

**EXPLORING PRACTICE-LINKED IDENTITIES CONSTRUCTION IN CULTURALLY
DIVERSE URBAN YOUTH THROUGH AN INTERGENERATIONAL GARDEN-
BASED LEARNING PROJECT**

by

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A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF

DOCTOR OF PHILOSOPHY

in

THE FACULTY OF GRADUATE AND POSTDOCTORAL STUDIES

(Curriculum Studies)

THE UNIVERSITY OF BRITISH COLUMBIA

(Vancouver)

February 2016

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Abstract

In the last two decades, there has been a growth in garden-based learning (GBL) practices at school grounds and in garden-based programs in North America. An interest in GBL has been propelled by concerns regarding the health of individuals and the health of the planet. Research conducted in this area has mainly focused on the short-term learning outcomes of GBL in areas such as nutrition education and science education. However, little is known about the long-term impact of GBL experiences in students' lives and identities.

The present qualitative case study explored student alumni and parents' memories about participation in the Intergenerational Landed Learning on the Farm for the Environment Project (ILLP), a one-year intergenerational GBL program. The study focused on a longitudinal investigation of the practice-linked identities that culturally diverse, urban, elementary students constructed through participation in the ILLP, and inquiring into which elements of this GBL experience appear to play a role in supporting the construction of these identities.

This study is rooted in several areas of theory including: current sociocultural discourses in science education literature on identity; garden-based learning literature; and the 'new' sociology of childhood. Data collection was carried out through focus group and individual interviews.

The key finding of this study was the identification of six practice-linked identities related to children's participation in the ILLP: 1) Identities constructed through relationships with non-parental adults: Farm Friends; 2) Identities constructed through relationships with more than-human-world: Interacting with other non-human animals and systems; 3) Identities constructed through new relationships with food and culture: Intercultural and intergenerational discoveries and frictions ; 4) Identities constructed around the ideas of freedom and agency:

Taking risks, taking ownership, taking control; 5) Identities as learners: Expanding the sense of what learning is and where it takes place; and 6) Identities constructed through play: Imagination and pretend play in the forest. Particular aspects of the ILLP experience were identified as supporting the construction of these identities.

This study helps to bridge the gaps between GBL theory and practice. Other implications and limitations of the study are discussed, along with suggestions for future research.

Preface

This dissertation is an original and unpublished work. I conceived of, designed and carried out the entire research program.

The research presented in this dissertation obtained the approval of the University of British Columbia Behavioural Research Ethics Board. UBC BREB Number: H12-03376

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List of Abbreviations

ELL: English Language Learners

FF: Farm Friend

GBL: Garden-based Learning

ILLP: Intergenerational Landed Learning on the Farm for the Environment Project

Acknowledgements

This thesis would have been impossible without the diversity of support that I have received. I am very grateful about being mentored by professors that lead by example and by action. First of all my advisor, Dr. Susan Gerofsky to whom am I grateful for her encouragement, patience, guidance, unfailing support, and the respect that she has always shown to me and my ideas.

Second, I am also appreciative for the wisdom, encouragement, support and valuable feedback received from my committee members, Dr. Jolie Mayer-Smith and Dr. Samson Nashon Madera. I would like to thank Dr. Jolie Mayer-Smith for the opportunity that she gave me many years ago to be part of the Intergenerational Landed Learning on the Farm for the Environment Project. My work as a research assistant in this project brought me joy, personal and professional growth, friendship, and wonderful memories-- and for that, I am grateful. I would like to express my gratitude to Dr. Samson Nashon Madera for his willingness to be a mentor, for his support and for sharing his time and ideas with me.

Third, I thank Mr. Seed and Mr. Root, who are not only knowledgeable and passionate about the ILLP and the learning opportunities that the project offers, but are fabulous teachers themselves. Without their collaboration and participation in the ILLP research, my study would not be possible. I also thank all the student alumni of the ILLP and their parents who shared their memories with me in such a generous way. Special thanks to all the Farm Friends that I had the honour to meet and work with, and with whom I enjoyed Wednesdays and Thursdays over seven years.

Fourth, I would like to thank all the professors and staff members of the Department of Curriculum & Pedagogy (EDCP) in the Faculty of Education at the University of British

Columbia for all the support that I have received during these years. Special thanks to Basia, Saroj, and Bob, for the encouragement and help received to navigate the graduate student life.

Finally, I extend a heartfelt thank you to my family, my Vancouver friends (who are now family) and my life-long friends, who have always been with me no matter how many mountains and seas they have needed to cross. Thanks for all the love, continuous support, solidarity and generosity that you have shown me throughout this process. I would not have made it without you. In closing, I owe a special thank you to my parents, who have supported me, both emotionally and financially, throughout my years of education.

Dedication

A mi familia de cuatro porque ustedes han sido la constante en estos años para poder imaginar comienzos y finales.

Chapter 1: Introduction

Since the year 2000 the interest in having food gardens on school grounds as well as garden-based programs has grown throughout the world (Desmond, Grieshop, & Subramaniam, 2004). Moreover, there has been increased interest from teachers, garden educators and researchers in garden-based learning (GBL) and other educational possibilities the garden as an outdoor classroom might offer. Noteworthy is the fact that GBL has attracted the attention of a wide range of professionals who are interested in conducting research in this new field of GBL and in turn broadened the scope beyond what is reported in GBL research literature (Williams & Dixon, 2013).

Despite the increasing practice of GBL on school grounds and GBL programs in North America, GBL research has not kept at par (Ozer, 2007; Williams & Dixon, 2013). This has resulted in there being limited information for to the public about the value and educational role of school gardens and garden-based programs and how these provide children with learning experiences that are meaningful and significant for them. Nonetheless, despite the lack of funding as well as the lack of institutional support and educative systems that prioritize indoor settings as learning and teaching spaces, food gardens on school grounds continue to flourish throughout cities and countries, making the case for GBL research to be broadened so as to deepen our understanding of children's experiences and learning in gardens.

To date most GBL research has focused on children's academic achievement and eating behaviour. Few studies have investigated the nature of children's learning in gardens and the impact of GBL experiences on children's lives. Furthermore, much of GBL research has failed to see children as social actors with social and cultural frameworks that are essential to the

construction of their identities wherever they are active. School gardens and garden-based programs are no exceptions.

The study reported in this dissertation draws upon culturally diverse urban students' and parents' memories of participation in a one-year garden-based learning program to explore students' practice-linked identities and what elements of this the GBL program supports the construction of these.

The study's focus came out of a GBL research project on which I was a Graduate Research Assistant (GRA) for seven years. My experience on this project allowed me the opportunity to immerse myself deeply in the everyday work of elementary school children, their teachers and the volunteers who participated in the project, and I had the invaluable experience of working and learning alongside this group of teachers and learners. Moreover, my review of GBL literature provided me with fertile soil from which I launched into my engagement in the process of meaningfully and significantly listening to children's voices, and creating opportunities for these voices to be heard in a field often dominated by adult agendas (Wake, 2008).

1.1 Researcher's Background

Seven years ago I started working in a one-year intergenerational garden-based learning program: The Intergenerational Landed Learning on the Farm for the Environment Project (ILLP) at the University of British Columbia (UBC) Farm (Mayer-Smith, Bartosh, & Peterat, 2009; Mayer-Smith, Peterat, & Bartosh, 2006; Mayer-Smith, & Peterat, 2015). The ILLP is an initiative of the department of Curriculum & Pedagogy, and was founded thirteen years ago by two professors: a science educator and a home economic educator, whose concern around the

environment and children's education inspired them to create a garden-based intergenerational program, in which children engage through hands-on activities and experiential learning with non-parental adults in learning about food, the environment and science.

