research issue—the effect of climate change on food sustainability in the Lower Fraser Valley. Here I explored what other dimensions of the food movement that students have learned about.

My interviews with faculty explored similar questions on teaching and learning roles and relationships as discussed above with a few faculty-specific areas of interest. For example, I
was particularly interested in the instructors’ motivations for the redevelopment of this course and for integrating a CBEL framework with an environmental science course.

Lastly, with respect to the community partners I sought to understand their expectations and perceptions as a community partner including what counted as useful research and knowledge for their organization, what their involvement was with respect to working with students and instructors, and finally, what new information they learned about the Vancouver food movement.

Participants were given the option of receiving a copy of their transcript to check the responses were representative of their intended meaning and an opportunity to provide feedback. One participant did provide some clarification and feedback on my interpretations of interviews and data, to which I incorporated into my presentation of findings, analysis and discussion.

**Document analysis**

Data was also collected through review of the following relevant documents:

- Students’ postcards from the field and their final research reports
- Community partner information including their organization vision and mandate
- Community partner reports on the food security situation in Lower Fraser Valley
- Curricular materials created by faculty
- Invitations and orientation guide created by faculty.

In these materials I paid particular attention to the goals of the capstone course and the roles and responsibilities of faculty, students, and the community partner. In curricular materials I was interested in the goals of the capstone course, the roles and responsibilities of faculty, students and the community partner, and how these were communicated. Student
assignments gave me a sense of their reflections at various stages in the course and how they were interpreting their experiences at these points in time. The final report from students provided insight into how students approached the research question and the issue, what was negotiated in preparing the report and what was not included. It helped in gaining further understanding of FED-AP and how the student project fit within it.

I was also interested in how the community partner organization fit with the course. Reports and information from the partner organization provided further information into their vision, mandate, and activities they undertake in communities. Furthermore, activities that related specifically to FED-AP, food, and the food movement helped me understand where they situated themselves within the local movement and food movement discourse. These documents were analyzed through open-coding alongside interview transcripts and approaches to data analysis are discussed in greater detail in a later section.

**Data analysis**

Data analysis is a dynamic process that begins with the collection of the first pieces of data (Corbin, Strauss, & SAGE Research Methods Online, 2008). This allowed for emerging topics to be further explored in subsequent interviews or in a second sweep of data (Corbin et al., 2008; Merriam, 1985). Corbin and Strauss describe analysis as an interpretive act with different levels and many different stories that can be constructed. For Corbin and Strauss, data analysis is both an art, and a science, a creative and procedural act of systematically developing concepts that are then validated by other incoming data. I followed Corbin and Strauss’ notion that background, professional knowledge and position are part of recognizing and give/make meaning of the data. In relation to this, my personal and professional
experiences in helping to redevelop this particular capstone course and my current position as a community-based pedagogies practitioner provided me with a lens through which I interpreted themes, patterns and through which I attached meaning to data. Because of this I was uniquely positioned to interpret participant experiences and to understand the stories data tells and their significance.

There were several stages to my analysis. In the first phase I reviewed relevant documents listed above to determine whether there was anything I wanted to explore further in interviews. Following the interviews, I did an initial read through of transcripts to get more familiar with the data, making notes of what struck me as key words or phrases. Corbin et al. (2008) suggest the first read of a transcript should resist the urge to do any sort of thematic coding and should be about taking in the information and conversation in its entirety. After transcripts were reviewed in this way, I returned to the transcripts and documents and began a thematic analysis. My analytic work was aided by the use of NVivo, a computer-aided qualitative data analysis software program (CAQDAS). NVivo was chosen as an analytic tool for its benefits in organizing and retrieving data. Garcia-Horta and Guerra-Ramos (2009) advocate the use of CAQDAS, specifically NVivo, in analyzing qualitative data, as long as they were used responsibly and reflectively. It must be acknowledged that qualitative software comes with its own limitations and must be used as a tool, and not be allowed to take control of the research process (Garcia-Horta & Guerra-Ramos, 2009).

Interviews and documents were open-coded (Corbin et al., 2008) using the NVivo program from key words and concepts that appeared in the data. Open-coding is understood to be a process of moving from the raw data to the conceptual level – an interaction with the data,
“A researcher can think of coding as “mining” the data, digging beneath the surface to discover the hidden treasures contained within data” (Corbin et al., 2008, p. 66). Once the first round of coding was completed, I reread the data and begin to look for relationships between codes, piecing together a story that spoke to my research questions from the concepts that I developed. Throughout my analysis I employed several analytic tools outlined by Corbin et al. (2008). Some of these tools included:

- Asking questions to the data
- Constant and theoretical comparisons to understand data
- Multiple meanings in words
- Close look at language, emotions and the situations and experiences from which they arise
- Drawing on personal experience
- Red flags that may arise from personal biases and assumptions

Once I conducted two sweeps of the data I began to look for connections and relationships between concepts (codes), and begin to piece these together. Corbin et al. (2008) describe this as an integrating process where the researcher recognizes emerging patterns and looks at how these patterns are related in sequencing, phases, stages, and relationships. This process helps to further build out “conceptual pictures that add to the understanding the experience” (p.262). Once I felt that I completed enough of a picture I shared my preliminary findings with interested participants to receive feedback on my interpretations. I received feedback from one faculty member who, through their reading of the findings caught several misattributed quotes and findings, which I was able to go back and correct. It led me to
conducting another close read of all the findings I presented and how I shared participants’ experiences. This was a vital step in ensuring the accuracy of data reporting that I was not misrepresenting participants’ experiences and addressing any further discrepancies in the data.

Assessing the Quality of the Study

In determining the quality of qualitative studies I turned to Tracy's (2010) eight key markers of valid or quality qualitative research. She provides a useful framework to examine the quality of this study. These criteria include worthy topic, rich rigor, sincerity, credibility, resonance, significant contribution, and ethical and meaningful coherence and I discuss each of these as it relates to this study.

First, in relation to worthy topic, the gap in the literature and knowledge of RSL activities suggests this is a topic worthy of study particularly as institutions of higher education continue to push for these types of activities to be formalized in curriculum. This is further relevant for undergraduate STEM courses that take up community engagement through research.

Rich rigor refers to the data collection and analysis processes. Tracy (2010) asks such questions as, is there enough data to support the claims? Is the context appropriate given the goals of the study? Were appropriate procedures used for interviewing and analysis procedures? I have outlined my interview and analysis process above and have taken several steps to ensure rigor in the research process. My role in the re-development process placed me in a unique position. It allowed an insider perspective though potentially biased me towards the course and projects succeeding. To minimize bias, I asked open ended
questions and also invited any critical or negative thoughts about the course. I also minimized bias in the data analysis phase. Transcripts of the interviews were shared with my research committee along with my analysis, thus bringing in perspectives other than my own to consider what participants have discussed in their interviews. Upon completion of the initial analysis I will also undertook a member check (Charmaz, 2006) with study participants by sending them a preliminary analysis that outlined the identified themes and my interpretation of the data. This helped minimize my role as the sole interpreter of participant experiences, and expanded interpretation beyond my own lens and understanding of others’ experiences.

Sincerity refers to transparency and self-reflexivity of the researcher. All participants were aware of my involvement in the course development and my previous personal and professional relationships with the community partners and faculty members. Self-reflexive practices took place throughout the study. I kept track of my questions and reflections from early research design, data collection and analysis returning to these notes as needed. Finally I consider my biases as an insider and how this position both helped me as well as created blind spots through assumptions I may have missed from this position. I have an established relationship with the instructors, more so than with students and the community partner. It is possible that this prior relationship helped establish trust prior to interviews, though it may also have affected responses and what participants felt comfortable sharing. However, having a previously established relationship may have alternatively allowed for participants to feel more comfortable sharing openly and honestly about their experiences. Regardless, I have been mindful that this prior relationship might
have meant that I assumed that I understood participants’ meanings and perspectives. To avoid this to the greatest extent possible, I paused regularly to clarify meaning at various stages in the interview.

Credibility takes into account trustworthiness and plausibility of findings. I provide a ‘thick description’ (Tracy, 2010, p. 843) of the context from which these narratives arose, including those of the course and community partner organization context. I show the reader the data first, presenting significant portions of data in the words of participants before providing my own interpretation of the data. Lastly, findings and my interpretations of these were sent to participants to garner any feedback and reflections. One out of the six participants provided feedback, which was significant and lead to correcting some misattributed quotes and another close read of the data for other errors and to further ensure quality of analysis.

Resonance refers to naturalistic generalizations transferable findings. By providing a rich and detailed description of this course, aspects of this study might be transferable to similar courses and future iterations of this course. Case study benefits rely on context-dependent knowledge though as Flyvbjerg (2006) contends, they are in fact generalizable to a certain degree and can provide good narratives that “approach the complexities and contradictions of real life” (p. 21). This study has already equipped me with new ways of understandings of teaching and learning relationships in these types of courses which I am able to employ in my own practice of community-based learning course and program development. Furthermore this leads into the next ‘big-tent’ (Tracy, 2010) criteria of significant contribution. This study will not only contribute literature gap on research
service learning but to practitioners and developers of these types of courses by providing recommendations for future course development or other similar types of courses and programs.

Ethical criteria most applicable to this study refer to procedural ethics and exiting. This research received approval from the UBC Behavioural Research and Ethics Board. As noted in the discussion of recruitment procedures, I did not have access to potential participants’ personal information, one of the course instructors was asked to send the invitation letters to the prospective student participants on my behalf. This letter included a brief synopsis of the study and methods, and invited participation in interviews upon completion of the course, asking those wishing to participate to contact me directly. Asking participants to contact me directly served to maximize anonymity of student participants, though given the specificity of the case and the low number of participants, anonymity cannot be ensured. However, interviews were conducted a significant amount of time after the course was completed there was no risk or concern that participation would have bearing on their assessment in the class. I requested permission from all participants prior to audio recording our interviews and have removed most of the identifiers, including gendered pronouns (the position of participants – faculty, students, or community partner was essential to the study and therefore could not be removed).

Finally, meaningful coherence calls for a discussion on the study itself – does it achieve what it says it will? Do methods and procedures fit stated goals and does it meaningfully connect literature, research questions and findings? This study explored the teaching and learning relationships between students, faculty and community partners in a very specific
context of what I have framed as research service-learning. I have presented relevant literature to address how others have discussed the concepts of teaching and learning in and better understand the contexts of community service-learning and the food movement. The research questions stem from my own interest and practice in developing community-based experiential learning courses and programs and relate to issues others discuss in the literature. I have outlined my own theoretical position on knowledge construction as a critical constructivist explicitly linking this to my methodology, and raising questions in the analysis and discussion from this lens. I drew on the work of several methodologists such as Flyvbjerg (2006) Stake (2006) and Merriam (1985) to inform my case study approach. As described above I have analyzed findings through a thematic analysis, open coding interviews and documents with themes that emerged from the data. I have provided a codebook (appendix c) that outlines the key themes that came to form my interpretation of the data. Finally I returned to the literature to discuss my findings in relation to the theories and findings of others. Through these steps I maintain that this study is coherent in its methods, procedures, questions, findings and interpretations.

This chapter has described the qualitative methodology of this research, an interpretive case study. I have also described data collection methods, outlining the interview and document analysis processes, and a discussion on the data analysis process. The follow chapter presents the findings of this research as they relate to my sub-set of research questions.
Chapter 4. Findings. Teaching and Learning Roles and Relationships,

In this chapter, I present my findings as they relate to my three research questions, which to recap are:

a. How does each of these three groups (students, community partner, and faculty) perceive the roles and relationships amongst themselves and with the other groups, in these teaching and learning processes?

b. What are each group's experiences and understandings of what constitutes knowledge and research with respect to a) environmental science and b) community-based research?

c. What are each group's experiences and understandings with respect to the social, economic, and ecological environments of the local food movement?

The findings are organized by participants: student, faculty and community partners and include the themes that were common and important to each of these groups. To maintain anonymity, participants are identified in the following way: student (S), faculty (F) and community partner (CP) respectively. In further ensure anonymity, I have not used gendered pronouns in my findings and discussions; instead I refer to all participants as ‘they’. I do however indicate whether ‘they’ refers to one, or more than one person, to avoid confusion with a plural pronoun. I have made brief reference to the relevant literature in this chapter; a more substantive discussion of the findings in relation to previous research is taken up in the following chapter.
Perceptions of Teaching and Learning Roles

Students

The roles that students envisioned for community partners or faculty were fluid and changed throughout the course, dependent on the stage of project/course and the needs of each participant group at a given time. This section is organized into two parts. First I focus on how students understood and perceived their role throughout the course as well as those of faculty and the community partner. Then I discuss how they perceived teaching and learning. These findings are separated for analytic purposes, but in reality, they are interrelated and overlap.

Not surprisingly, the community partners and faculty members perceived students’ roles differently. For example, CP1 saw students as taking on the role of professionals undertaking a project, whereas faculty only saw them as students. As S1 notes, students have a bit broader view of their responsibilities to faculty:

So roles in relation to the profs...I guess keeping them abreast of what was going on in the project, where we were. We had given them a timeline, we had given them a proposal and this is what we would like to give you at the end. So kind of keeping them... this is where we are, these are problems that we’re running into, if the project had to change, ya we said this but there’s no way that’s going to happen or you know we can actually do a bit more. Coming to them if we had issues in the group for conflict resolution (S1)

S2 described their responsibilities to the CP as including: working with CP1 to help scope the project, communicating their individual strengths and what was possible for them to do, keeping CP1 updated regularly, and asking for input and feedback. S2 emphasized that for them this was a “professional role”, even though they were a student:
So I guess for us, or for me it felt like we were taking up the role of a professional research for the community partner. So instead of having to hire someone they got their labour for free. So I guess I felt it was our job to meet the objectives of what they set out and what they were hoping to gain from a research project, which they couldn’t conduct themselves. So I felt like we needed to develop a research strategy and then carry out the research and then communicate it to them and the scientific community so that was broadly what they kind of had hired us to do in a way. And to make sure it was…I mean I know we were students but I felt really obligated to really make sure it was going to be good. And to take it seriously and like I said to take on the role of being someone who is a professional in the field (S2).