Drawing heavily on my own experience as a learner during my elementary and high school years, when I had meaningful and significant learning experiences outside of the classroom, I felt immediately connected to the learning space provided by the ILLP. The project first caught my attention because of its distinctive features. It is situated in a space where science learning becomes “tangible”; you cannot see photosynthesis happening but you can observe and experience how plants grow “from seed to table.” The intergenerational part of the project, which renders learning as a social endeavour, is another important characteristic that resonated with me in confluence with the experiential learning in which hands-on learning was a must.

My parents, my first teachers, provided me with learning experiences that encouraged wonder and curiosity as a way of knowing. It was during my middle and high school years when my learning experiences were framed by a critical perspective on place-based education and experiential learning—from the school neighborhood in México, the country I am from, to Cuba, a country México has a relationship with—that place and experience became fundamental aspects of my learning. I studied social sciences and natural sciences during those formative years, not as two different subjects but as two bodies of knowledge that are interconnected. When working with human and non-human communities I worked *with* (not *on*), and analyzed them as a part of the whole, not as isolated entities. When working with sea turtles in the Mexican Pacific Ocean and Caribbean Sea, the research conducted by me and my classmates was not only about the sea turtles, it was also about the communities that inhabit that area and the sociopolitical and cultural issues that were involved with the animals' conservation.

These experiences shaped my entrance to college where I studied biology. One might expect that university studies would be the crowning experience of learning where a student could follow up on topics of passionate interest in a rigorous and rewarding way; but this was not the case for me. I was confronted with a different understanding of what learning and teaching sciences were. For me, learning biology and other sciences stopped being enjoyable, social, political and challenging, and became about acquiring a body of knowledge confined to the classroom and laboratory. The process of learning science became more of a memory game than a process of understanding; moreover some teachers treated science as a neutral, apolitical, and asocial activity. For students like me who were looking for science in the “real world” and professors who were interested in fighting the traditional roles, it was challenging to follow the conventional way of “doing science.” As a result of these learning and life experiences, I decided to transition to education and to focus on science (biology) education.

1.2 Researcher’s Positioning

It is important to point out that parallel to my learning process as a graduate student, I have also been learning about being an outsider (the other) and what that means for me. I have experienced Vancouver as an international student, and over the years I have learned how my otherness relates to different aspects of my life in this society.

During my years working at the ILLP I was in a privileged position—I was observer and participant. Both roles were fundamental in this study because they allowed me to research from the inside but with an outsider’s eye. Luke (2008) points out that when living in a society in which you are an observer “no matter how acculturated you become, there will be still those moments when you realize that you were not born into this setting, and you will always be a bit

tone-deaf to its nuances” (p. 156). For me one of those moments was when cooking and sharing food with the students, volunteers, teachers and ILLP staff.

It was through my weekly activities with the students in the ILLP that I became aware of my otherness, and how this positioned me as the outsider; by this I am referring to being the “other” that belongs to a different group of people, different from the group that designed the space and the one that is represented through the gardens. I am a middle-class educated woman from México City. While gardening in México is a tradition, food gardens differ from mainstream English Canada. As Li, Hodgetts, and Ho (2010) point out, “gardens are not mute, like other spaces created by people, gardens say something about people who construct and use them” (p. 787). The conversation about the implications of such “otherness” in GBL is an important part of my research and has helped me to interlace different aspects of this work.

1.2.1 More than Food

Based on the premise that “eating is an environmental act” (Mayer-Smith, Peterat, & Bartosh, 2006, p. 365) the founders of the ILLP selected food as the overarching theme for the project because it ties in with the project’s activities and goals. According to the program’s founders,

It provided a concrete focus that could be explored and developed to promote understanding of our intimate connections with the earth. Further, a food growing environmental venture would allow us to draw upon our expertise and interests in science, environment, food education, home economics, and global concerns. (Mayer-Smith, Bartosh & Peterat, 2009, p.108)

For my MA thesis, inspired by my science education background and knowledge about students' alternative conceptions and their importance in the learning process, I conducted focus groups with elementary school students who participated in the ILLP regarding their understandings of food (Urueta-Ortiz, 2009). It was during these interviews and the analysis of them that I realized that students were talking to me about food as something other than a biological necessity. Their ideas and understandings about what they liked to eat and why, what types of food they were allowed to eat, what types of food were available, etc., allowed me to learn with them that food was a complex phenomenon, linked to, and nuanced by their cultures and identities, and not a "simple" black-and-white issue. As a result of my MA study I learned that food functioned in students' lives as an *identity aid*. Food from certain restaurants was part of being with certain people and not with "others." For example, eating at a fast food restaurant was usually done with peers, not with parents. Food was also the medium that connected students to their home countries, which for some students were far away from Canada.

In this current investigation, food is again an overarching theme. Since the ILLP's activities revolve around food, and my involvement as a staff member was cooking with the students, food was a recurrent element during the conversations with all the participants of my study.

From observations, previous experience and informal conversations I observed that some of the students who participate in the ILLP did not have a connection with the food that they grew in their garden beds. For some this was the result of not having previous experience with growing edible and non-edible plants, or with natural environments. In other cases, even if students had experience growing edible plants, the edible plants that were planted in the

children's gardens or school gardens were plants that students did not consume in their (our) homes. Consequently, a lot of the edible plants that students are exposed to at the Children's Garden are new for them.

Now that food has acquired celebrity status and is showcased everywhere, from television programs to books to web-sites specializing in food topics, it is time to ask questions guided by other concerns than the familiar expression, "you are what you eat" which has been used as a synonym of eating well and eating the right foods to be healthy. Instead, we should start asking questions that involve other complexities such as where do you eat that? With whom? And why do you eat that? Asking questions that are concerned with the cultural relevance of food, as well as the meaning and significance of food for individuals and societies, can lead to learning and research that transcends the students' immediate food learning experiences helping us to elucidate the diverse meanings of food in children's lives.

1.3 Problem Statement

As a garden educator and researcher in this field, I have witnessed how research in GBL has grown and expanded in the last ten years. Even though the vast majority of school food gardens and GBL projects have emerged as well intentioned practices and with children's best interests in mind, much more attention needs to be given to children's voices and their relation to the gardens and learning experiences (Wake, 2008; Moore, 2012). Garden-based research concerned with the study of experience from the perspective of the participant is scarce. Moreover, children's social and cultural realities have been excluded from GBL research. This tendency has overshadowed children's voices in this field as adult agendas have dominated the GBL practice landscape in terms of what to plant and what to eat.

On the one hand the main issues driving the GBL movement, both in and out of school settings, are the so-called obesity crisis, lack of children's physical activity (Wells, Myers, & Henderson, 2014) and academic achievement. Research on these issues has been mostly quantitative and involved evaluating school-initiated nutrition interventions for which the garden is a tool. Generally, the interventions have focused on promoting better eating habits and behavioural changes regarding consumption of fruits and vegetables of elementary school children (Morris, Briggs, & Zidenberg-Cherr, 2000; Robinson-O'Brien, Story, & Heim, 2009). In the case of academic achievement, both practice and research of GBL has focused in using gardens as a tool or an add-on to the curriculum (Williams, & Dixon, 2013) to teach children specific school subjects such as science and mathematics (Klemmer, Waliczek, & Zajicek, 2005; Smith & Motsenbocker, 2005).

On the other hand, the alternative food movement has found in school gardens and garden programs a niche to teach what "good food" is and how to grow it. Environmental education, sustainable development and food security issues are at the core of this approach. Within this approach it is possible to find authors whose focus is not restricted to academic achievement, but on understanding the practice of GBL and recognizing the complexity of garden-based teaching and learning. For these researchers the garden is more than an add-on to the curriculum (Gaylie, 2009; Jorgenson, 2013; Thorp, 2006).

In spite of the growing popularity of the GBL movement, there is a risk of it becoming a passing trend. The persistent challenges associated with practice and research of GBL and the accountability climate in the school system that privileges learning as content that can be measured by standardized tests, are important factors that could jeopardize the permanence of GBL initiatives in the education system.

Therefore, the aim of this study is to deepen and broaden our understanding of GBL by 1) listening to the voices of ILLP student alumni and their parents regarding their experiences and 2) responding to the call in the existing GBL literature that identifies an important gap between the growing number of school gardens and research demonstrating positive outcomes, particularly the long-term benefits (Blair, 2009; Farmer, Knapp, & Benton, 2007; Mayer-Smith & Peterat, 2015; Ozer, 2007) of “garden-based learning in the lives of children to better understand its value and its impact” (Subramanian, 2002, p. 8).

1.4 Research Questions

Several scholarly ideas inform the research questions that guide this study. First, my study was guided by Nasir and Hand’s (2008) notion that : “practice-linked identities are the identities that people come to take on, construct, and embrace that are linked to participation in particular social and cultural practices and that are fundamentally related to engagement” (p. 147). Second, Esmonde, Brodie, Dookie, and Takeuchi (2009) have inspired me with the idea that “who students are influences what and how they learn together” (p. 2). Third, inspired by memory-work that supports the view that “anything a person remembers constitutes a relevant trace in his or her construction of self” (Schatz & Walker, 1995, p.41) I built upon the notion of participants’ memories as informative elements that evidence the formation of practice-linked identities. Finally, Wenger’s (1998) understanding that learning is a process of discovering where identity and learning are inextricably linked, grounds my research. Therefore, my practice, the conversations that took place over seven years with the students, teachers, colleagues and project volunteers (Farm Friends), as well as my participant-observation in the ILLP inspired this qualitative exploratory study. Thus, this

study's focus is ILLP student alumni's memories of participation in a one-year, intergenerational, GBL experience, and parents' memories of their children participation in the ILLP. The following are the research questions that have guided my investigation:

- ◆ What are the practice-linked identities that culturally diverse, urban, elementary students construct through participation in a one-year, intergenerational, garden-based learning experience?
- and
- ◆ What elements of this garden-based learning experience appear to play a role in supporting the construction of these identities?

1.5 Significance of the Study

This study contributes to the GBL field in several ways. First, it bridges the gap between the practice and theory in certain aspects of GBL. In accordance with Farmer, Knapp, and Benton (2007), “the significance of having this type of long-term data to *evaluate* the usefulness and impact of environmental education programs is paramount to understanding and achieving the goals of environmental education and the overall long-term success of its programs” (p. 41). It is important to point out that this study was not designed to be an evaluation of the ILLP; however the findings contribute to a better understanding of the project's impacts and possibilities.

Second this study contributes to the existing GBL movement, advancing knowledge by including new discourses for GBL research that can contribute to important conversations regarding what it means to be educated and where education happens (Smith, 2010).

Third, this study advances our awareness and knowledge of children and their participation in research studies as full social actors by examining children's experiences through their voices with methods that empower them to participate in research in more equitable environments.

Finally, this study hopes to inspire garden educators, teachers, students, researchers, volunteers and policy makers to contribute to education that promotes GBL experiences, as a way of understanding the natural world and our relation to it, and to promote research that inquires into GBL best practices.

1.6 Overview of the Dissertation

This dissertation is a qualitative case study (Merriam, 1998) informed by a phenomenological approach to inquiry. It is composed of six chapters. In the first chapter I introduce the investigation and the researcher. The purpose, significance and research questions of the study are addressed here.

In the second chapter I introduce and provide a description of the context in which my study is rooted: The Intergenerational Landed Learning on the Farm for the Environment Project (ILLP). Also, in this chapter I provide an explanation of my involvement in the ILLP.

The third chapter is the literature review from which the theoretical framework that underpins this study evolved. In this chapter I generate a theoretical network of discourses, which sustains and encompasses this investigation.

In Chapter Four I discuss the research methodology used in this study as well as the vision of children and childhood underpinning this study, that is, the 'new' sociology of childhood. I describe the process of inquiry and data collection methods in accordance with such

an approach. The study's participants and their schools are described here as well. Ethical considerations of the investigation are part of this chapter. The limitations of my study are discussed in the last section of this chapter.

In Chapter Five I present and discuss the findings of my study and their significance in the light of the literature consulted for this study. This chapter draws its material from individual and focus groups interviews conducted with ILLP student alumni and individual interviews with their parents.

Finally, in Chapter Six I summarize my findings, and present the implications and conclusions of my study. Suggestions for future research in GBL are also provided there.

Chapter 2: The Intergenerational Landed Learning on the Farm for the Environment Project

The Intergenerational Landed Learning on the Farm for the Environment Project (ILLP) is an initiative of the Department of Curriculum and Pedagogy in the Faculty of Education at the University of British Columbia Vancouver campus (UBC). It takes place at the Centre for the Study of Sustainable Food Systems at UBC Farm (Mayer-Smith, Bartosh, & Peterat, 2009) at the Children's Learning Garden and in school classrooms. The UBC Farm is a 24-hectare urban farm and forest system located at the south end of the UBC Vancouver Campus.



Figure 1. The University of British Columbia Farm.

When I began my MA in science education at UBC, I was invited to visit the ILLP by Dr. Jolie Mayer-Smith co-founder and principal investigator of the ILLP. I went with her to the UBC Farm, where the project was happening, and I spent a morning observing the activities at the Children's Learning Garden. Children, volunteers and teachers were laughing and working in small groups to plant and care for food crops in raised garden beds. After that morning at the ILLP I decided that it was a great space for me to explore. I started working in the ILLP as a

volunteer “Farm Friend” (FF). After one year’s experience as a FF I became part of the ILLP staff. Concurrently, I began my master’s thesis research on the project.

The ILLP is a community-based learning project that uses GBL to promote environmental stewardship by helping children care for living plants, and encouraging healthy diets and lifestyles through growing and tasting fresh food in an intergenerational and cultural exchange which furthers social development (Mayer-Smith, Bartosh, & Peterat, 2007; 2009). The overarching purpose of the ILLP “is to advance knowledge and understanding of sustainable living, learning and practice through land-food-community based environmental education programs and research. Our commitment is to improving the wellbeing of people, communities and the planet through environmental education and research” (Intergenerational Landed Learning Project, 2013).

Informed by Wenger’s (1998) theory of cognitive apprenticeship in which learning is a collective endeavor and apprenticeship takes a central role in the learning process, the founders of the ILLP, Dr. Jolie Mayer-Smith and Dr. Linda Peterat, designed this one-year, intergenerational, GBL experience in 2002 (Mayer-Smith, Bartosh, & Peterat, 2007). The project’s most distinctive element is the intergenerational component that confers a unique sense of learning and teaching—not vertically but horizontally. Side-by-side, children, Farm Friends, teachers and staff members become a community of learners through hands-on learning (Figure 2). Learning does not happen individually or instantaneously but in “social networks that collectively perform necessary tasks and cognitive work” (Nasir & Hand, 2008, p. 144).



Figure 2. Children's Learning Garden at the UBC Farm

Farm Friends (FFs) are adults who volunteer in the ILLP. Their ages range from 18 to 80 years. Their backgrounds are diverse; some are undergraduate and graduate students, usually from UBC. But many of this dedicated group are retired people from Vancouver, BC. All the volunteers share common interests—gardening and learning. While some have expertise in caring for plants, others have experience in caring for children. This combination provides a work environment in which support and sharing encompasses all the ILLP activities. The commitment of Farm Friends to the ILLP is exemplary. Some of the Farm Friends have been involved for several years in the project and have become Master Farm Friends of the ILLP.