Both students felt that their roles in the course required a fair level of self-management.

This is congruent with how the course was structured and described by faculty. S2 speaks to this in relation to responsibilities around timelines:

I think from my perspective we’re in fourth year, there should be more responsibility put on us, we shouldn’t have to have our hand held. If you haven’t figured out timelines by fourth year you better figure it out. Ya and it just puts more pressure...if you haven’t learned it there’s a lot of pressure riding on that and there’s not...you don’t have a lot of wiggle room so you got to get it done. It teaches you...you’ve already learned it or you’re going to learn the hard way (S1,).

When I asked students about how they saw faculty and CP roles, I explored both similarities and differences. For students, faculty were in an “advisory position” (S2). They helped students navigate the university and access data and human resources, and they provided advice on scope. Students also perceived instructors as supporting students in navigating conflict in their project:

Ya there was a little bit...there was some conflict with I think CP1...what she expected the results to say and what she wanted them to say versus what we were getting...maybe. I’m trying to remember....there was a few, there were a few things where we actually had to talk to F1 about, that we didn’t feel it was appropriate to be including certain things or...like I know she really wanted to push the permaculture in a really positive spin but we were trying to look at it more objectively (S2).
In contrast, community partners were perceived by students to be the project managers who set the direction of the project; students felt accountable to them in a much different way. This is illustrated in the above quotes about students’ view of themselves as professionals.

S1’s reflection below on feedback and the project framework also highlight their views of the different roles of faculty and CP in relation to the project and to students:

They [the faculty] were giving us feedback within the framework we had provided them whereas with CP1 we were soliciting feedback not only on the work that we had provided within that framework but on the framework itself and so she was giving us...or we were trying to keep her abreast of not only the progress of the project but the structure of the project itself. If that makes sense? (S1)

Initially neither student spoke about seeing their community partner as ‘teacher’. For S1, the role of the CP was project manager. However, upon further probing they began to discuss several instances in which the CP had in fact ‘taught them something’:

So expectations of what they were teaching us? I don’t think I ever saw the community partner much in a teaching role. They were very much, it was very much project manager, what they wanted...this was a product, what they would like and we worked to deliver that. I mean, and then I guess maybe one area that they did teach and even then it was more like instruction was to what audience is...we were writing these papers for. Because it’s not an academic. We were writing them specifically for their intended audience (S1).

Students also distinguished between what the faculty taught them and what the CP taught them. For example, while faculty and the CP were perceived to be teaching communication, the types of communication were different. On the one hand, students perceived faculty roles as supporting them in relation to technical areas, accessing university resources, and communicating with partners:
Whereas the professors again were teaching us how to communicate with the community partners, how to put projects together, how to put proposals together, how to go and access resources in university and then if we needed help in technical areas that they knew about they could help us with that, they could teach us that (S1).

On the other hand, students regarded the community partner, as teaching them how to communicate and work outside the academy:

...no I didn’t and I still don’t really see the community partner as a teaching role. Ya, unless...I mean the only thing I can think of right now is if they wanted to teach you how to communicate...sorry I just thought about this. CP1 I think the way she…I think it came from CP1, to have us lead the meetings with her. I don’t know if it was between us or again suggested by her, but it kind of rotating every week or every meeting as to who’s leading and who’s setting the agenda and stuff like that so. Actually so I take that back, sorry this is very roundabout. I mean teaching students how to work in a non-academic setting, teaching them how to run meetings like that, and specific to their circumstances but teaching them about whatever rules, methods, etiquette work in their realm that is different than the academic realm and those will be incredibly useful skills (S1)

S2’s quote below further demonstrates how students eventually came to see the community partner as a teacher. This recognition may not have been something they were aware of during the course; it likely occurred as a result of the interview:

I guess the partner…I didn’t expect them to be a teacher and then in the end I think they were which was nice. I guess I first thought of them to be more someone to just bounce ideas off of to help…to make sure we were developing the project appropriately and meeting their expectations of what they wanted to, and what information they needed (S2).

**Community partners**

Almost all of the discussion around roles from the community partners’ (both participants from Village Vancouver) perspectives was in relation to the students and very little with respect to their relationship with faculty. Both partners saw their role very explicitly as part of the teaching process and they placed a significant emphasis on student learning when
they were asked about and discussed their roles. In my interviews, the teaching and education of students far outweighed how they talked about both their own learning and faculty learning which further suggests the importance they place on their role in the teaching and learning process for students. CP1 was the main contact for the organization and took a very hands-on approach. CP2 had much less direct involvement with students and more involvement in early relationship building with the faculty and pitching the project to the class. During the interview, they did however refer to a hands-on approach to working with students, although in reference to instances that were not part of this particular case-study:

I mentioned we work with four or five different faculties at UBC. We work with Emily Carr, SFU....so typically it would an initial meeting with the students. Most of the time we’re working with teams of students, maybe 4-6 students. So we’ll have an initial meeting where we’ll meet, we’ll kind of introduce ourselves, we’ll say ok here is the project. I like to get a sense of what their interests are in, what their skill levels are, what the students hope to bring to it. You know every student brings something a little different. Some are better researchers, some may have graphic design abilities. So we kind of get a bit of a sense of perhaps weaknesses of the team. And then we kind of sit down and so ok this is the timeline we have to work in, this is what we hope to achieve and this is...kind of lay out a timeline. Depending on the project and class I might meet a few times with students a few times during the semester. Typically there are reporting requirements, so every couple of weeks they’re supposed to be filing a report saying this is what we’re doing. So when it’s working well there’s good communication among everybody. We know we’re on target and of course there’s usually an end of class presentation, there’s usually a product produced, either written or visual (CP2).

CP1 describes how taking on a teaching role played out for them; noting the importance of having an active role and how this shifts over time:

Well I think um, I would say that it comes at different periods and at different levels or degrees. I mean one, in the position of the community representative I certainly had the role of guiding and informing as to what the product, you know what the expectations were so in that regard that’s very much like an assignment, setting an
assignment, setting the boundaries of the assignment, setting the base materials for that assignment and then aligning that with what they’re doing, and then following them to make sure they’re on track with that and then reviewing the final product or the draft product to make suggestions. So those are all really roles of an educator. It’s also the role of a community partner so in that regard I think they’re completely aligned. And I think that’s one of the reasons that I think the product came out being so useful for us is that I did take an active role in that as opposed to just letting them go off and do that and then just accepting the final report like that (CP1).

Their educator role played out in several ways. Both community partners spoke about developing the capacity of students as future professionals and changing the way students related to an issue. They described having a clear role in creating learning experiences for students. Even with a limited involvement with the project, CP2 spoke about how they strove to make these projects a learning experience:

...most of the time it’s meant to be a learning experience. So we take that very seriously and so ... typically what happens is these classes...not always but I think I actually did this...we’ll go and we’ll make a presentation, you know students, they have the option to participate in this project, that project, this group and that group. And so you know we’ll go and make the presentations and say this is what we want to achieve, this is the potential for you to learn about this or this or that. So we very much create a win-win situation for students to come out knowing something, more than they did when they went in and of course we get the information that we want out of it as well (CP2).

CP2 speaks from a position of having had a wider and more longstanding involvement.

Below, CP1 outlined their role as advising/mentoring students in the research process, supporting students through challenges such as where to go for resources, encouraging them to reach out to others for information and data. Furthermore CP1 demonstrates how they leveraged resources and research of the university through this project, including students’ research and as well as research and knowledge of faculty and graduate students:
I think one of the things I found when we were setting up the project. We [students together with the community partner] were deciding what to include and what not to include, they were at first stymied at how to get the climate models for the area. And I suggested they talk to researchers, both at UBC and other places to try to get more specific to get regional models and they were a little reluctant to do that. They felt like they were undergraduate students and who would want to pay attention to an undergraduate student? Who’s going to want to take the time to help out? I had to encourage them, push a bit, to get them to make the effort. The worst they could do is say no. In the end they did find some people that were willing to talk to them and help share their information but, there was that sense of “oh my, these lordly graduate students I said talk to a graduate student or talk to a professor. Although often times professors are more interested or willing to talk to students than graduate students who are still trying to get their Ph.D. research done (CP1).

More broadly the organization and CP1 and CP2 saw themselves as responding to alternative ways of learning and supporting students’ learning outside the post-secondary institution. From their responses it was clear that they saw education as inherent in their work as an organization; they intentionally wove this into their work with students. CP2 drew on their own personal philosophy and values on learning and education influencing how they saw their role as a partner:

In my background [I’ve] been studying how people learn and alternative education and this whole concept of independent study and working on projects and experiential learning. So … I had a very good sense of what they were trying to achieve and that’s the kind of learning that I like to see. I think it’s important for students to engage (CP2).

Well it’s…I mean in my life I’ve always been engaged around two key questions, the first one was how people learn, so I’ve always been very interested in that. And the other was how do you create effective social change (CP2).

CP1’s quote below also emphasizes the importance of learning and education to the organization.

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3 The graduate students being referred to here are those who students reached out for further research. CP1 is speaking here about the students’ lack of confidence when reaching out to others for information, including graduate students in their faculty.
It’s one of the underpinning philosophies of Transition⁴ – education, self-learning, that you know being more [about?] …awareness raising. Making those connections is a critical aspect of what Transitions is all about. Not forcing people. Not being, you know, this is the only way you can believe but bringing people to understanding and exploring the connections themselves (CP1).

The above quotes speak to why the community partners took on such an explicit and active teaching role and the factors that played into this. First, the community partners both expressed passion for learning and education and both regarded learning as a large part of their organization. Secondly and as extension of the first, their role in their own organization included being educators and teachers. They were able to transfer and apply these roles and skills to this course and project, and it was likely more natural for them to take on this role as they have previous experience. A third factor that influenced this view is their flexibility and availability. CP1 recognized that they were well positioned to be able to take such a “hands-on” role, and that they had the “flexibility” to take on more whereas other organizations may not.

As example, CP1 discusses how she worked with the student team through scoping the project and dividing roles within the group:

No they went away and came back and proposed it. So, you know I figured with a fourth year student group, you know similar to what I’m doing with a group that I’ve got, just started with now….you’re kind of laying out the panorama of where we’re going and what we’re trying to achieve and then ...we mapped it out on the board... because I could see they were struggling a little bit with some of the concepts so we did a mapping on the board so they could start to put some things up. I left the room to look for some more chalk to give them some thoughts, so once we got done with that you know then they said, you know they wanted to go away and think about it a

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⁴ Transition refers to the Village Vancouver’s role in Transition Town Initiatives. These are community-led initiatives taking place across the globe around topics such as food, local economies, education, housing to name a few, where communities are working to ‘transition’ away from large-scale, high-energy use, industrial systems, to more locally-based, ecologically sustainable and socially resilient communities (Transition Network, 2013)
little bit more then come back with a specific proposal. Which is exactly what I wanted them to do because I think they really need to…based on their interest and their skills they needed to find the project and then whatever comes out we can work shaping that as it goes forward. But I think it’s an important aspect of their learning – not being really rigid in it but giving them, you know this is the context and what we’re... I mean I have the flexibility to do that of course but you know which other organizations may not (CP1).

While they do not explicitly name the work outlined as teaching, the story they tell can be viewed as outlining their pedagogic engagement and also their way of planning and leading a mapping activity that gave space for students to work through it as a group, recognizing it was a place of struggle for them. For them, this was a clear learning opportunity for students. A final interesting point that emerged from my conversations with them about their role and experiences in ‘teaching’ was CP1’s comment on how they saw themselves representing a profession or field of work to students. For CP1, as staff of this organization, they were a window into the professional life as scientist and consultant:

I mean I think there’s more learning, especially if you think about it from the perspective if, you know, where these people want to go with their environmental education. If they want to become consultants, if they want to work with an organization then they need to understand how to frame what they do ... how to identify what the client is looking for then to make sure that the product satisfies the client’s needs (CP1).

There was no shortage of discussion and examples of both partners positioning themselves in a teaching role. They were much less inclined to see themselves as ‘learners’.

Interestingly, both said they did learn ‘about’ the students and what this might mean for people at their stage of education and student development, “work habits” and even the “worldviews and amount of information they’ve got” (CP2).
Furthermore, CP1 noted that while they didn’t learn from students with respect to content, they did learn about the process of working with students:

You know I can’t say that it was a learning role. I mean I think you appreciate where....more where young people with this level of education and ... experience are in terms of ... their worldviews and the amount of information they’ve got. I mean I thought that was really interesting. You know to listen to what people were coming back with and see where people were coming from. I’m sure I’ve learned from, you know how the interaction has gone, what, what seems to be effective and what doesn’t seem to be effective, I mean I got good feedback that the level of interaction that I had and the kinds of inputs were positive so I didn’t feel I was making any major mistakes in the way I was working with them. I think that could be a learning experience on my side (CP1).

The limited comment from both CPs about learning something new from students about the topic is understandable given that they have a considerable amount of knowledge around the research topic. While no new knowledge was identified, CP1 indicated that some of the findings confirmed some of their beliefs about land use and allocation and with respect to the Agricultural Land Reserve (ALR), and Vancouver’s food security and resiliency challenges.

Both partners did not identify any instances in this specific capstone course where they perceived the students as taking on a teaching role. CP2 however, did speak more broadly about students as teachers in relation to other projects, describing instances of students ‘teaching’ each other, stepping in at various points in the project to teach other group members about concepts and project pieces that they had been learning about and undertaking through their role and work division within the group:

Well I mean I’ve seen lots of examples, you get a team of students and some are more proactive than others so there’s sometimes where that happens for whatever reason, there’s so many factors involved, this is one class students are taking, usually among many, so there’s a time factor, all sorts of limiting factors. Sometimes students don’t really seem like they’re doing that particular project because they want to but you
know just because this is the way they want to get credit by doing a project but it’s not really...so obviously some students shine more brightly than other students. And I think part of that is taking on educating other team members on some component of the project. So that will always happen (CP2).