During program days, the students work in groups of four to five students with two FFs, one young adult and one older adult. FFs facilitate children's gardening activities. They teach them the know-how of gardening by working side-by-side with the children, by doing and teaching, not only by saying.



Figure 3. Farm Friends and Children at the Garden

At the time of writing this dissertation, the Children's Learning Garden at UBC Farm consists of 28 raised beds that are divided among four Vancouver public elementary schools. Each year, approximately 100 elementary school students, four teachers and 80 volunteers participate in this year-long, intergenerational GBL project.

The elementary schools that participate in the ILLP are urban public schools located in Vancouver, British Columbia. The students are in grades three (8 years old) to seven (13 years old). The classes that take part in ILLP each year include a mosaic of culturally and socially

diverse students. Some, like me, are not Canadians; others are the first generation born in this country to immigrant families. And for many (like me), English is their second language.

In ILLP children are involved in planting, growing, harvesting, cooking and composting, activities through which they experience the edible garden in multiple ways (Mayer-Smith, Bartosh, & Peterat, 2009; Mayer-Smith, Peterat, & Bartosh, 2006; Mayer-Smith, & Peterat, 2015). To support and extend learning, ILLP designed a curriculum (Mayer-Smith & Peterat, 2010) with the four seasons in mind, written as a companion to school curriculum, and flexible enough to allow disciplinary boundaries to disappear. Consequently, learning in ILLP is not confined to one subject; the garden hosts a cross-curricular approach (Thorp, 2006) to learning by providing learners with a space that is not limited by the usual structures of the classroom, that is, time scheduling and demarcation of disciplines (Howes, Graham & Friedman, 2009).

The ILLP's program consists of 11 themed visits that take place throughout the school year. At the beginning of each school year the students are assigned by their teachers to a specific team consisting of four to five students and two FFs. The groups work together during the entire school year in a specific raised bed and around the garden (Figure 3).



Figure 4. Raised Beds at the Children's Learning Garden at UBC Farm

Before each visit to the Children's Learning Gardens at UBC Farm, students explore the seasonally-oriented theme with their teachers at school. The first visit takes place in September in early fall; students harvest what was planted in their raised beds during the summer by the children that participated in the summer camps at the UBC Farm. At the end of the fall they prepare their raised beds "to sleep" during the winter. The only visit that takes place away from the children's garden is during the winter months. During that visit, FFs and ILLP staff join students at their school to plan the gardens. With the help of the FFs children create a paper map of their garden bed that will guide them through the planting activities (see Figure 5). In the spring the students are back in the garden and the planting season begins, culminating at the beginning of the summer with an early harvest celebration.

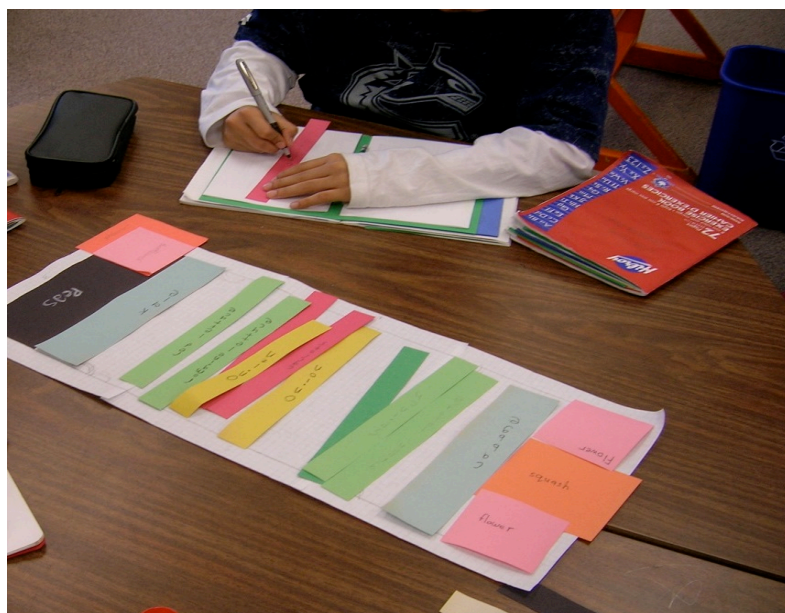


Figure 5. Garden Map

During ILLP “Farm days” the students are engaged in hands-on garden activities tailored to the visits’ themes, facilitated by the FFs and ILLP staff: a project manager, a garden coordinator and a kitchen coordinator. In addition to these garden activities, each team of children and adult volunteers is assigned a special task that varies from visit to visit. There are seven such tasks: taking photographs of the activities of the day (reporters), preparing a food dish for all the ILLP participants with ingredients harvested from their garden beds (chefs), maintaining, organizing and cleaning the greenhouse (greenhouse guardians), helping with gardening activities in the common spaces and special projects (garden guardians), cleaning, sorting and organizing tools in the shed (tool team), maintaining the health of the compost in the compost bins (compost team) and maintaining the irrigation system and, if needed, watering plants using watering cans (irrigation crew).

2.1 My Participation within the ILLP

I started this research study while working as a staff member in the day-to-day activities of the ILLP. This allowed me to be there as a garden educator and researcher; thus I was able to research my practice, and also experience the ILLP firsthand.

My participation on program involved being in charge of coordinating the cooking activities, taking photographs to document the visits, and assisting the project manager. Every child was involved at least once, during the eleven visits, in food preparation and cooking activities in UBC Farm Center's kitchen. Each program day one group of students, FFs and I prepared a dish for all the participants using ingredients planted and harvested by the students and the FFs. The dish we prepared was not a replacement for children's lunch, but an addition to it.

Cooking activities during student visits are an integral part of the ILLP; we plan, we plant, we harvest, we cook, we eat and we compost.



Figure 6. Children Cooking at UBC Farm's Kitchen

Food preparation was an activity that children enjoyed and an opportunity for me to implement my teaching and learning philosophies. I integrated time during the cooking activities

to talk about science. When baking bread, for example, we talked about yeast (fungus) and how it helped raise the bread. In response to the constant consternation of the children when following recipes—"I am bad in math, I cannot do fractions"—I used actual examples. With the help of a raspberry-rhubarb tart I explained that a fraction is part of a whole; we cut the tart up and added the fractions. Measuring quantities with transparent cups when following recipes was an activity that children enjoyed and helped them relate to math in a real-life scenario.

Children were chefs for an hour, and they were empowered to cook in a real kitchen with real tools and real consequences. They enjoyed the fact that they were trusted and taught how to handle kitchen tools like knives, blenders, the stove top and the oven. They explained that they were not usually allowed to cook at home, and if allowed by the adults to help in the kitchen their activities were simple tasks. Some FFs were surprised and nervous about the children cooking. However, after participating a few times in the cooking activities, they realized that children were able to sort out and succeed in those cooking activities. Children, in general, were excited about this activity; they counted the number of visits until they would be chefs.

It was during one of these visits while baking pumpkin pie in the UBC Farm kitchen, that one girl said, "Tathali, I am not a pumpkin person!" I asked her why she said that and her answer was that even though it was fun to harvest and cook the pumpkins, they were not part of her home food repertoire, and she did not like them. Her statement and the conversation that I had with her group of students that day was a transformative point in my own research. I started to think in a more critical way about the relationship between the food plants that we grew in the Children's Garden and cooked with and the food the students ate at home.