**CP-student relationship**

CP1, who was the main contact with students, spoke highly of their relationship with them. In addition to discussing on roles, they felt there was a good balance of providing support and letting students work on their own. There was a good level of trust and communication.

It felt right. It didn’t feel like we were missing or needed more. They did a lot of the work on their own and we would meet periodically in key moments so that, I thought it worked pretty well actually. There was enough support but not too much (CP1).

The only challenge to the relationship from CP1’s perspective was when students were debating which climate change model should be used in the final report. Despite some disagreement between CP1 and the students on which model was most current and accurate, this was the only area of conflict identified by CP1. They further added that what model they had decided on was fine and in the end:

... it didn’t necessarily reflect my personal views but that it was their learning experience, it was their paper and this is what they were comfortable doing but they had to deal with that issue of, you know how you deal with these uncertainties and the fact that the science might not be caught up with the knowledge (CP1).

While CP2 played a significantly smaller role with students they still noted that it was an extremely positive experience. CP2 did speak about relationships with students through
other projects, noting how they varied depending on the students and the class. They also described how students bring different skills to projects and that a typical working relationship includes determining where students’ skill sets lie and identifying areas of weakness. Based on this assessment, a timeline is developed and a project plan put in place with check-ins throughout, “So when it’s working well there’s good communication among everybody. We know we’re on target and of course there’s usually an end of class presentation, there’s usually a product produced, either written or visual” (CP2). They went on to speak about learning from prior experiences, and their own capacity to work with students:

There was one semester I tried to take on three separate projects with LFS350 and I felt like I really dropped the ball with students and I wasn’t getting back to them in a timely way. So you know sometimes we haven’t given them experience that they should have gotten and we’ve learned from our experiences (CP2).

**CP-faculty relationship**

As mentioned above, there was much less discussion from community partners about their roles and relationship with faculty. Both CP1 and CP2 noted that there was little contact with faculty. CP1 said that most of the communication was through email but felt that this was “perfectly appropriate” (CP1). They had met the faculty once when they were invited to the class to pitch the project idea. CP1 was invited to the final presentations but only CP2 was also able to attend. When asked whether they felt there were any moments when the teaching and learning roles applied to their relationship with faculty, CP1 replied that there wasn’t much opportunity or interaction that would have allowed for this because the
course is “not designed this way” (CP1). I asked whether they saw any benefit from being more intentional with respect to this. They replied that there may be benefit to strengthening this aspect of the relationship and designing more opportunities for this kind of engagement. They gave an example where a community partner could be invited into the class to talk about what it is like to be a professional environmental consultant. “It’s different teaching it versus actually doing it so I think at this level, fourth year I think that may be an interesting experience to talk about...I do it from the commercial side or the non-profit side...” (CP1).

Faculty

Faculty saw themselves taking up multiple roles in relation to both students and community partners. One observation from F1 was that as the course changed and grew--both in number of students and thus number of projects--so did their roles. F1 indicated that this was not anticipated. This signaled to F1 future challenges given the larger numbers of students taking this course:

So it was one team, then three teams and then five teams or whatever it was and the course had to adjust to all of those things. In some senses, when it was one team we were really more like graduate student supervisors and we were working very closely and we understood all the decision making happening in the team. As you start moving into four teams and five teams you can’t have that same relationship with them. So that was happening and we have potential for 60 students to take this class so we knew we were going to have lots of teams (F1).

As the course grew and their role shifted and expanded, their relationships with students also changed. Below, F1 speaks to how they felt students were reluctant to be honest with
them, causing them to reflect on their role/position as instructor:

It was a little bit like 'we [students] are the professionals, we are tasked with doing this and we don’t really want you to know where we’re running into barriers’. And so as instructors we were continually, a little bit in the dark about, in fact what each of these teams were really doing and where they were running into problems. And it was only if you had a particularly honest team they would share but most were most interested in making it look like they were together. And that team was somewhere in the middle. There were places where they struggled where they should have told me about it. So they were looking for data from Environment Canada or Agriculture Canada or whatever the appropriate department would have been, and they were looking for that data for a long time and in fact I don’t think they ever got the data they wanted and they never told me about what data it was, who they were contacting, why they were not getting anything. And I think, I’m not sure why. So there were some things like that. If I had known, if they had shared in advance, we could have probably done something. Now in fact they did other things it was perfectly fine so it’s not necessarily a bad thing but it did mean that elements of the project, they had to negotiate away from things probably for no reason...where are we as instructors in this? Are we just university instructors marking you? Or are we seen as colleagues who are resources and helping you? (F1).

One strategy that was useful for the faculty was the division of teams between the F1 and F2. Because of this division, F1 was the main contact for the FED-AP project group of students. F2’s comments are still important in understanding how they saw their role more broadly as faculty in the course, with respect to teaching and learning and in relation to the community partners.

Roles

Both F1 and F2 felt a big part of their role was making things explicit to both students and partners. In relation to students this involved reflection on the learning process throughout the course; for partners, this meant providing information about the course, the objectives,
the types of projects and the work that partners could expect from students and what students and faculty expected of community partners. In relation to the community partners, faculty described themselves as ‘liaisons’ whose role it was to find connections between course goals and issues brought forth by organizations. For F1, it was a great opportunity to connect what was happening in the community with the course. They also noted that it can be challenging to prioritize their relationships with the partners. They saw exploring expectations as an ongoing conversation in which they had a role in supporting students in managing partner expectations throughout the course and projects. A final theme faculty spoke about, in relation to the community partners, was the importance of regular check-ins and support, though F2 noted this was also place for growth:

I think it’s maybe even just as simple as sending an email and saying “hey just wanted to check in how’s it going from your perspective? The students are doing x”. Not to get in the middle. I definitely don’t think we should be brokering stuff. But ... I suppose giving the community partners an opportunity maybe to give feedback to us if that’s something they want to do or to give them an opportunity to not feel like they’re out there on their own. If they wanted support from us. You know they could of course also contact us but I think it might help keep everybody just in the loop...you know if it’s just a “hey how’s it going, it’s going fine” (F2).

**Teaching and Learning**

Faculty saw their role not only as teachers but organizers, bringing in other experts to provide content and skill building in those areas of the course requiring specific knowledge. One example was bringing in someone to speak to students about project management. In my interviews, faculty expressed great dedication to supporting students. For F2 it was important to ensure that students knew what concepts were key to the research, as not all partners were experts in scientific research and may not be able to provide support
students. Faculty also spoke about being more explicit about student learning and reflection:

So we've actually continually added them and clarified in our own heads what we want the students to do or what we were expecting them to produce and then they didn’t produce, so why didn’t they? Well we should really explicitly ask them to do x. For example we want them to gain experience and practice in how do you plan a complex project? And this isn’t even that complex of a project, you know it involves 4 students and a community partner, but it’s complex enough, it’s enough people involved. But still in the grand scheme of things, it’s a small project. So we wanted to have them get experience in thinking through and as time goes on reflecting on whether their plan was working and where it wasn’t working and how they needed to make changes in their communication or their work habits or their teamwork, or whatever it was um, they flail, for sure. And we’re trying each year to put things in place where kind of forcing them to do stuff so that they will have to have that practice (F2).

Faculty played a large role in supporting projects and consulting with students including everything from project scope, data collection and analysis, to troubleshooting and navigating conflict between student groups and community partners. Both faculty saw this course as creating a certain type of experience for students that went beyond traditional courses into real-world experiences:

So rather than structuring a class...what I didn’t want this to be a class. I wanted this to be an experience where the students were actually feeling more like practitioners than students. So I wanted them to understand what it is actually like to work on something (F1).

Finally, related to creating experiences for students, it was also important to faculty to set up systems that allowed students to become deeply knowledgeable and expert in their projects:

This is coming again from the academic side that you know very few community partners would actually, I don’t think ask for up front. We really want them to become experts in areas of their projects. None of them come in with expertise, like the FED-
AP group wouldn’t have come in with expertise in the food systems of the Lower Mainland. Or in modelling climate into the future. Any of that stuff. So that’s all new. And um asking students to develop a depth of expertise beyond just the minimum they need just for the project is really hard to, it’s a hard sell. But they really need to be grounded in more deeply in what is sustainable agriculture? (F2).

F2 notes this may not be an expectation of the partners, but important from an academic perspective. They saw that their role as faculty was to build this academic orientation into the course in order to meet partner expectations of the high quality of project work.

Faculty described their teaching role with students in a multitude of ways. They used words such as ‘facilitator’, ‘critically support’, ‘provide learning opportunities and feedback’. They spoke more about ‘facilitating’ and ‘teaching’ in relation to in-class activities, while ‘support’ and ‘feedback’ were generally more project related. The project was however fully integrated into the course so it is difficult to treat these two as separate. Much of their work, they said, was ‘behind the scenes’:

So the way that I approach most of my teaching and probably this course in particular is as a facilitator. So I view my job as providing opportunities for the students to do stuff that helps them learn. In this case it’s really, mostly providing opportunities then providing feedback. Almost all the things we do in the class are general. We’re asking them to work on specific parts of their projects in class and then talk to one another and get local feedback from one another or have to write something where we’ll give them feedback. We’ll do a lot of just talking to them. This coming week for example is just all group consultations so we’ll spend about 40 minutes with each group talking to them about where they are and what’s going on in their project? So as an instructor we’re setting up the structure of the course with our growing and changing understanding of what kinds of activities we think they should do in order to gain the skills we think they should gain. And I mentioned to that we’re adding this year because they [students] keep not doing them [changes to work and process being asked for by instructors]. So it’s setting up that structure. Working with the student groups one on one as we go along and sharing the work of communicating with community partners more, which F1 did pretty much solely for the past couple of years. Ya it’s a lot of behind the scenes (F2).
Neither faculty member saw themselves in a position of ‘learner’, where students or the community partner was in an explicit position of ‘teaching’. Each of them did however did identify a significant amount of learning and instances when they saw themselves as learners through the overall process of the course and project. One example was learning to communicate and negotiate expectations of students, partners, and even their own in the pre-project phase. Below F2 discusses what they learned about building partnerships and how they were communicating with partners and students prior to the course.

So that for me was a learning experience to first observe how that developed and see the issues that were encountered with communication with community partners right? And whether or not we had communicated with them clearly enough, they had the right expectations, their expectations matched with the students – there are mismatches clearly there have been and that’s fine, that’s part of it. Because there’s no way that these groups of people that operate in different spheres most of the time are just automatically going to understand each other. So I think that’s part of the process. I think for me it was a learning experience. Just, how do you make this kind of thing happen? (F2)

As noted above, faculty spoke frequently about the issue of managing and negotiating expectations, indicating that they learned to communicate and balance expectations of those involved, in relation to what was wanted and hoped for compared with the reality of what it is and sometimes can be:

In the beginning you want everything to be such a great experience and you want them to know that it’s a great experience but of course they can’t know it’s a great experience when they’re going through something unpleasant so and then also with the partners you want it to be super and that they are really going to get something meaningful out of this. And then through the interviews you hear their criticism and understand where and how things fall apart and why and that somebody’s super experience can be differentiated in different ways. So that’s learning in a big picture sense of like what am I getting into here and how am I going to adjust my
expectations based on in fact what’s actually happening and how am I going to understand how to articulate appropriate expectations to everybody else too, that balances between the enthusiasm of what you want it to be and the reality of what it might be, somewhere in there (F1).

Other times negotiating expectations meant pushing students to do more than what community partners had asked or pushing partners to widen the scope and expectations of students. F2 echoes F1’s discussion about learning about their role as advisors and how to help manage expectations and conflict between students and the community partner, when necessary, and doing so in a way that did not exclude students:

Ya... Do I know...Do I know what I would do? Um....Well I mean I suppose it comes down to advising the students to have a frank discussion with the community partner so in some ways I have kind of an easy role. It’s just...this is part of the experience, sometimes this happens and you have to work it out. It’s a little bit of an out for the instructor, but I think it is true they do have to work it out. I don’t know if I would do anything...if that comes up again and I’m sure it will, I think that would probably still be maybe the response. I think we’re really trying to avoid doing end runs around the students. Right? We don’t want to cut them out of the communication (F2).

F2 continued to say that they firmly believed that it was also important for students to navigate this and to understand that part of the learning was knowing when to step in and when to let students work it out on their own.

Finally both faculty felt they were learners with respect to CBEL as a pedagogy, noting that their work with UBC’s Centre for Community Engaged learning facilitated this learning:

Well there are many places where I felt I have learned a lot. So with the support of the Centre [UBC-Centre for Community Engaged Learning], there’s been lots of opportunities where I have been in a learner role, understanding how to...I mean in some senses I guess its...how to play this out...some parts of the philosophy, so understanding and absorbing the philosophy around collaborative, experiential learning...and really kind of getting that. So in the beginning you can kind of hear
that, but that sunk in more and more over time, so I feel like I actually learned something, I get something in a deeper way than when I started “oh ya sure of course it’s all collaborative right?” but ya collaborative means something (F1).

**Faculty-student relationship**

As some of the above excerpts indicate, faculty’s relationship with students shifted as the class-size got bigger. Faculty described moving from a close relationship similar to supervising a graduate student, to one that was not as close as faculty needed to accommodate more students and teams. F1 commented on moving from what they described as being “intimately part of the team” (F1) to this new position of not quite instructors but no longer part of the team. This shift changed relationships with students as well as how students communicated with them, what information students chose to share, and to not share. However, what remains clear is that both faculty described the faculty-student relationship as much different from a more traditional classroom. We might interpret this as an attempt by faculty to shift power in the classroom. Through RSL, the relationship becomes more supportive and faculty take on more mentor-style role, which contrast with a more didactic approach where information and knowledge are conveyed in a top-down manner.

**Faculty – CP relationship**

The partner meetings taken up by F1 and the division of project teams between both faculty meant that F1 communicated the most with CP1. Interactions between CP1 and F2 were however limited and F2 noted that they had very little contact with CP1 as a partner. The partnership was born out of F1’s interest and previous, unrelated involvement through
volunteer work with the organization, and through an introduction through the Centre for Community Engaged Learning. F1 and CP2 met once prior to the course beginning to discuss the course and the potential for the organization to work with a group of students. CP1 joined the first class where partners pitched their research questions to the class. Beyond these two meetings, all communication was limited and occurred via phone and email. Both the CP1 and F1 felt this was sufficient and there were never any challenges that arose:

I was also getting reports from the students again and in this case CP1 was quite an active partner. So I knew that the students were working closely with her, receiving lots of feedback from her and the biggest thing from their perspective was the differing perspectives. You know they were negotiating between what they was saying to them and what I was saying to them and having to work through that. But I felt quite comfortable that they were getting lots of support from their partner, insight, difficult times, but whatever that’s fine. And so I probably did not feel a very strong need to be as in touch with them as a partner (F2).

One of the challenges for faculty was the amount of time required for relationship and partnership building. F1 commented that they often had intentions of connecting with partners as much as needed but things got busy. They noted that there was often a false sense of connectedness – through being connected to students they felt connected to partners, when in fact they weren’t. F1 comments more on this below:

So I guess in some senses I, you know when you’re trucking along in the midst of the term and everything’s busy there’s a place where you might have intentions of connecting with people and feel connected through the students but in fact you’re not talking to them, partners. So there’s sort of this false sense of connectedness, possibly. So you sort of feel like you know what’s going on but in fact because you’re not talking to the partner you’re not 100% sure. And in some projects that’s popped up and bit us a bit. Where the partner in the middle, so not that year but last year we had some instances where the partner was like “ok so this is not working” and we were like oh ok so were realize how and where we should be connecting in with the partners. (F1).
These findings from students, community partners and faculty point to significant contemplation and negotiation of roles during and after the course and project. Strong relationships between CP1 and faculty were built on elements of trust, and good communication and partners felt comfortable taking on part of the teaching process, to the extent of seeing it as a responsibility of the role.

Students and faculty both perceived the teaching role of faculty in a way that expands how one might conceive a teacher, redefining what this role looks like in these types of courses. Finally, students, though not initially, eventually came to see the community partner also in a role of teacher or at least they indicated they were learning from them, a theme I return to later in the discussion chapter. Students floated between the role of ‘expert’ and learning to be an expert/professional. It’s possible that positioning themselves as such created a barrier to them viewing the partner as a teacher in these moments.

The next section presents findings on students’, faculty’s and community partners’ views on research and knowledge, how each understood research, community-based research, and learned about doing community-based research.

**Understandings and Experiences with Research**

This section focuses on how participants thought about what constitutes knowledge and research and what they may have learned about these two concepts through this course. It was interesting to hear all three participant groups speak to the concepts of research and knowledge. Each brought a unique perspective to both but with overlapping themes,
particularly in how they discuss what they interpreted as the differences between “academic” and “community-based” research.

**Students**

For students, ENVR 400 was a good way to practice research skills that they hoped to use later in their careers. When asked about how they saw the course benefiting them, S2 replied:

> I’m interested in going into research so it seemed like a really good opportunity to actually practice those skills and such before going out into the real-world (S2).

In a final reflection assignment they further commented on how the course helped them move from the theoretical to the practical with respect to the research process:

> I feel as though this class has given me better insight into the process that’s involved not only with research, but with producing a product that is able to be turned from something theoretical to something practical. I’ve been spending a lot of time thinking about how the work we’ve done is going to translate into action. In the past, I would often read papers and research that seemed to have such clear results and the solutions seemed so obvious, and I’d wonder why on earth is this not being put into action (S2, student assignment).

S2 spoke of their frustrations with accessing research and knowledge – both in terms of the difficulty in understanding complex scientific papers, as well as being given permission to access certain types of information:

> I mean what is the point of doing scientific research apart from just answering questions. I mean a lot of the way you have to justify scientific research is the benefit it can add to a community and I mean you have these institutions all across the world and they’ve got a wealth of knowledge but it’s not all that accessible (S1).

The difference in language between academia and communities and the implications this has when communicating research was a prominent theme for both students. Below S1 describes
how collaborating with a community partner in the research process meant first understanding what was actually being asked:

The community-based research is not...it’s almost like they’re two...two different languages. The outcomes and what you’re looking for. I mean you know what you’re looking for academics it can be very specific questions and there can be very specific ways you present the information...whereas when you’re working with a community partner they could come ask you a question and what they actually want you to answer is not quite what that question conveys to you as you interpret it coming from an academic background. (S1)

Both students deliberated on a difference in language between “science” and “community”.

For them there was a need to speak the same language in order to translate information from a discipline of science to a more general audience; it was also important to find a way to better speak to the complexities of issues. For example, there were instances in the project when students felt their research results were in conflict with CP1’s personal values and beliefs. S1 describes this instance in relation to climate change scenarios and permaculture as an alternative to agriculture in the local food system:

There was some conflict with I think CP1...what CP1 expected the results to say and what CP1 wanted them to say versus what we were getting...maybe. I’m trying to remember....there was a few, there were a few things where we actually had to talk to F1 about, that we didn’t feel it was appropriate to be including certain things or...like I know CP1 really wanted to push the permaculture in a really positive spin but we were trying to look at it more objectively. And putting in just certain things with the climate models, like really, really extreme situations versus sort of the more standard we’ll look at three different scenarios. But CP1 wanted one of them to be the absolute most extreme and we were kind of like yes that can happen but is that the most appropriate. But CP1 really felt like, well what if all the polar ice caps melt? Well that’s not going to happen by 2040. You know? Like those were the things CP1 wanted to use so it was this conflict between her trying to really drive home a message of this is a really important issue and look at the worst-case scenario that could happen and us from the scientific standpoint trying to be realistic about what is the best way to be realistic about sound science. So that was a bit of an issue sometimes. (S1).
I explored this further by asking, after having this experience, how she has come to think about instances when scientific research is at odds with community values, perceptions or contexts:

I mean I think that science is obligated to just present the facts and present the information. I mean...It is hard because you want to be respectful of people’s values and opinions and things like that but you also have to be realistic and the scientist’s job is to present the information. But one thing I think that could maybe help in those situations is I mean science and the general public speak different languages sometimes so it’s important to maybe have a way of parsing down that information or making digestible for people.... So translating those two languages I guess between each other would maybe help in terms of maybe not upsetting the general public as much with some of the stuff that comes out, that has to be said, that needs to be said but making it more understood (S2).

One interpretation of this comment is that it shows students beginning to think about the challenges within community-based research and the importance of questions around ethics, researcher responsibilities, sensitivities and knowledge translation. Furthermore, S1 and S2 both discussed making research practical and the importance of understanding how scientific findings translate into action and policy. An excerpt from one of S2’s assignments highlights this best:

I think my view of scientists is still similar to how it was before. I think there’s potentially a bit of a spectrum when it comes to being labeled as a scientist. There’s a need for people to do research, to answer hard questions, and communicate their work to their peers who can then expand on it. However, there’s also a need for that work to be accessible in the public domain. There doesn’t seem to be much point in solving the world’s problems with science if the answers can’t be translated to the public. The solutions and ideas that science presents need to able to be translated into action or policy, but often the people who make those changes have a limited scientific background in the field. This course has really made me appreciate the need for that middle man - a science translator if you will - that can move science from the hypothetical into the practical (S2).
The course and the CBEL project did slightly broaden one student’s definition of ‘research’ and what counts as research, opening them up to CBR methodology and different methods. S1 drew on an example of another group in the class that used community-based participatory methods of data collection for their research and that this was a new concept for them. However, they still felt that key elements are still essential to the research process, such as ethics and rigor:

So I think before that in my mind research is done by academics and it’s done in a very controlled manner and stuff like that. But since I was introduced to that concept that community-making observations and stuff like that, it’s very possible it was out there it just wasn’t on my radar and so I’ve started to note a few other cases like that. And it just opened up the possibility that research can be done not only through the academic world. With that being said I think it’s very case dependent and has to be – the same rigorous standards need… not necessarily needs to be applied but needs to be considered when you’re looking and evaluating that data…. So I guess it’s morphed the way I think about research and I guess my definition of research and what would qualify now as research has loosened a bit. But it hasn’t radically changed. (S1).

Lastly both students raised thought-provoking comments related to knowledge and skills needed to develop and assess new information, the dangers in taking certain types of knowledge for granted, and being careful not to make assumptions about what people do and do not know. Here S2 comments on how they came to recognize the importance of this through their work with CP2:

You know, they’re really well versed in those issues maybe but the community maybe not so much. Our community member was in in terms of climate change and things like that. And you know the other way around to, we were not…we had a general idea of maybe agricultural practices and things like that but she was far more knowledgeable than we were and that’s the thing she’s immersed in and I guess that it also impacts the communication of those things between each other. So we couldn’t
assume that maybe they knew...well what the climate modeling, the appropriateness which scenarios and things to use. In our mind well of course it’s not appropriate to do that but perhaps CP1 doesn’t realize the implications that that has or why you choose what so...and then again that can transfer to the public, assuming knowledge when you are talking certain things or reporting certain stuff, it’s not there. Or they may have insights to things that we don’t consider inside our little scientific bubble (S2).

They continued to reflect on this and her appreciation of the partnership:

So I think tapping into other groups’ knowledge and using that community partner is a really powerful thing to do when CP1 has a different background than we do so we can provide a certain set of information and then CP1 can provide information. So that was one thing I really learned to appreciate more I think was the partnership and the collaboration that has to have. Especially when you’re looking at something that crosses so many different disciplines and internationally...and things like that (S2).

Finally, community-based research opened students up to different types of knowledge, where knowledge resides, knowledge gaps between different groups, in this case, academia and communities, and instances of and the need for knowledge sharing. S1’s response to the different places knowledge exists highlights this most:

There is knowledge in the collective, collective community knowledge, and collective community experience that you don’t necessarily find in the academic world. So I don’t think you... the academic world is not the be all end all of knowledge. I mean you have communities that you know they have a ton of knowledge about specific things, or things within their community and they are the experts there. And...but...but again there seems to be a divide or kind of a gap between those two bodies of knowledge and how you...I think we could get a lot more from the amount of knowledge that is currently in the minds of the world than we are. We’re not tapping it as efficiently as we can, or as effectively as we can and there’s a lot of stuff that gets lost between the gaps and stuff like that. How you bridge that I have no idea but... (S1).
Community Partners

Both partners responded somewhat differently when asked what they learned through this course with respect to research and knowledge. One of the reasons for this is likely their different level of involvement with the course. I asked CP1 about any reflections they had on helping students learn to do community-based research. For them it was about helping students gain confidence in the research process, particularly in talking to people to get information:

Ya on all of the student projects that I’ve worked with, it seems that it presents a barrier to talking to people and more I’ve gotten it from the students’ perspectives necessarily, rather than necessarily from the people they are trying to interview’s perspective. But it seems like there an imposition in asking for these consent forms and I think that may reflect the same issue with asking professors or officials for data, and that I think is one of the really interesting differences in a community-led project because you have to go out into the real world and talk to people as opposed to being in a completely within an academic environment. So there’s that sense of empowerment…? That’s where I’m going with this direction. It’s a sense of empowerment.

And do you feel they were able to take up that sense [interviewer]?

Ya I think it’s practice. Practice lowers the barriers once they start to do it and realize that nothing bad is going to happen to them (CP1).

Both community partners cited specific project examples of research and knowledge, and what they took away from the project and working with students. Below are her remarks about how they saw both of these concepts in the students’ project:
I think in the first one for example around climate change this might be a good example because two of the students chose to work on the climate change modeling. So they talked to people at UBC and also in Victoria about their climate research, their modeling, which models they were using to project impacts. And in both cases they were using? One of the much older versions of the IPCC model which everybody recognizes is way, way out of, doesn't take into account a lot of feedback mechanisms, not particularly relevant so that’s what they used. So that would be the research piece of it. The knowledge piece of it would be that modeling was really appropriate and that really gave us the bounds of risk that we face. So starting to think of risk assessment and whether or not your contingency plan should actually be include a worse-case scenario. Which is way beyond the IPCC. So they chose to stay with the IPCC projection and they made it very clear that’s what they were using, then we talked a bit about that it was probably unrealistic because it was out of date (CP1).

They continue with how they felt the models that students chose for their report were outdated, which for her spoke to the limitations of models and research, which may be outdated and inconsistent with other streams of knowledge. They felt while challenging for students, it was good learning for them to reflect on the disconnect between an academic model/set of knowledge and other knowledge:

Well you know it was a work in progress. It was challenging and then they have to sit back and think about that and that’s going to shape their future as well. Because I’m sure that now their awareness of these sets of issues and the relationship has been developed by working on this project they will be much more aware now as the bits and pieces change what does that mean? (CP1).

CP2, having interacted much less with students and the actual project spoke about the question of research and knowledge at a less specific but much broader level. When I asked if they had any comment on where knowledge resides they responded with how their organization approaches such questions:

I think it resides all over the place. In our bodies, I think it resides in head, heart and hands, which is a transition approach. It’s both approaching it with the brain, and through the heart and tangibly with the hands. So it resides everywhere. In a broader
sense and a more philosophical sense I think there’s knowledge and wisdom in everything (CP2).

They spoke about their involvement with many courses and the importance of including this type of learning in students’ education. I asked whether they felt students and faculty have responded to an increase in community-based course work:

Well I would hope that they’re open to it. I think it’s a really important component of learning. I would composite that a very large percentage of learning actually occurs or can take place more effectively outside of a classroom. Based on what we’ve seen most students are very adaptable and open to the idea and interested. The faculty that we’ve worked with and we’ve worked with several faculty, all seem to be pretty open. I never got the sense that it was happening because someone was saying oh you have to do this. I felt there was general interest in it (CP2).