In the seven years that I worked in the ILLP, I struggled with students' attitudes towards food. Observing how often children composted rather than ate the food that we cooked during

that day, I started pointing out that while it was not mandatory to eat it, food should not be wasted. Then the premise of “trying a little bit and if you like it you can have more” was established. Similarly I tried another approach. I started asking children what they wanted to eat and cook during the visits. I explained to them that we had some restrictions, like no meat products (budget driven decision) and that we had limited resources. Children were happy about these opportunities to speak *about* their food interests and very enthusiastic. Immediately they started talking about and envisioning what they wanted. Among the suggestions, pizza, sushi, and ice cream were the most requested. After this I began cooking kale pizza with them, vegetarian sushi, fruit smoothies, etc. It was a successful approach as students were not only engaged in preparing food, they were also eating it.

My experiences working as a garden educator with children made me think about the long-term impact the ILLP had on children. Based on this I developed the research questions that have guided this qualitative research study:

- ◆ What are the practice-linked identities that culturally diverse, urban, elementary students construct through participation in a one-year, intergenerational, garden-based learning experience?
and
- ◆ What elements of this garden-based learning experience appear to play a role in supporting the construction of these identities?

Chapter 3: Literature Review

In this chapter I review the literature that I used to construct the conceptual and theoretical framework of my study in which I draw and build on literature from different research strands. In my study, Denzin and Lincoln's (2011) idea of "the researcher as a *bricoleur*, as a maker of quilts, or as in filmmaking, a person who assembles images into montages" is a metaphor that represents and explains well my work as a researcher and the research study itself. Their notion of the researcher as a person who assembles images has guided and informed my study in important ways in that I aim to nurture the practice and research of garden-based learning (GBL) in collaborative ways by bringing together diverse discourses and ideas. In doing this I am advancing the recognition of gardens' educational value by helping GBL advocates and practitioners understand it as a complex endeavour with many facets, and not only as an add-on to curriculum.

Williams and Dixon (2013) have pointed out that "not only is garden-based learning new, but the research is relatively new and limited" (p. 213). On the one hand, this means that there are limited resources to draw and build on, but on the other, there are possibilities for contributing to the field in meaningful ways.

In the first part of this chapter I introduce GBL with a brief history of its origins and how it has been conceptualized. In the second part of the chapter I examine the research that has been conducted in this field and that serves as a background for my study. In the third part of the chapter, I look at sociocultural approaches to science education and how these theories are relevant to GBL. In this third section I explore the literature on practice-linked identities, since this concept is central to my research.

3.1 Garden-Based Learning: Early Days

Gardens, whether on or off school grounds, have been valued by diverse stakeholders as spaces to educate children. This recognition is not new; GBL has an important history in the global education scene. Teachers and researchers “through the world to the present day, have realised the benefits of using a school garden” (Bowker & Tearle, 2007, p. 84).

Nowadays the presence of learning gardens on schools grounds in countries like the United States, Canada, and the United Kingdom, has become increasingly common; the importance of these spaces in children’s learning experiences has captured teachers’, researchers’, and parents’ attention.

The roots of the garden-based learning moment go back to eighteenth-century Europe when the presence of gardens on schools grounds countered the rationalism of the Enlightenment. Gardens were places for children to experience and manipulate nature, and spaces for contemplation (Herrington, 2004), an unpopular idea among rationalists.

The philosopher Jean-Jacques Rousseau (1712–1778) was one of first theorists in the school garden movement. He advocated a visionary form of education in which the “child's education should be carried out in a garden because this space offered a sensorial experience of the moral dance between nature (the ethereal) and property (the material), a requisite for romantic comprehension” (Herrington, 2001, p. 30). One of the main proponents of this *Rousseau* approach to garden-based education was the German pedagogue Friedrich Fröbel (1782–1852). Rousseau’s theoretical ideas influenced other European philosophers and educators as well who brought his romantic ideas to bear on school grounds.

Fröbel was the founder of the kindergarten (German for “children's garden”). He conceived this schooling for children under six years of age, to be a time of transition between

the home and elementary school. Fröbel's romantic pedagogy in which gardens were an important and fundamental part of children's learning was radical for his time. In fact, Fröbel's kindergartens were prohibited in 1851 by the Prussian monarchy, because:

His spiritual views which conflated nature with God were considered atheist by the church; his employment of women as kindergartners was considered a threat to the family structure; and the children's folk clothing and long hair was forbidden by the Prussian government. (Herrington 2001, p. 33)

Fröbel was interested in the garden as a sensorial space rather than as an instructional space. For him, gardens were important sources of spiritual, social and cognitive development (Herrington, 2001). The physical design of Fröbel's children's garden was not casual; it was influenced by his vision and philosophy. Children's garden beds were at the center of the garden space. Herrington (2001) has pointed out that "the intention was that gardening children would feel embraced by the adult world, and at the same time feel that they were separate, but also part of this world" (p. 32).

Kindergartens flourished in Germany and multiplied. They also became prominent in education systems around the world. However, in the migration of the kindergarten philosophy from Europe to North America, school gardens took a radical turn from Fröbel's romantic ideas. This was not only because of the geographic variations, but also because the historical times were different in the USA and Canada. In fact, school gardens in the USA and Canada were in stark contrast to Fröbel's physical design of children's gardens (Herrington, 2004). The garden beds at schools in the USA and Canada measured approximately fifty square metres for each class, and were often configured production-style in a uniform grid pattern (Herrington, 2004).

They had little to do with Fröbel's original garden design in which the objective was not food production.

Education in school gardens in the USA and Canada at the beginning of the twentieth century was focused on the development of skills, moral training of urban immigrants, keeping rural children on the farm, increasing civic pride, economic output, reducing juvenile delinquency, Americanizing immigrants, and encouraging an ethic of hard work and patriotism (Herrington, 2004; Trelstad, 1997; Wake, 2008).

With the change in the educational value of school gardens, a narrowing of their purpose to skill development and economic production, and the burden they created in teacher's practices, the school garden movement vanished after World War I. In Canada by the 1930s, gardens on school grounds were no longer a part of regular educational practice (Herrington, 2004; Subramaniam, 2002; Trelstad, 1997).

In the USA and Canada, the school garden movement experienced a resurgence during the 1960s and 1970s. Subramaniam (2002) points out that during those years "the birth of the environmental movement, [and] public concern for the environment led to the conception of school gardens as a progressive, interactive educational link for children to understand and connect with 'life processes' and environmental understanding" (p.3). However, the conservative political and economic atmosphere during the 1980s halted the growth of the school garden movement. It was only in the last decade of the twentieth century that the school garden movement resurged (Gaylie, 2009; Ozer, 2007; Subramaniam, 2002).

The renaissance of the school garden movement in the USA and Canada has been followed by an incremental increase in research conducted on gardens, and the publications arising from this. In the last ten years at least three literature reviews (Blake, 2009; Ozer, 2006;

Williams & Dixon, 2013) have been conducted in the field of GBL each addressing different research questions indicating that GBL research is a broad area of research. Williams and Dixon's (2013) literature review focused on the reported impacts of GBL on academic outcomes in schools. Blair (2009) inquired into "whether a school garden, without causing extensive changes to the schoolyard or integrating broader environmental fieldwork into the curriculum, provides sufficient experiential education to cause measurable and observable changes in student achievement and behaviour" (p. 16). In contrast, Ozer (2006) was not concerned with academic outcomes but on summarizing the little literature that had been produced to date on the impact of GBL on health outcomes and youth development.

GBL research continues to expand; however, the academic publications in this area are not representative of the extended practice of GBL in and beyond the school setting in places like Canada and the USA. The literature reviewed for my research study is predominately based on GBL practices in English-speaking countries: Canada, USA, UK, Australia, and New Zealand. This was not intentional. I searched for literature published in Spanish, but the search did not provide me with GBL research literature.