Both these excerpts further emphasize the partner’s belief in community-based learning and education and different conceptualizations of knowledge and where knowledge resides/exists, possibly quite different than those that students have encountered in their degree education in Environmental Science program.

**Faculty**

Neither faculty member was completely new to community-based projects. What was new was the framing of the course and projects as a “community-based research” project and the pedagogy as experiential learning. This brought forth many new insights into what it means to do community-based research. When asked about what they learned about CBR, F2 started by saying they felt they had a ‘naïve’ understanding of what CBR meant. However further into the response they began to speak to many elements they felt important to the CBR process. They used descriptors such as respect, collaborative, questions around
interpretation, humanizing - not viewing people as subjects, and relevant (doing something useful). They continued to describe the addition of a community partner to the research process as another valuable layer of input that would have been missed doing research in isolation; they were seeing community members/partners as valuable contributors who strengthened the research process and interpretations. They later gave an example of students being challenged by their community partner on what they were putting in the report, adding that in these types of projects there is a different level of accountability for both students and faculty. They acknowledged that even this interview was a “good reminder to think about what it means to be doing this research with community partners as opposed to just having the students do a research project. I guess I sort of it forget that sometimes.” (F2). For faculty, community-based research process affirmed what it means to work collaboratively:

I don’t think in my head I’ve really made distinctions in the process so much other than the parts about communication and collaboratively defining objectives and scope and potentially collaboratively defining methods, it depends on the project and the partner and things like that. I suppose it’s all the way through right? There’s this collaboration all the way through that’s like students are doing the research, sort of right? And the community partner is having input to that process all the way along down to, as in the case with the FED-AP, right? How are you going to interpret this? And the students are interpreting their research in one way and the community partner’s saying hey well you know I think that there’s this other aspect that you’re missing. So in some ways it’s like another layer or like it’s another valuable input that they would have missed if they had been doing it in isolation (F2).

While F2 felt like they never really distinguished between doing ‘environmental science research’ and ‘community-based research’, in the beginning of their comment they proceed to weave this notion of ‘collaboration’ and how they came to see that playing out
in practice within the process. For me this is in fact a distinction and I have come to interpret it as such.

A final theme in the discussion was how CBR involves an added level of accountability and responsibility. For F1 the addition of community partners meant raising the stakes as there was a new, greater level of responsibility to the community partner. Assignments, results of research and student actions had greater risks beyond just a classroom-based project; the work now existed in a public platform with greater risk and different implications. I see this as a greater appreciation for the politics of research that comes when the course is opened up to include community partners and the politics of the diverse communities in which they also work.

**Local Food Movement Learning**

My final question aimed to explore what participants may have learned with respect to the social, economic, and ecological environments of the local food movement. The research question posed to students by the community partner was in fact rooted in earth sciences, asking students to look at climate change scenarios and the effect these would have on land availability and food production in the local region. I was further interested in whether, during their projects, students encountered socio-political and cultural components that surround such a research question, and if so, at what points in the course and project did these elements surface, and how they were brought in. Both faculty and the community partners spoke very little about what they themselves learned about the food movement.
This is less surprising since it was the students that spent the most time immersed in this issue and they were the ones that took away the most in relation to the topic of the research. CP1 did note that while they didn’t learn much new information from the project, the report did confirm her belief that agricultural land reserves where under serious threat by development and that “…the arable land that’s available in the lower mainland is insufficient to provide food security for Vancouver” (CP1). Most of their discussion focused on what they felt students had learned. I accessed students’ perspectives on this topic from both my interviews with them as well as their final assignments.

**Student Final Report**

The final product completed by students was a thorough research report on the effects of climate change on land availability for food production in the Lower Fraser Valley (LFV) of British Columbia. The project aim is clearly outlined as:

> To understand how climate change might impact the LFV in the transition from the current export oriented agricultural state to one focusing on local, resilient and sustainable agriculture by the year 2040. Under this new agricultural paradigm, the goal is to increase the resilience of the LFV system, and to maximize the proportion of regional consumption produced locally using sustainable agriculture methods (student report, p. 9).

The student report provided a detailed look at agricultural land use in LFV and given consumption patterns and climate change models, how much land would be required for a locally produced food system that would presumably reduce fossil fuel dependency/use for production and distribution. The report includes a section on three climate scenarios and how these would affect agricultural land availability. It brings in economic considerations of BC’s food import/exports, as well as population forecast and is focuses mainly on
environmental, ecological and economic aspects of the issue with less attention to social and political elements. Again this is not surprising given the focus of the research and what the community partner was asking. Questions around cultural considerations for food consumption and land use issues within a contested government-protected agricultural land reserve (ALR) are brought into the report in various places, though they are not the focus, nor were they intended to be. One example of this is students’ acknowledgement, both in the report as an appendix and in interviews, that summary of consumption data assumes standard per capita diets according to the Canada Food Guide, and that this may be a source of error as it neglects differences in diet based on demographics and culture. A further reflection from one of S2’s assignments again demonstrates how they were grappling with this challenge:

For our project, we intend on calculating self-reliance assuming that the population has transitioned away from a diet based on Canada’s Food Guide and towards one with less meat and dairy consumption, such as the Harvard Food Plate. One question I wish we had asked is what people’s thoughts were on this diet transition, and whether it was realistic to expect the population of the Lower Fraser Valley to adopt it (S2, student assignment).

**Student learning and the Food Movement**

While reviewing their report made it difficult to see what and how students learned about the food movement beyond technical information in the report\(^5\), it became much clearer in the interviews that students did in fact learn a fair amount about the food movement beyond the natural sciences perspective of their report. Both S1 and S2 felt that through the

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\(^5\) The report includes discussions on land use, food import/exports and consumption patterns including cultural considerations. All of these have been interpreted as more micro level discussions on the broader themes of socio-political and cultural contexts of the food movement. What remains in question is how aware students were that these discussions link back to these larger context and considerations.
scoping of their research question, they developed a realization of what could and could not be done in their timeline and how broader socio-political questions were not in focus. Land use was the most prominent theme that could be connected to socio-political challenges within the local food movement. Through their research on local land availability and land use they began to ask questions beyond the technical components of their projects. The quote below from F1 speaks to the questions the students were beginning to grapple with:

And they were finding they would have to encroach on things, like recreational space. And so that again was just an interesting thought process – CAN you encroach on recreational space? Who makes the decisions on whether or not it’s an agricultural...is it in the ALR or is recreational space. So they were exposed to even just the concept that there are land use plans and decision making that goes into allocation land for different uses. And so for this one I think they ended up bumping into...well if we took land out of parks and put it into here we can...you know.... But they had to expose this concept of decision making over land use planning (F1).

S1 began to interrogate the meaning of terms such as “sustainability” and “self-sufficient”:

I think the one we did run into was self...sustainability is one you always run into, and then being self-sufficient and what qualifies...when people are like oh we want to be self-sufficient, well what does that mean? And when you get down into the nitty gritty details, you know are we producing...does everything that is going into this agricultural process have to come from this area? So I guess that’s something we ran into in that sense (S1).

Through their project they began to see the complexity of the issue and the work required for social change and social movements such as the food movement. This can be seen in S2’s quote:

Especially something with the community like that there are so.... To actually make a change in terms of what we eat and how we grow it. Like that’s not...you can’t box it into science. That’s a huge social, political, economic movement that has to happen (S2).
Another theme that came out of discussions with students was that while their project focused on the local region, it became clear it was possible to untangle the local issue from global forces and they were able to more clearly see this relationship:

So I guess I would say I knew that a lot of my food comes from California or whatever but actually looking at the numbers and seeing how reliant we are on those types of things and if something was to happen, say drought in California, how serious those implications would be and how difficult it is to transition. Like to suddenly adopt and ok we’re just going to start growing our own almonds and whatever. Appreciating that there’s a lot more to it and the food system isn’t just about the farmers and there’s so much more political and economic context. If you were to...I mean one startling statistic was that we make 95% of the world’s blueberries. So that’s a huge implication in terms of not just the farmer but transport, and you’re looking at port authorities to move those around the world and the people who receive them. And it’s so much bigger than just the local group that you’re looking at and asking to transition. There’s a lot outside of it as well (S2).

These two themes of complexity and local-global connection brought students to question whether 100% self-sufficient food system was an achievable and realistic goal, moving them to consider beyond what is technically possible, to all the other forces at play. One particular example that stuck out for both students was that all their models required a particular dietary shift and did not account for the cultural diversity within the food system.

The following quote from S2 highlights this point:

It’s going to be very interesting in the future how we feed our population and that we’re going to have to see some pretty radical shifts...and I’m not just talking about what Village Vancouver is hoping will become these self-sufficient local communities, but I think we’re talking our agriculture methods will have to change. People’s diets will have to change. I don’t know...I mean it would be great if all these communities were self-sufficient and we could do that but I don’t realistically see that happening and it’s just and it’s just that...one assumption we did was that everybody eats one diet. We didn’t account for the ethnic variety in the lower mainland and just the different types of cuisine. I mean we have a huge Asian influence and then we’ve got Indian cuisine. There’s just all these different demographics in there that are also
affecting our food choices and stuff like that. So I don’t think we’re going to get these self-sufficient communities but I think we’re going to have to see in the future we’re definitely going to be seeing difference in how we perform agriculture and what foods we give up, stuff like that (S2).

Lastly, perhaps one of the most critical reflections came from my discussion with S2 on different critiques and analyses in food movement literature, such as gender analysis or who works on farms, and whether they had come across these questions within it:

*Any critiques of the food system from areas like critical race theory or a gendered perspective...? [Interviewer]*

I think there might have been some gender things... well although this was one thing I did find interesting. Those reports on local farmer, gender, were always from developing nations. There wasn’t perspectives from North American farmers. That was one thing I found really difficult, was trying to find, especially when I was doing the permaculture kind of stuff, something that we could use as an example from North America. I mean yes those things are happening in the tropics or you know maybe India or whatever, but it’s a totally different climate and a totally different system. So it was hard to use those examples in our actual research. And it was really limited. You couldn’t really find local perspectives of farmers in Canada or women, or things like that. It was usually from more developing nations. So the information yes is there, but it was “the other”. And I was sometimes wondering if, I mean we’ve taken our agricultural system like this is just how it is and this is what’s best, and we’re always trying to fix “the other”, and it’s like we don’t analyze our own system and the way we’re doing it. We’re just taking it that this is the best system and this is how we’re going to do it. And so it didn’t really seem...yes I’m sure there are lots of people who have small scale farms and they’re integrated and all sorts of things but we don’t really ask them, or talk to them, or try to take their idea and expand it. It’s just monoculture and big crops are how we do it (S2).

There are a lot of issues taken up in this excerpt; discussions on power with respect to who critiques and who “gets critiqued”; “othering” of different perspectives and a lack of information and analysis/critique of our own systems, and North America’s assumptions
around our agricultural model/system. And while it took some probing to get students to uncover some of these deeper reflections they undoubtedly began to think about broader socio-political and cultural contexts and challenges in which their research question was couched.

In this chapter I have presented findings as they relate to each of my research questions and participants. I have saved much of the discussion on the meaning and interpretation of these findings for the next chapter, bringing participants back together in the discussion, rather than separating out participants as in this last chapter.
Chapter 5. Discussion

This chapter considers the findings presented in the last chapter in relation to relevant literature. While, it was useful to break the findings chapters into sections according to participants – students, faculty and community partners. In this chapter, I bring these three groups back together to discuss the themes in relation to the triad and teaching and learning dynamics that exist between the three. In the second part of the discussion I look at what was learned with respect to doing community-based research then lastly what was learned about local food movement.

Expanding Roles

If we return to the summary of teaching and learning within CSL there are clear parallels between the participants’ experiences as discussed here and what has been recorded elsewhere. For example, the change and expansion of faculty, community partner and students’ roles, and their fluidity and dynamic nature are obvious in this case study. Faculty spoke about how their roles expanded well beyond what might be considered that of the “teacher”. Facilitation, critical support, negotiation of roles and expectations, relationship building, and logistics are all ways faculty saw themselves in relation to students and community partners, and are ways that push the traditional role boundaries of teachers. Furthermore, the students affirmed this shift as they described faculty as advisors and, project supporters, and as providers of resources including, at times, assistance with conflict management. This description of student-faculty relationship is also consistent with Hickcox’s (2002) argument that experiential learning provides the opportunity to create, and Conville and Kinnell's (2010) observation of service-learning participants experiencing
“quantifiable and qualitative changes” (p. 32) to the conventional teaching and learning roles, especially as students came to see the community partner also in a teaching role. This underscores not only the discussion on role expansion, but how my case study reflects a constructivist approach to learning as evident in students’ appreciation of the community partner as teacher. CP1 even describes their role similarly to the way students described the role of faculty. This further emphasizes how traditional teaching and learning roles and boundaries were experienced in this course.

Another point worth noting is the energy with which the community partners took up the teaching role. Both partners’ passion towards alternative ways of learning (beyond a traditional classroom) and the value placed on education and learning by the organization fostered their ability and willingness to take on explicit roles in the teaching process. It is important to underline CP1’s comment and recognition that while they were well positioned to undertake this role, not all organizations have the capacity and flexibility to do so. Relinquishing some of the teaching to the partner, bringing them into the teaching process requires that community partners have a significant level of capacity. Furthermore, whether or not there exists an intentional disruption to power, we can interpret this shift of teaching from faculty to community partners as a move to expand power and control – a shift that also requires a significant level of trust between community partners and faculty. The interview with F2 supports this assertion as we see them grappling with questions around how much they should be influencing and intervening in the relationship between students and community partners.
Students’ experiences in the teaching and learning process are further examples of the complexity of the role negotiation and relationships that can exist in CBEL. In their description of relationships with faculty and community partners, students navigated a multitude of roles: as students, professionals, learners and consultants, at times simultaneously combining all of these positions. Students were never really positioned by CP or faculty as ‘teachers.’ Whether this is indicative of the power dynamics within the relationship or simply the level of expertise on the subject of the community partner is unclear, though I would argue it is both. Both faculty and the community partner did acknowledge that students ‘taught’ them about process. From this I would argue they were less explicitly involved in a teaching process in their own right, knowingly or not. This may be a reflection of the informal character of the learning space, compared to teaching-learning roles assumed to exist within formal educational settings. This is an exciting discovery given there is less written about students as teachers in CSL literature, with more attention given to the role of partners in the teaching process. It also begins to answer the question asked earlier about how and when students may take on this role, thus opening the door for others to explore this even further; it begins to unravel assumptions around who is teaching and who is learning.