3.2 Garden-Based Learning

In 2004, Desmond, Grieshop, and Subramaniam wrote a report commissioned by the Food and Agriculture Organization of the United Nations (FAO) and the International Institute for Educational Planning. The authors reviewed the theoretical/conceptual background of GBL to provide insights into its role and effectiveness in education globally by looking into some significant GBL programmes in developing economies (Desmond et al., 2004). In their study, the authors provide a definition/conceptualization of GBL that expands the simple definition of GBL

as an instructional strategy that utilizes a garden as a teaching tool. The authors propose a holistic definition that includes “the powerful elements of the garden experience [and] the relationship of GBL experiences to educational reform and to the transformation of contemporary basic education from a sedentary, sterile experience to one that is more engaging of the whole child and that contributes to ecological literacy and sustainable development” (Desmond et al., 2004, p. 20).

The diversity of the settings where GBL takes place—from school gardens (K–12 and higher education) to programs in community gardens and botanical gardens—and the array of learning goals driving GBL practice are important characteristics of the GBL movement. In some settings, GBL is the curriculum itself and in other scenarios it supplements the curriculum.

GBL and its possibilities are explored by a varied group of researchers who have one thing in ‘common’; they all see in GBL the potential for children’s and adults’ engagement in meaningful and significant learning. The following section expands on the different lenses through which GBL has been researched.

3.2.1 Research on Garden-Based Learning

Research on GBL has grown rapidly in the past decade, and various conceptual frameworks characterize this literature. This reflects the diversity of practitioners participating in diverse research programs with varied understandings of what a learning garden is. Obviously this existent diversity of GBL practitioners have ramifications on what practitioners suggest to teach in the garden, how to teach, to whom, etc.

Today the garden movement is well known among the general population beyond the school setting. This has helped the school garden movement grow stronger and to maintain its

presence in the education scene. According to Williams and Dixon (2013), GBL “is at the convergence of two overlapping strands of public interest” (p. 212) in the USA. The first strand represents human health and food insecurity issues; the second one adult concerns with children’s lack of exposure to the natural world. In what follows I organize the GBL literature reviewed for this study based on Williams and Dixon’s strands. I add a third strand that is represented by only a small body of literature but nevertheless is relevant and important to the garden-based research movement.

The first strand identified by Williams and Dixon (2013) centers on human health and food insecurity issues. In this strand, nutrition education research and GBL research have resulted in a solid body of literature focusing on the use of food gardens to educate school children about food and nutrition (Morris & Zidenberg-Cherr, 2002; Morris, Neustadter, & Zidenberg-Cherr, 2001; Morris, Briggs, & Zidenberg-Cherr, 2000; Ozer, 2006). Specifically, scholars in the health disciplines have seen in the garden movement an outlet to influence children’s food consumption patterns. Nutrition educators and health professionals interested in this have designed garden-based nutrition interventions (most often based on quantitative research) to increase consumption of fruits and vegetables among school age children (Parmer, Salisbury-Glennon, Shannon, & Struempler, 2009; Robinson-O'Brien, Story, & Heim, 2009; Wells, Myers & Henderson, 2014). Though laudable, the scope of this research is limited as the majority of studies only focused on children’s dietary intake of food, neglecting the many cultural and socioeconomic variables that contribute to dietary intake, obesity and hunger (Thorp, 2006). Furthermore, children’s voices are not part of these research studies. In these research studies, the garden is a tool, an add-on to the school curriculum.

I view this as a medicalized approach to nutrition education in which food is seen as the sum of its components, meaning, carrots are seen as vitamin A and bananas as potassium, etc. However, we do not eat vitamins; we eat food that we enjoy (Urueta-Ortiz, 2009). Seeing food as a combination of vitamins, proteins, minerals, amino acids, etc., that need to be consumed to be healthy constitutes a reductionist approach to eating that disregards important factors associated with food consumption like access to food, taste, meaning, etc. It is now known that food habits in children and adults are determined by a myriad of elements. In the last few years, a group of nutrition educators have developed “critical dietetics” as an answer to the hegemonic discourse of classical nutritional science where “discourses and ... practices assume that food and thus the food-body relationship, can be standardized to a one size fits all approach ... [and] that nourishment can be reduced to and then meted out through universal metrics of calories, nutrients, and so forth and neglect cultural, social, and historical contexts in both knowledge of good food and enjoyment of it” (Guthman, 2014, p. 1). This new approach to nutrition can provide the field of nutrition education with a new lens through which to see GBL and perhaps create an ally of the garden in order to understand the complexity of children’s food worlds.

The recognition that the food system is in crisis has produced more spaces than ever before to engage in conversations about food and sustainability. These conversations have involved diverse stakeholders because of the inherent complexity of the food system. In this effort to disentangle and understand the complexities of our food systems, GBL adherents have found in food gardens an urban food security project that engages participants in experiential learning and hands-on activity that can promote understanding of and connections with the land and the food system. Particularly, food gardens have been credited as a tool to fight food

insecurity (Guthman, 2008; Withers & Burns, 2013) by teaching participants where their food comes from and teaching them skills to grow their own food.

The second strand that Williams and Dixon (2013) identified was adult concern with children's lack of exposure to the natural world. According to the authors, this strand of public awareness has been fueled in the USA by the "No Child Left Inside Coalition." Advocates of school gardens and garden-based programs (e.g., Blair, 2009; Howes, Graham, & Friedman, 2009) perceive these garden spaces "as common denominators for children to gain outdoor learning experiences on school grounds" (Williams & Dixon, 2013, p. 2). Blair (2009) argues that one of the reasons that school gardens exist is to provide an opportunity for children to encounter natural ecosystems. Other authors have pointed out that school gardens also provide children who may have limited experience with the natural world with opportunities to establish relationships with the natural world (Tippins, Neuharth-Pritchett, & Mitchell, 2015). It has also been argued that nature experiences during childhood can have an important influence on adult environmental attitudes and behaviours (Lohr & Pearson-Mims, 2005; Wells & Lekies, 2006). However, it is important to point out that school gardens are not "wild nature" spaces. Indeed they are what Wells and Lekies (2006) call "domesticated nature" spaces. They have suggested that while both environments provide children with positive nature experiences that impact their environmental attitudes, only "wild nature" experiences in childhood, such as playing in the woods, camping, hunting and hiking, have a positive relationship to adult environmental behaviours.

The third strand I propose has also helped the garden movement become more visible and valued. However, unlike Williams and Dixon's strands, this third strand is not yet one of public interest. In this third strand GBL is understood by diverse researchers, as interconnected with the

complexities of children, teachers and places and considered as a multilayered, rich educational experience. This strand adds to the complexity of the conversations in the GBL field by helping transcend the predominant view of GBL as a tool or add-on to the curriculum, and for the garden movement not to be forgotten or become obsolete. I will call this third strand “critical studies of GBL.”

Additionally, this third strand creates opportunities and spaces to engage in conversations that question the garden movement and its practices, meaning not to disqualify the enterprise but to engage in complex inquiry of its practices. In what follows I present the literature that falls into this third strand.

In the literature that I reviewed for this study, First Lady Michelle Obama is often lauded for her work encouraging physical activity and healthy eating habits and for modelling this by gardening at the White House. While her efforts have helped to validate the school garden movement in the USA, there are other important readings of her activity, which have been addressed only by a few researchers. In an interesting analysis of the Obama kitchen garden using a museological lens, Batra-Wells (2014) positioned the White House garden “as a cultural display” in her excavation of its economic and cultural implications. This study falls into the third strand that I depict below. Accordingly to Batra-Wells (2014) “the Obama kitchen garden is read as a strategic display that utilizes exhibitionary strategies in a museal tradition to organize public knowledge about healthful nutrition and ecological living” (p. 68). In her analysis, Batra-Wells proposes that the display of garden as full of fresh organic vegetables could be viewed as “counter-hegemonic to the mainstream American food scape, which is replete with processed and industrially produced foods” (p. 72), though she also points out that “the rhetoric of the display is soundly hegemonic because of its assertion of both what good food is and in its

promulgation of the garden as a pathway to food access” (p. 72). Batra-Wells (2014) further argues that the latter “relies on a paternalistic mode of pedagogy that makes visible an agenda shaped by upper and middle class food-views informed by access to education and importantly, capital” (p. 72). In short, Batra-Wells questions and destabilizes the two premises on which the Obama’s kitchen garden was built: access to usable land and agricultural resources and access to time and labor. This combination is quite specific and marginal, overlooking millions of people who do not have access to these things. I consider important to point this out because Michelle Obama’s gardening has been held up as a model of healthy living and healthy eating in an uncritical way, which may have the potential to do more harm than good for those without access to these resources.