I found myself returning to reexamine Conville and Kinnell’s (2010) four key themes – control, involvement, preparation and oversight-- and how these may act as useful summarizing categories of this case. I will highlight a few instances that serve as examples. I have already discussed control above with faculty’s inclusion of the partner in the teaching process. One further example extends to partners and students. CP1 granted students
significant responsibility in determining the scope of the project and what to include in their report, even when there was an obvious conflict of value. While the conflict was negotiated and seemed to be resolved, the letting go of certain aspects of the report by both students and partners exemplify to me that a shared sense of control was achieved which occurred through a process of negotiating a conflict. I would argue that attending to and holding this value conflict rather than avoiding or suppressing it is more productive than if one side gave in to the other, which can be the case in moments of power imbalance where the dominant framework subsumes the other.

One of the key examples of involvement comes from Faculty’s attention to relationship and partnership building that took place almost a month before the course even began. Community partners were brought into the process early and through project-scoping conversations, they were invited into the classroom to share project pitches and to give input and feedback on student proposals and final reports. Exit interviews⁶ with partners further demonstrate the value faculty saw in partner’s experiences and thoughts about how to continue to develop and improve the course. CP1’s comment on the benefit of drawing on further expertise of partners in the classroom exhibits a commitment to be involved in the course not only as a recipient of student research and work but to be a contributor to the education of students through curriculum and lectures.

⁶ Exit interviews took place at the end of the course both for evaluative and research purposes. The interviews explored questions such as; how the course could be strengthened, how to make engagement with partners better and easier, how to better honour the wishes of partners, the impact of the course on organizations work and some of the challenges of engagement, and finally how prepared partners felt students were,
The importance of preparing students to work and engage with community partners is receiving increasing attention within the literature (Maistry & Thakrar, 2012; Conville & Kinnell, 2010) and to a certain extent, at an institutional level by those who support this type of work. On numerous occasions faculty spoke of building systems and ‘structures’ that support and prepare students to do community projects and community-based research. I return to an interview excerpt I drew on earlier that I think speaks to this point best:

As an instructor we’re setting up the structure of the course with our growing and changing understanding of what kinds of activities we think they should do in order to gain the skills we think they should gain. And I mentioned too that we’re adding this year because they [students] keep not doing them [changes to work and process being asked for by instructors]. So it’s setting up that structure. Working with the student groups 1 on 1 as we go along and sharing the work of communicating with community partners more, which F1 did pretty much solely for the past couple of years. Ya it’s a lot of behind the scenes (F2).

In previous years faculty would informally direct students to change certain work aspects and processes—work habits, team dynamics, communication, project management. They noticed that students repeatedly struggled in these areas of their projects. Faculty found they needed to formalize these by embedding them into the curriculum, adding lectures, workshops and discussions. This created new systems and structures which focused on ethics, project management tools, communication skills, and reflective activities that prepared, as well as provided, on-going support to students in their project work with partners. I would further extend the importance of preparation to include partners and how faculty worked with community partners, setting and managing expectations. Again, I point to exit interviews with partners as a way faculty approached their commitment to improve the preparation of both students and community partners. One outcome of these exit
interviews was the development of an orientation workshop for partners and more focus on developing expertise on project research concepts for students.

Finally, oversight, while extremely time-consuming, was undertaken in a systematic way by dividing up projects between the two faculty and taking up advisory and supporting roles for teams.

I want to close the discussion on teaching and learning and roles by returning to this quote from Conville and Kinnell (2010):

Ideally, over time faculty members and community partners collaborate to prepare students for a quality learning experience and provide substantive assistance to the community. Beyond preparation, over time the faculty member ideally is no longer the only educator in the service-learning process and the student is no longer the only [one] learning. Community partners become instructors when they prepare students for work at their site, and faculty members become learners as they become involved on the ground along with their students. The triad of roles expands and evolves into a system of reciprocal educators and learners collaborating on the common and vision of the project (p.35).

The expansion of roles and responsibilities was not without challenge and a significant amount of work for all involved. However, from my perspective, it was the attention given to these roles and relationship dynamics that led to what all participants noted regarding the shifting of roles and responsibilities. I would also argue that this capstone course is a fairly successful example and case of changing teaching and learning processes within CBEL.

**Expanding notions of ‘Research’**

Upon the outset of this research I wondered how a course like this can expand the ways we think about research and knowledge, particularly within the academic institution. For the students, this was the first time they had been involved in a community-based research
project and up until this course, prior learning and experience with research revolved around scientific method and more isolated approaches to data collection and analysis within the academic institution. The relocation of research outside the institution and in collaboration with community partners sparked significant learning for students. Findings show students reflecting on several challenges within the research process such as making the move from the theoretical to practical research, and the accessibility of information – both with respect to who holds certain types of knowledge and the challenges of interpreting scientific knowledge even as a student of the discipline. For S1, this experience broadened their conceptions of research, qualifying community-based methods and knowledge in combination with rigorous standards they have come to learn in their studies. This brought me back to thinking about Bacon’s (2002) discussion on the different ‘discourse communities’ which was introduced in the literature review of CSL teaching and learning.

Bacon referred to the difference in how university and community partners and ‘members’ of these communities (students, faculty and community partners) conceptualized ‘knowledge’ and ‘learning’ within a service-learning context. Here I want to expand on this to include ‘research’ and how students grappled with the challenge of moving from one ‘discourse community’ to the other – in this case academic applications and understandings of research to community-based understandings. Students even drew on a similar ‘bridge metaphor’ (p. 34) as Bacon puts it, to describe what they felt was a need to bridge these two communities, making academic research more relevant, understandable, applicable
and translated to from the ‘scientific community’ to broader community contexts and issues.

Through collaboration with CP1, students looked for ways to traverse disciplinary boundaries and communicate findings to wider audiences in a way that was both comprehensible and relevant. CP1 saw their role in the research process with students as building student capacity and confidence as researchers who are building skills to take with them into their professional careers. Furthermore, community partners provided another perspective that challenged assumed knowledge within the models and scientific frameworks that students brought forth.

For faculty, discussions about community-based research in the course suggest that new meaning-making and internalization of CBR principles and pedagogical approaches was taking place. While the practice of community-based research projects was not new, the intentional theoretical framing of the students’ projects as CBR created better linkages between a theory and practice, and began, or furthered, a process of internalization. Faculty gave clear examples of how in their experiences they embraced CBR principles such as those found in literature: community-driven issue, process as co-learning and participatory, a collaborative undertaking between academic researchers (in this case students) and community (Minkler, 2004; Strand, Marullo, Cutforth, Stoecker, & Donohue, 2003; Strand, 2000). The addition of community partners into the research process created both challenges and opportunities that faculty felt made valuable contributions and strengthened the process and interpretations of data and findings. From a theoretical perspective, these reflections and learning around what it means to do community-based
research supports the framing of this course as research service learning (Goss et al., 2010). This framing opens to door to future possibilities of combining the desire to create ‘real-world’ experiences in order that students apply their learning. RSL can also contribute to positive social change in communities through ethical community engagement and community-based research. Finally, RSL can provide another way to connect the research mission of universities to teaching and learning.

**Expanding the Food Movement Learning**

This final section weaves food movement discourse back into an analysis of what students learned about the local food movement beyond the disciplinary lens they brought to the research question and project. Admittedly, I was skeptical if students would and did learn about the socio-political and cultural contexts of the issue of food resiliency in Vancouver. In this way my own disciplinary lens and bias could have become an obstacle to interpreting students’ experiences and the very framework of food movement discourse. I must confess that it was not initially obvious to me that a significant amount of learning had occurred, and only once I unchained myself from looking for evidence in a narrow way was I able to hear and understand how students were expanding their knowledge and thinking about the food movement. These moments were evident in how students were raising questions around land use and allocation and in those discussion, how they referenced matters of politics and power. The students were exploring issues of availability and lack of information and research. Students were questioning our own systems not only those of the ‘other’; there were interrogating concepts such as ‘sustainability’, ‘self-sufficient’ and the social and cultural implications for communities transitioning to an entirely self-sufficient localized
food system. Thus I found students were beginning to examine the social and cultural politics that surround the issue. Holt-Giménez's, (2010) food movement matrix is useful to think about how an organization positions itself within the movement and how they approach the movement. This is particularly important and was, I argue, evident in the significant role that the community partner played in the framing the research project and how FED-AP fit within a broader local food movement context. A closer look at the way Village Vancouver describes its work and activities suggests that much of this would fall somewhere between what Holt-Giménez categorizes as a progressive food politics and a discourse of ‘Food Justice’ or even a radical politics and discourse of ‘food sovereignty’ (p.3). Food sovereignty involves activities such as local community organizing and seed libraries, providing local alternatives to corporate food system through agro-ecologically grown food, and working to address economic inequities and instability through transitioning food systems into the building of more localized and food resilient communities. These ideas were articulated by CP2 and are consistent with some of the ways these food paradigms are described. Village Vancouver brought these ideas found in FED-AP forward to an environmental science course which did not formally include an orientation to human, social or cultural geography. My sense, having completed this case study, is that the differences in perspectives are not mutually exclusive. What I mean by that is, while the project was scoped within a specific scientific framework of environmental science and its related knowledge and skill sets, students were not so bound by this disciplinary framework; that they did not encounter, or come to be challenged by, and learn about other perspectives of the issue. In the findings chapter, I highlighted several excerpts
that provided evidence of how student learning went beyond learning the technical
elements of conducting a scientific inquiry. I want to close this discussion by bringing in the
voices of a faculty participant and a community partner. The two excerpts below provide
two additional perspectives, albeit somewhat competing ones that show how both the
faculty and the partner felt differently about what students learned. I chose these because
both illustrate how students were challenged by each teacher; in some respect their
comments represent a critique of the other’s view. One ‘teacher’ saw the goal of developing
a 100% locally based diet as a scientific impossibility. Another ‘teacher’ challenged the
reliance on scientific models and knowledge that concluded that this goal was impossible. It
was then up to the students to make their own interpretations and conclusions, shaping
how they came to see the problems and issues.

Faculty:

But there was a lot of struggle in trying to figure out from the scientific
perspective].... and I don’t mean to say that...I try to tell them all the way through
that your creativity as a scientist is inevitably part of everything that you’re doing,
but there is some pragmatism that comes into it right? And so in this case they
stretched because they were felt that the partner was asking for stuff that was
unsupported. And like permaculture or 100% diet or these kinds of things, they were
bumping up to places where they thought that was just not realistic. So if they wrote
a report to support that, it would undermine their credibility (F2).

Community Partner:

They looked at the question of the ALR, which is a social-political, development,
economic issues and they mapped that out really well. So I think they were able to
cross over those lines and understand the linkages between the different aspects. I
think the climate and the impact from an environmental aspect of climate change
because they constrained themselves to that but we explored that in our
conversations. The scope was in it but there was that wanting to stay with the current
level of published scientific understanding is and not moves beyond that....
But it’s a learning experience even of that because it says if your models aren’t there what do you do with that and it made them think through those issues so it’s an important experience as well (CP2).

In the end, I cannot claim that this project radically change or reshape students’ understanding of the food movement. But this was not a goal of the course, project, or any of the participants. What the course and project did provide, however, was an opportunity to further examine the issue and more importantly the relationship between environmental science knowledge and that of the socio-political and cultural dimensions.
Chapter 6. Conclusion

In this final chapter I return to how this research began, the research questions that arose from my curiosity, and provide a summary of what emerged from this inquiry and the contributions it makes. I provide a list of recommendations that stem from these findings and identify areas of opportunity for further research. Finally, I end on some final reflections of my own learning through this investigation.

I set out to examine this case that grew from my work as community-based experiential learning course developer and practitioner and my personal interests in the local food movement as a place of learning and knowledge exchange. My open ended research questions supported an exploration of the experiences of students, faculty and community partners involved in an environment science research service learning project: 1) how do they perceive the roles and relationships amongst themselves, the faculty and community partners in these teaching and learning processes? 2) What are their experiences and understandings of what constitutes knowledge and research with respect to a) environmental science and b) community-based research? 3) What are their experiences and understandings with respect to the social, economic, and ecological environments of the local food movement?

On an individual level, participants occupied multiple roles in ways which may lead to developing insights into new ways of working in the future. In my findings, the three players in this course all experienced role expansion, negotiation and expectation setting. These shifts in role are significant for students as they move into professional settings where these learnings could be transferable and extremely useful. For faculty and community partners,
great attention to these dynamics occurred through reflection and examination; as a result, they may be more aware and therefore better equipped to work with these in the future. At a program level, a better understanding of how these participants in a research learning course relate to each other can help strengthen relationships between faculty, community partners and students engaged in future projects, and provide lessons for other courses that employ a similar pedagogy. From a disciplinary and educational perspective, looking at participants’ perspectives on different forms of knowledge (e.g. scientific and community) provides an opportunity for discussion about how the community and political dimensions of knowledge creation can be taken up in scientific a research project.

While UBC frames these types of projects as ‘community-based experiential learning’ (Centre for Community Engaged Learning, n.d.) I chose to further narrow the framing to a case of ‘research service-learning’. This allowed me to understand this case study through a lens that combines pedagogical elements of community-service learning (CSL) with the ethics and principles of community-based research, and where students’ engagement with the community partner took the shape of a research project as opposed to more traditional notions of ‘service’ in CSL. This was a more appropriate conceptual understanding of the course, given its design and also for how participants of the study thought about the course. Even though the course development occurred in 2013 and the experiences of future participants may vary greatly, these findings and resulting recommendations may prove useful in its continued development. Findings can inform future planning of the course and understandings of the complexities of the relationships that exist within university-
community partnerships and what I have referred to as multi-participant teaching and learning spaces.

These findings can also inform future work between students, faculty and community partners working in other courses, and help to identify the possibilities and limitations of implementing community-based research in the context of similar courses. It also contributes to the knowledge of RSL as a component of CSL. Finally, this case study adds to existing knowledge as evident in the literature on community-university engagement, in particular, studies that explore the roles of and relationships between students, partners and faculty involved with community engagement projects. This inquiry can serve as an example of a case of ‘research service-learning’ (Goss et al., 2010) which will help fill the gap in understanding RSL that currently exists within the academic literature. As other examples of RSL such as the Lobo Garden’s Research Service Learning Program at The University of New Mexico (UNM, n.d.), or other new service-learning models such as “application-based service-learning” begin to emerge, research into these approaches can help deepen understanding of the range of activities within RSL and can shed light on subtle nuances to larger philosophical and theoretical differences. Thus, I hope this case study can support better design and preparation of all participants in RSL and deepen our understanding of the ways in which participants’ relationships with respect to teaching and learning.

In this capstone course, ‘research service-learning’ was an orientation that combined both service-learning and community-based research. This study helps to extend understanding of CBR and CSL given that CBR examples tend to focus on how it is applied within the social
and health sciences, and many CSL initiatives are located within Science, Technology, Engineering and Math (STEM) courses. Thus this study can support faculty who, through community engagement, are looking for ways to combine student learning on the application of science literacy and scientific method with current environmental and social issues. This case study serves as an example for others looking for ways to combine science and scientific work with the complexities of real-world learning and issues that contain social components, often underrepresented in STEM education (Cech, 2014).

Research Limitations and Future Research

In our discussion on what constitutes ‘research’, one of the faculty members noted that they struggled to understand what I could take from our discussion beyond their storytelling. This comment exposes the gap that exists between ‘scientific’ (or what counts as scientific) research and qualitative inquiry. The responses to my questions provided by participants about their experiences and understandings provide useful data from which we can learn. But like all forms of inquiry this one too has limits. I had hoped to speak with all participants involved in this case to get the most comprehensive description from all those directly involved. In the end, out of the four students I was able to speak with only two. It is possible that the two other students had vastly different experiences than the two participants I interviewed. Another limitation relates to how this case study is of a specific course and program taking place within a specific institutional and historical context so that the transferability of findings must take these specifics into account. As with any qualitative case study, the inquiry cannot be replicated although similar kinds of qualitative inquiries and methods could be applied to other cases but the findings could be different given a
number of factors. For example, both faculty in this case study were highly motivated and committed to the re-development of the course and their own professional development in relation to community-based research and learning pedagogies. The community partner occupied the role of co-educator; like faculty, they were also highly motivated to provide a positive and constructive learning experience for students. Thus these perspectives as well as the histories and motivations of the students influenced this research. These factors demonstrate the conditions that speak to how these influences could be taken into account when other case studies are undertaken. Furthermore my own position as an insider, that is, as a CSL practitioner and co-developer of this course, and as a past participant in FED-AP and community food movement work influenced the interpretations I have provided. This insider position was useful; having pre-established relationships with the faculty and community partner staff enabled access and facilitated the conversations I had with participants. Conversely, it is possible that I could have assumed a shared understanding, thus missing opportunities to probe further in interviews with participants. Finally, my existing professional relationship with faculty and the community partner may have been a barrier to participants being completely forthcoming in any sharing and criticisms, although data suggests otherwise given what appeared to me as open and honest sharing of critique and feedback.

The research questions I chose provided a particular frame within which to study a very complex case. In my exploration of the teaching and learning roles and responsibilities of participants I did not purposefully inquire into the ‘shadow side’ community service-learning and other community-based pedagogies. Such an orientation did not attend
specifically to power dynamics, ethical dilemmas and unpredictable outcomes. I did not explore with my participants moments of ‘encountering’ knowledge and other, ‘teaching’ and ‘being taught’ (Bruce, 2013) which could be useful territory to explore in other studies. Thus my findings and discussion of the practice side of these pedagogies is a partial view of the larger dynamics of these pedagogies. There is room to further investigate these practices.

**Future Research**

Building on this discussion of the limitations of my inquiry, one area of further study is exploring more deeply the different ways in which learning took place. While the course and project represent a formally structured integration of RSL into a course in higher education, further studies could focus more particularly on the non-formal and informal learning (Livingstone, 2001) dimensions of RSL, CBR, and CSL.

Future research could explore more deeply faculty’s learning about service-learning and community-based learning pedagogies, and how faculty develop their practice (Miller-Young et al., 2015; Harrison, Clayton, & Tilley-Lubbs, 2014). Some of my conversations with faculty provide evidence and insight into their own learning and internalization process of these practices and I see this as an exciting place to explore the way faculty look for ways to develop in their reflective teaching, learning and research practices.

Finally, there’s room for further research that explores the outcomes and long-term impacts of this type of engagement with community organizations, and beyond organizations. Future research could examine outcomes and impacts for communities and community members, considering what are the longitudinal effects of these types of
projects and their ability to impact policy and social change within movements such as the food movement.

**Recommendations**

An important aspect and purpose of this research was to translate findings into recommendations for practice and future course development. I have provided seven recommendations that stem from findings and suggestions from participants themselves and outline these below. I have divided the recommendations to indicate to which group they are most applicable. It is important to note that given this research took place almost two years after this project was completed it is possible some of these recommendations no longer apply or have already been implemented.

**Faculty**

- Further integrate community knowledge into the curriculum and course structures drawing on the ‘expertise’ of partners.

  The community partners in this case openly embraced the co-educator role. There may be other partners that are interested in doing so as well. One potential way to further emphasize the value of other types of knowledge and expertise to students could be to identify parts of the course that would benefit from being delivered by a community partner as an in-class workshop. Partners may have ideas on where and how to strengthen student preparation and provide a different perspective than perhaps what students have come accustomed to expect from faculty. Increasing student awareness of learning processes, asking students pay attention to not just
formal learning processes, but non-formal and informal ways of learning with partners may make students more aware of other instances of learning. Such reflections may be drawn out in reflective activities such as journaling where students are asked to reflect on they’re learning process and who is ‘teaching’ at certain points of the process.

- **Embed partner check-ins at course mid-point**

  While both faculty and community partners felt the level of communication was appropriate, both faculty members mentioned they had intended to check in with partners more and felt it would have been useful. Perhaps building in a mid-point check in with all partners at the beginning of the course will help set an expectation and prioritize these.

- **Frame the course as ‘Research Service-Learning’ or a similar conceptual framework.**

  Such framing will forefront ethics and key elements of community-based research components. Framing projects as ‘research’ separates them from traditional notions of ‘service’ in community service-learning and more specific than ‘community-based experiential learning’. Here “Research service-learning” is more in line with the application of disciplinary knowledge and course activities.

- **Provide more opportunities for students to encounter the socio-political and cultural aspects of their research projects and how these relate to their role as ‘scientists’ and inform their research and projects.**

  There are multiple ways this could be achieved. A few ideas include in-class activities such as concept mapping or systems mapping to explore these relationships or a
class discussion or even consideration within a reflective assignment or within the project scoping phase.

**Partner**

- Bring students further into the organization and communities in which it operates to gain better understanding of the complexity in which their research resides.
- Be explicit about role in teaching and learning.

  This could be as simple as exploring learning goals with students in the beginning of the project, asking students how they might to support these within their capacity.

**Students**

- Acknowledge and attendance to community partners’ role in teaching and learning, both as ‘teacher’ and ‘learning’.

  A level of responsibility sits with the faculty and more broadly the institution to recognize knowledge beyond the academia and the role of community members and organization staff that engage in these types projects as knowledge holders and ‘teachers’ in the learning process. However students, themselves must also recognize the role partners play in their learning and attend to partners’ as teachers, opening themselves to teaching moments with partners. Partners may challenge students’ institutional learning and knowledge and students must be ready to engage with this and see it as an opportunity to take a different perspective or approach to their work and learning that may be different than that to which they have become accustomed.
This list of recommendations is not exhaustive. They draw from the findings of this study to suggest ways to strengthen teaching and learning processes in this course and others of similar nature. Further, most are not static concepts that can be integrated into a curriculum but rather fluid processes to which must be continuously attended. As several of them are particular to the participants of community-engaged learning, they are dependent on the uniqueness of individuals and their experiences, and must consider the subjectivities of those involved and the dynamics or their relationships.

In the final section I close this work and research study, offering some of my own reflections on the research process, some of the key concepts of this research, and the implications of this work for me moving forward.

**Final Reflections**

This research journey has presented me the opportunity to not only examine a topic of interest and contribute to the research and knowledge in the field, but engage with my own reflections and learning through the process. As a relational person qualitative case study felt like a natural way to explore participants’ experiences and to examine their unique experiences as well as the similarities to other students, faculty, and community partners with whom I work in my professional role. Furthermore it allowed me to reflect back on my own experiences and my first interaction with CSL as student and as a participant in the local food movement. One challenge that arose was in my understanding of case study methodology. At several stages I grappled with what lay in and outside this case. All participants drew on instances from past experiences outside the case of examination which very obviously informed their interpretations and meaning-making process of their
experiences that within this case. I have come to understand case studies differently than when I started out. The boundedness of cases is useful in defining what lies within scope, and context matters. But the complexities of a case are also informed and further layered by the experiences of those within it, influenced by their own contexts. This adds to complexity and also the richness of the case, but for me, blurred the lines of the boundedness.

My work at the university has shown me that community engagement and community-based learning are taken up in a multitude of ways, both formally and informally within the institution of higher education. It can be challenging to keep track of the multitude of terms that emerge to capture this diversity, something that has been admitted to by many faculty with whom I’ve worked. But nuances are important and new terms attempt to capture these differences in nuance. Prior to beginning this study I was unfamiliar with the terminology of “research service-learning” (RSL). This term helps specify the intentions and purpose of engagement and directs me to better understand the nuances that extend beyond traditional notions of ‘service’. Many community partners want research and are excited to have the opportunity to have students and faculty undertake research which can inform their priorities and move their work forward. It is particularly challenging to engage undergraduate students in large, long-term community-based research, “CBR” projects (though it does happen). RSL provides another entry point for students and partners into research collaborations while maintaining similar pedagogical elements of CBR. This study has shown me how this framing can be useful and how I can take it into my own practice as a planner working with community partners, faculty and students who wish to work
together in similar ways and has already proved useful in helping others conceptualize their work as such.

I shift now to my reflections on the food movement. My exploration of this literature, albeit brief, further revealed how truly expansive and diverse it is. This study represents only a pebble in a garden of food movement projects even within the local context of Vancouver. Initially I was surprised there wasn’t more attention to the local socio-political and cultural landscapes of the movement in students work. Though I also caught myself bringing a narrow view and almost missing what did emerge, I realized the need to be mindful of my own critiques and curiosities and those of participants. Furthermore, through the final student report I encountered more natural science discussions and issues within the food movement, such as the effect of climate change on local food production and land available for food production. Much of this was new to me having previously been more engaged in the social issues, and less so those that are ecological and from a natural sciences lens. Reflecting back, while I was looking to see if students were crossing paradigms in their research I found I too was crossing paradigmatic boundaries, examining quantitative research and natural sciences perspectives and models, even within my own qualitative study. Since this iteration FED-AP has been taken by three other student groups, some in other faculties such as geography and while it has yet to become a ‘product’ or finalized plan it continues to be a conduit through which people examine and grapple with a multitude food system issues in Vancouver, including my own.

I close with a final reflection on my fascination with the ways we encounter, relate to and learn from and with one another. This study has brought forth ways in which I can
better support teaching and learning in my role as a community-engaged learning practitioner. But it has also made me reflect on the instances teaching and learning occur outside formal structures. How do I knowingly or unknowingly take up a teacher/learner role, both in my professional and personal interactions with the world around me? What are the implications of naming these roles at a particular moment given the power differentials inherent in terms such as teacher and learner? How do I use this awareness to counter my own resistance to unfamiliarity as a learner and a teacher? I hope to continue to engage with these, and other critical questions of learning, knowledge and educational encounters both for the betterment as a learner, teacher, practitioner and social being.
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Appendices

Appendix A: Interview Questions for Students

1. I’m interested in hearing about your experience with the Environmental Science capstone course.

2. When did you first learn about the course, what information was provided to you?

3. What were your expectations of the course? From your perspective how did it fit into the programs goals?

4. From your perspective what were your roles and responsibilities in the course?

5. Tell me about the specific research project you undertook. What did you learn about doing research and what did you learn about environmental science and knowledge?

6. I’ve read your report in which you include climate change impacts on the food system, a review of the current system including land use, consumption patterns, and forecasts for the amount of land required to transition to a more local food system, and required shifts in food consumption. Could you tell me what else you learned about the food system in doing the project and taking this capstone course?
Appendix B: Interview Questions for Community Partners

1. I’m interested in hearing about your experience with the Environmental Science capstone course. When did you first learn about the course, what information was provided, what did you think at that time?

2. What were your expectations of working with the course and of being a community partner? From your perspective, how did it fit into the goals of the organization?

3. From your perspective what were your roles and responsibilities as a community partner in this course? Could you tell me a bit about these?

4. Can you think of a time when you assumed the role of educator or teacher; if so could you say more about that? What about moments when you felt you were took on the role of a learner?

5. Could you tell me more about your relationship with the students? Can you think of a time when students took on the role of teacher?