Only in the last decade has research been conducted on GBL that uses more diverse and sharper lenses (Bowker & Tearle, 2007; Cutter-Mackenzie, 2009; Green, 2014; Jorgenson, 2011; Thorp, 2006; Wake, 2007, 2008; Williams & Brown, 2012). This qualitative research on GBL has contributed to the advancement of a more critical and holistic vision of the school garden movement and GBL.

My research study draws and builds on this third strand, in which I have found inspiration and motivation to move beyond seeing learning gardens as a tool, to understanding them in a more complete and complex way. One study that represents this third strand is the book, *The pull of the earth: Participatory ethnography in the school garden*, written by Thorp (2006). The author of this book engages in garden-based research in a way not often seen. Most research takes a hands-off approach (Gaylie, 2011). However, Thorp’s book is an excellent example of a hands-on approach to research that involved working alongside students and teachers in an elementary school garden in Michigan. Her book is a clear and eloquent narration of her

adventures in a school garden, and in it she positions herself in an honest way; she truly shares what brought her to that school garden and the questions and challenges encountered on the road. Her book invites the reader to think about the practices of garden educators and science educators.

Wake's (2007a, 2007b, 2008) research has contributed to this growing field by destabilizing the current discourses about GBL. Hers is an innovative voice in GBL literature concerned with the "geography of children's gardens" and the predominance of adult agendas in the design of such spaces and as a consequence, the marginalization of children only as users but not as co-designers. Wake points out that while such spaces are designed in the best interest of the child, adult agendas prevail. Even though gardens are intended for the enjoyment and learning of children and with the best intentions in mind, "the result is a garden designed on behalf of children that is influenced by adult expectations and politics, which determines the expression and use of it" (Wake, 2007a, 2007b, 2008). In Wake's view, "this appears to be a continuation of the historical tendency of programs to do with children, nature and gardening to ... attempt to inculcate children in some other way than is openly touted" (2008, p. 431). What she and others (Cutter-Mackenzie, 2009; Green, 2014; Lekies, Eames-Sheavly, Wong, & Ceccarini, 2006) have advocated for is the inclusion of children in the design of gardens. This, in her opinion, would "help to build ownership and elicit what children want from these outdoor learning environments" (2007a, p. 451). Wake's vision of children and childhood is informed by the new social study of childhood. The critical lens that she brings to GBL discourses has influenced me when thinking about children's participation in my research and their voices in the school garden movement, and specifically, about children's participation in the Intergenerational Landed Learning on the Farm for the Environment Project, (ILLP).

It is important to note that the design of school gardens and garden-based programs are limited by more than adult agendas; the institutions that host the garden spaces and the politics of those spaces also play an important role. For example by supporting GBL initiatives they become visible, helping the initiatives to be founded and to expand, while keeping GBL initiatives away from the public's eye limits its visibility and restricts its growth.

It is important also to emphasize that in order to have children's gardens that are constructed *with* children, and not *for* them, children must participate in an active and authentic collaborative process in which their voices are taken seriously (Fusco, 2001; Green, 2014; Wake, 2008; Whiren, 1995). Wake (2008) stresses that adults have a tendency to romanticise children's relationship with nature and the importance of their interaction with it, which is often based on adults' recollection of childhood. She argues that adult views "may be outdated compared to what children today are more familiar with. It is not certain what children are looking for in a nature connection, if indeed they are looking" (Wake, 2008, p. 451). Wake's analysis introduces a critical voice, and an important one, into the garden movement that encourages us to move forward in incorporating her ideas into GBL research.

I also situate the research conducted by Cutter-Mackenzie (2009) in this third strand. In her study she looked at how members of an Australian school garden program in a culturally diverse school with a high proportion of migrant and refugee children created and engaged in a garden space. Cutter-Mackenzie (2009) points out that students

were supported in designing and constructing their gardens, creating outdoor spaces for a community of learners. The process by which this was done for the multicultural school gardens project drew upon the children's cultural heritage. It was observed that the children's culture became a rich source of "everyday

conversation” in the garden spaces, in addition to acting as a space for improved cultural awareness and sensitivity among the students and teachers. (p. 133)

Cutter-Mackenzie concluded that her research “provides food for thought with respect to the potential for children’s gardening to transcend language and cultural differences, therein providing authentic learning opportunities that extend well beyond previous expectations” (p. 134). This study exposes the possibilities inherent in GBL when it becomes a part of the whole school experience and is adapted to the context and its participants, rather than being an add-on to the curriculum. I have not found in GBL research another good example of how GBL practice can be intertwined in a multicultural setting.

Another important finding in Cutter-Mackenzie’s (2009) study and one that echoes McKenzie’s study (2008) is that the gardens “acted as a key pedagogical opportunity for teaching English as a Second Language” (Cutter-Mackenzie, 2009, p. 133). This study strengthened the view that, either in schools or outside of them, learning gardens are multilayered environments that provide diverse pedagogical opportunities to engage students in learning. Contributions of scholars like Cutter-Mackenzie (2009), Wake (2008,2007), and Jorgenson (2013) among others, make the case to continue the conversations that build a community of GBL researchers who contribute to a stronger and more critical movement of school gardens.

3.3 Learning by Doing with Others

According to Desmond et al. (2003, 2004), the theoretical and methodological approaches to GBL vary significantly in the educational landscape. Nevertheless, they claim that “the application of the pedagogy falls under two frameworks, ‘experiential education’ and/or

‘environmental education’ that are most relevant to GBL” (2003, p. 22). In the opinion of these authors, GBL provides a context or thematic focus for those frameworks. While GBL theories are diverse and context dependent, Desmond et al. (2003) emphasised that GBL “could be informed by research in the fields of developmental and educational psychology, from theories of experiential education and intelligence as well as the impact of outdoor environments on children” (p. 215).

It is important to point out that I do not equate GBL with environmental education. In my view, learning in the garden it is not restricted to environmental learning. GBL is truly a holistic learning experience that is sometimes too quickly classified as environmental education.

What is specific about GBL practices at school grounds and garden-based programs is that they are social endeavours; since gardening is performed in company of others and through interactions and negotiation with these others, it is not an individual task. Throughout experiential learning, hands-on experiences and team work at the Children’s Garden at UBC Farm, children in the ILLP learn about the life cycle of edible plants and where food comes from, “constructing new knowledge, skills and values” (Bowker & Tearle, 2007, p. 84).

The nature of learning in the out-of-school setting of a garden has particular characteristics that distinguish it from learning in the formal setting of the classroom. In their study, Nasir and Hand (2008) pointed out three critical features of the nature of learning in out-of-school settings. The first one is the “distributed nature of problem-solving.” Learners do not solve problems by themselves. Instead “solving problems is embedded in a social network that collectively performs necessary tasks and cognitive work” (p. 144). Second, learning in out-of-school settings is often guided by participation or apprenticeship and does not happen individually or instantaneously. Third, problems are practical and applied and they arise when

learners are “seeking to solve bigger problems or reach broader goals” (p. 145). These features of learning in outdoor settings are an important part of the learning experience at the ILLP where children experience learning differently.