6. What did you take away from this course in relation what counts as research and what counts as knowledge, specifically environmental research and knowledge. How did you see these two in this course and in your work and relationship with students and instructors? Furthermore what thoughts and reflections do you have about helping students learn to do research and in particular community-based research?

7. Your organization is involved in food sustainability and the Vancouver food movement. Can you tell me about what you learned about the movement and food sustainability from being a partner in the course? Much of the report presented statistics and models and a scientific analysis of the food system and potential to transition. Could you tell me what else you learned, for example about other aspects such as socio-political dimensions of the food system?
Appendix C: Interview Questions for Faculty

1. I’m interested in hearing about your experience with the Environmental Science capstone course after the redevelopment in 2013. Can you tell me a little bit about the redevelopment process?

2. Why did you decide to merge research with a CSL/CBEL framework?

3. What were your expectations of the course? How did it from your perspective, fit into the ENVR science program goals?

4. What, from your perspective, were your roles and responsibilities in the course and more specifically with respect to teaching and learning?

5. Can you think of a time when you assumed the role of learner; if so, can you say more about that? What about those moments when either the students or community partner took on the role of teacher? Learner?

6. The course has students employ the scientific method and approach. There are also other dimensions beyond the technical that come through in the students’ report – such as socio-political and cultural aspects of the food system. Can you tell me about these other dimensions you and students may have encountered in this course and how you see yourself engaging with them? Was there anything particularly challenging?

7. What did you take away from this course in relation what counts as research and what counts as knowledge, specifically environmental research and knowledge. Furthermore what thoughts and reflections do you have about helping students learn to do doing research and in particular community-based research?
Appendix D: Sample Coding

The following table presents some of the most frequently used codes, the code descriptions and an example of coded data.

<table>
<thead>
<tr>
<th>Code</th>
<th>Code description</th>
<th>Coding sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALR</td>
<td>Any reference to the agricultural land reserve (ALR)</td>
<td>They looked at the question of the ALR that is a social-political, development, economic issues and they mapped that out really well. So I think they were able to cross over those lines and understand the linkages between the different aspects (F1)</td>
</tr>
<tr>
<td>CBR</td>
<td>Anything that relates to community-based research, and particularly comparisons made between CBR and other descriptions of research.</td>
<td>The community-based research is not…it’s almost like they’re two…two different languages. The outcomes and what you’re looking for. I mean you know what you’re looking for academics it can be very specific questions and there can be very specific ways you present the information... (S1)</td>
</tr>
<tr>
<td>Collaboration</td>
<td>Anything that references two or more people or groups working together. Includes both explicit use of the word, implied and assumed.</td>
<td>I guess collaboration. That was a big thing. I mean some of our research efforts were slightly limited by the effort and timeliness of people in the group so when you’re relying on other people in a group to do other things, which I mean really happens in all research. That can really impact the outcome and your own sanity. So that was another thing. (S2)</td>
</tr>
<tr>
<td>Communication</td>
<td>Anything related to communication. This can include verbal between stakeholders, written or other non-verbal cues.</td>
<td>Ya…. You know we had a pretty good level of trust and communication, um, we had fairly regular contact throughout the process and I think we were all pretty satisfied with it. (CP1)</td>
</tr>
</tbody>
</table>
| Community partner | Anything that references or relates specifically to the community partner for this project | Ask of partner
What is the required time/resources being asked of the partner
What would be their role throughout the collaboration
(Community partner meeting agenda: course documents) |
<p>| Community Partner perspective (Source code) | Indicates coded material is coming from the perspective of a community partner. | Coding source: Community partner interviews |</p>
<table>
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<tr>
<th>Code</th>
<th>Code description</th>
<th>Coding sample</th>
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<tr>
<td>Course development</td>
<td>Anything that relates to the redevelopment of the course and how it changed from past iterations to what it is now, at the moment of the case as well as beyond the time-bound case study.</td>
<td>So it’s critical to remember that there’s two things that have happened at the same time. One is the number of students in the class has increased. The other is that we now have partners. So those two things came together and some of the new structure in the course is because of the numbers (F1)</td>
</tr>
<tr>
<td>CP learning</td>
<td>Anything that relates or refers to learning that is specific to the community partner.</td>
<td>Ya. I mean the content, I don’t think I learned a lot about content um…but you know the personal interaction of working with students at this stage of their education and their careers was a really great experience. I really enjoyed that (CP1)</td>
</tr>
<tr>
<td>Expectations</td>
<td>Anything relating to expectations of those involved</td>
<td>So that for me was a learning experience to first observe how that developed and see the issues that were encountered with communication with community partners right? And whether or not we had communicated with them clearly enough, they had the right expectations, their expectations matched with the students – there are mismatches clearly there have been and that’s fine, that’s part of it. Because there’s no way that these groups of people that operate in different spheres most of the time are just automatically going to understand each other. So I think that’s part of the process. (F2)</td>
</tr>
<tr>
<td>Expert</td>
<td>Anything that directly references the notion of expert or that has been interpreted as such.</td>
<td>It just makes me think of if these decisions that they’re making based on what they’ve learned throughout their years as students becoming experts in science and choosing certain models. And then when they’re coming up with these other aspects to these larger issues that are maybe not missed intentionally but just not maybe thought about…? (F1)</td>
</tr>
<tr>
<td>Faculty - CP Relationship</td>
<td>Anything that refers specifically to the relationship between the faculty and community partner.</td>
<td>How was your relationship with F1 and F2? Mostly by email. Or the day of the class, the presentation, then at the end I had a chance to catch...I mean it I thought it was perfectly appropriate. (CP1)</td>
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<tr>
<td>Code</td>
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<tr>
<td>Faculty learning</td>
<td>Any instance that speaks to the learning of faculty.</td>
<td>I feel like my learning experience has really been...because this is an opportunity to do something different than I’ve done before. So I kind or see most learning experiences as fitting under that category, so the opportunity to do something that I hadn’t done was start to reach out to community partners which is not something I had done in my professional life. (F1)</td>
</tr>
<tr>
<td>Faculty perspective (Source code)</td>
<td>Indicates coded material that is coming from the perspective of an instructor/faculty member.</td>
<td>Coding sources: Faculty interviews, course documents</td>
</tr>
<tr>
<td>FED-AP</td>
<td>Anything that describes or relates to the FED-AP project</td>
<td>FED-AP encourages people to think about the future of food in Vancouver, especially as cheap energy sources peak and climate change intensifies. (Course documents; project proposal)</td>
</tr>
<tr>
<td>Feedback</td>
<td>Relates to references of giving feedback</td>
<td>So the way that I approach most of my teaching and probably this course in particular is as a facilitator. So I view my job as providing opportunities for the students to do stuff that helps them learn. In this case it’s really, mostly providing opportunities then providing feedback. (F1)</td>
</tr>
<tr>
<td>Food movement discourse</td>
<td>Relates to the way participants talk about the food movement, applying the food movement matrix. Paying attention to the words and language used to describe or talk about it, including sustainability, self-reliant, security, corporate, industrial, food justice</td>
<td>I think the whole message of Transition is to look at, you know, agriculture’s role in climate change and food insecurity and resilience and economic localization and you know responding to crises. (CP2)</td>
</tr>
<tr>
<td>Code</td>
<td>Code description</td>
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<tr>
<td>Knowledge</td>
<td>Anything that relates to or has been interpreted as knowledge, How participants understand what it is, how they’re interacting with it and where it exists.</td>
<td>Ya. I mean I think knowledge I would equate with understanding and the ability to synthesize perhaps research, different concepts, different ideas, synthesize them into some coherent understanding of something broader than just the mere facts themselves. (CP2)</td>
</tr>
<tr>
<td>Knowledge sharing</td>
<td>Any reference to sharing knowledge such as best practices, examples, &quot;how to...&quot; lessons learned, etc.</td>
<td>I mean you have communities that you know they have a ton of knowledge about specific things, or things within their community and they are the experts there. And...but...but again there seems to be a divide or kind of a gap between those two bodies of knowledge and how you...I think we could get a lot more from the amount of knowledge that is currently in the minds of the world than we are. We’re not tapping it as efficiently as we can, or as effectively as we can and there’s a lot of stuff that gets lost between the gaps and stuff like that. How you bridge that I have no idea but...(S1)</td>
</tr>
<tr>
<td>Land use</td>
<td>Anything that references land use in BC in relation to the students project or food production</td>
<td>And they were finding they would have to encroach on things, like recreational space. And so that again was just an interesting thought process – CAN you encroach on recreational space? Who makes the decisions on whether or not it’s an agricultural...is it in the ALR or is recreational space. So they were exposed to even just the concept that there are land use plans and decision making that goes into allocation land for different uses. (F2)</td>
</tr>
<tr>
<td>Local food movement</td>
<td>Any reference to the food movement or system in Greater Vancouver</td>
<td>For our project, we intend on calculating self-reliance assuming that the population has transitioned away from a diet based on Canada’s Food Guide and towards one with less meat and dairy consumption, such as the Harvard Food Plate. One question I wish we had asked, is what people’s thoughts were on this diet transition, and whether it was realistic to expect the population of the Lower Fraser Valley to adopt it (S2, student assignment)</td>
</tr>
<tr>
<td>Code</td>
<td>Code description</td>
<td>Coding sample</td>
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</tr>
<tr>
<td>Project scoping</td>
<td>Anything relating to the scope of the project or the process or scoping the project</td>
<td>And then with the community partner I guess our roles... well one of the big things would be that we had to help scope the project because when they initially came in and what they wanted, it was just... We were like ya that sounds great and then you actually start to look at it and we were like no way! (S1)</td>
</tr>
<tr>
<td>Relationship</td>
<td>Anything that refers to relationship building between those involved in development and execution of the course.</td>
<td>So that year we were going out, we were meeting at coffee shops with partners and you’re chatting with them about different kinds of things that are going on and it’s kind of interesting. But it’s also hugely time consuming. So that year I was in a certain space, which was excited about making new connections with people in the community. Interested in who are partners were and hoping to connect with them enough along the way that they knew that we were there but also being busy, and so maybe not connecting with them as much as they maybe needed. (F2)</td>
</tr>
<tr>
<td>Research</td>
<td>Anything that relates to or has been interpreted as research, How participants understand what it is, when they're doing it and how they are learning about it.</td>
<td>You know obviously we’re asked to come up with a project so we’re going to come up with something that has a potential to produce tangible benefits for us in terms of research and information and you know, delving deeper into the project than we might be able to go. So, ya the potential of that happening I think is very good and I think to a largely extent it manifested itself that way so. (CP2)</td>
</tr>
<tr>
<td>Roles</td>
<td>Any reference or relation to the roles of those involved (students, CCEL staff, community partner, faculty)</td>
<td>I mean one in the position of the community representative I certainly had the role of guiding and informing as to what the product, you know what the expectations were so in that regard that’s very much like an assignment, setting an assignment, setting the boundaries of the assignment, setting the base materials for that assignment and then aligning that with what they’re doing, and then following them to make sure they’re on track with that and then reviewing the final product or the draft product to make suggestions. So those are all really roles of an educator (CP1)</td>
</tr>
<tr>
<td>Code</td>
<td>Code description</td>
<td>Coding sample</td>
</tr>
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<tr>
<td>Skills</td>
<td>Any reference to skills including skills that are needed, already possessed, acquired/developed</td>
<td>And it also very explicitly gives them experience in having to communicate with other people who are coming from a different perspective. Which was I think reviewing that those are important skills to develop. (F2)</td>
</tr>
<tr>
<td>Social issues</td>
<td>Anything that refers to or relates to social issues within the course, learning, project or experiences of students, faculty and community partners</td>
<td>So they had viewed themselves as consultants I guess right? And so here’s the information, it’s for you and you can use it. And there was another group last year where the results were not what the community partner was anticipating. Ya. It’s a social issue, we think this is a problem. (F1)</td>
</tr>
<tr>
<td>Student - CP Relationship</td>
<td>Anything that relates to the relationship between the students and community partner.</td>
<td>The only thing that I remember is that CP1 was quite involved and they was on the more involved end of the spectrum in terms of meeting students regularly, being quite involved in what they ended writing about and concluding...(F1)</td>
</tr>
<tr>
<td>Student - Faculty relationships</td>
<td>Anything that specifically speaks to the relationships between the students and the instructors/faculty.</td>
<td>So it was one team, then three teams and then five teams or whatever it was and the course had to adjust to all of those things in some senses when it was one team we were really more like graduate student supervisors and we were working very closely and we understood all the decision making happening in the team. As you start moving into four teams and five teams you can’t have that same relationship with them. So that was happening and we have potential for 60 students to take this class so we knew we were going to have lots of teams. In fact now it looks like it’s more like 45 in graduate year. But that’s a lot of teams. So that was one thing. (F2)</td>
</tr>
<tr>
<td>Student learning</td>
<td>Anything that refers or relates to student learning.</td>
<td>You learn, I mean you learn the differences between the academic world and the real-world and kind of you know, they’re coming to you as an academic to answer this problem with the context of their world and if it had been asked in an academic sense you would get this very...this certain answer which doesn’t really quite apply. (S1)</td>
</tr>
<tr>
<td>Student perspective (Source code)</td>
<td>Indicates coded material is coming from the perspective of student.</td>
<td>Coding sources: student interviews, student assignments</td>
</tr>
<tr>
<td>Code</td>
<td>Code description</td>
<td>Coding sample</td>
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<tr>
<td>Teaching</td>
<td>Anything that relates directly to teaching or has been interpreted as acts of teaching.</td>
<td>So for instance when we go out and speak to a class about the project. You know we need to describe clearly and concisely what the project is about. And sometimes it’s a very foreign concept where they may...I mean who knows about what FED-AP is? Nobody! So you know right there you’re doing some initial education. You’re describing the project within the broader context of the worldwide movement and what the whole idea of Energy Descent is. (CP2)</td>
</tr>
</tbody>
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