As mentioned previously research that has been conducted to date has focused primarily but not solely on the relationship between GBL and academic learning or on how garden-based nutrition education impacts eating habits and behaviour of children. The underpinning assumption of these research studies has been that the gardens is a tool or “add on” to be used in the teaching of the school curriculum. To transcend the previous assumption that the garden is merely a tool, I suggest that it is important to bring other research areas and lenses to GBL discourses, to contribute to an understanding of learning gardens as multilayered spaces that contribute to learning and teaching in a holistic way.

In what follows, drawing on my background in science and science education, and based in the fact that science is one of the school subjects that is usually taken into account in GBL literature, I attempt to illustrate how contemporary discourses in science education can contribute to a new view of GBL’s educational agenda and to the advancement of theorizing GBL.

3.4 Science Education and Garden-Based Learning

“At the heart of scientific inquiry is good, old-fashioned, slack-jawed wonder”
(Thorp, 2006, p. 47)

The connection between gardens and school science (particularly biology) is organic and logical. Gardens are environments teeming with life and full of opportunities to engage the learner with the wonders of nature. Knowledge acquired in the classroom “comes alive” when looking at growing plants and animals in the gardens. I see in this outdoor classroom the

possibility of reinvigorating our system of science education and like Thorp (2006), I believe that the “revival of the system will be found not by increased teacher accountability, not with more rigorous scientific curricula, but rather through our sense of wonder” (Thorp, 2006, p. 47).

Which science education discourses embrace the above vision and recognizes learning gardens as valid outdoor classrooms where the only predictable feature is its unpredictability?

I answer this question in the following section which introduces a sociocultural perspective on science education that can support GBL theory and practice. I also explain how contemporary discourses of science education, specifically those related to identity construction, might contribute to GBL theorization. In this perspective, school gardens and garden-based programs are seen as bounded, constrained and context-dependent.

3.4.1 Sociocultural Perspectives on Science Education

Current constructivist and sociocultural theories of learning are firmly connected with contemporary science education discourse. It is well accepted that social and cultural factors play an important role in the learning process and that learning is not only a psychological phenomenon. In the sociocultural view

what matters to learning and doing science is primarily the socially learned cultural traditions of what kinds of discourses and representations are useful and how to use them, far more than whatever brain mechanism may be active while we are doing so. (Lemke, 2001, p. 298)

Nevertheless, it has taken several years for social constructivism to become a mainstream stand in the science education community.

It was during the 60s and 70s that sociocultural perspectives started to develop in the social and human sciences. However, the initial hopes “in the late 1960s and 1970s for a general synthesis of cognitive and sociocultural perspectives in developmental psychology were overshadowed by cognitivist research” (Lemke, 2001, p. 297) that ignored sociocultural factors. The field of science education was greatly influenced by a turn towards a pure Cartesian mentalism in which science was believed to be apolitical, neutral, and disconnected from social institutions, their politics, and social and cultural factors. The endorsement of such principles in the science education field influenced science education by excluding sociocultural factors from practice and research agendas.

The Cartesian view of science has been challenged by research in the history of science, sociology of science, contemporary science studies and ethno science studies in cultural anthropology. In short the contribution of research in these areas has contributed to an understanding of science as a very human activity whose focus of interest and theoretical dispositions in any historical period were, and are, very much part of and not apart from the dominant culture and political issues of the day. (Lemke, 2001, p. 298)

This understanding of science greatly contributed to the intellectual origins of sociocultural approaches in science education.

An important contribution to sociocultural perspectives on science education is the neo-Vygotskian perspective in developmental psychology and anthropological theory in which education is seen as a second socialization or specialist enculturation into a subcommunity (Lemke, 2001). This development takes theory beyond Piaget’s “asocial views of autonomous cognitive development” (Lemke, 2001, p. 298) to an incorporations

of “the social and cultural origins of learners’ logical, linguistic, and semiotic resources and models—learned from more experienced social partners—and the actual role of social interaction in learning and normal development” (Lemke, 2001, p. 298). These developments have contributed to science education researchers’ renewed interest in sociocultural perspectives.

This growing interest among the science education community stems from “long-standing concerns with a nearly exclusive focus on individual thinking and learning in science education” (Bell, Lewenstein, Shouse & Feder, 2009, p. 39). As pointed out by Matthews (2002), social constructivism influenced by Vygotsky’s thought has had a privileged position among science education research agendas. It has been during the last few years that *science studies*, also known as cultural studies of science (Rouse, 2001), and the sociology of scientific knowledge (Turnbull, 2000) have contributed to contemporary sociocultural discourses in science education by emphasizing not only the sociocultural construction of scientific knowledge but its coexistence with other various and multiple local/indigenous versions of science (Carter, 2007).

Harding (1998) organizes science studies into two main schools: Post-Kuhnian and postcolonial science and technology studies. She stresses that both schools have an important feminist component, and that both developed in the decades after World War II, albeit largely independently. While Post-Kuhnian science studies “focus on the construction of Western scientific knowledge within the Western-style scientific institutions, permeated as they are by social and personal beliefs,” postcolonial science studies “focus on indigenous and localized perspectives emerging from a renewed acknowledgment of cultural diversity within the

globalizing world” (Carter, 2007, p. 168). Harding (1998) has summarized the assumption underlying these schools:

That all knowledge-traditions—even in the natural sciences—are necessarily only local ones. That is, the contents of their claims—their pictures of nature's order are necessarily and often valuably partisan for it is only because local cultures have certain values and interests that they ask the distinctive questions that they do about the parts of nature around them, and answer them in ways that make sense for their culturally distinctive kinds of projects. (p. 42)

Nowadays, the practice and research of science education has been increasingly informed by science studies. Researchers in the science education community have drawn from science studies “to critique the traditional approaches to science curricula using fragmented bodies of canonical knowledge to reiterate a conceptualization of science as universally applicable objective truth seeking” (Carter, 2007, p. 171) and have argued that “science education [should] go beyond imparting scientific conceptual knowledge and skills and advocate ... [for a] critical participation in a world dominated by science conceptualized its sociocultural and political interests” (Carter, 2007, p. 171).

Another important contribution to science education research is the recognition of cultural diversity. In this approach the need for science education to develop “culturally sensitive and sociocultural perspectives beyond the normative canonical knowledge and skills that have traditionally dominated its agenda” (Carter, 2007, p. 172) is identified.

The two perspectives discussed above, science studies and cultural studies, are relevant to a new approach to science education advocated by Carter (2007). She introduces and juxtaposes the field of *sustainability science* to science studies and cultural diversity studies, arguing for the

need of a vision in science education that is more suitable to the contemporary environmental challenges of our world. In this new scientific paradigm—sustainability science—research is focused on the complex interaction between natural and social systems, and how these interactions affect the sustainability challenge: meeting the needs of the present without compromising those of future generations (Kates et al., 2001).

Sustainability science not only extends the traditional field of environmental science by encompassing social sciences such as economics, political science, cultural studies, and anthropology (Mhango, Lanier, Glasson, & Phiri, 2010). It also expands science education to incorporate a new vision of the natural world and its phenomena, emphasizing transdisciplinary knowledge as a way to understand its complexity. In this approach, learning is seen not as the mastery of an expansive though shallow knowledge base that is irrelevant for understanding our natural world, but as learning to learn and learning critical thinking that strengthens resilience and adaptability (Chabay, 2015).

Accordingly to Chabay (2015, p. 1014), structural and curricular changes in are needed in science education, in light of a new paradigm of science that will help us move towards fulfilling the needs of society in the short and long term by preparing students to make informed decisions. Chabay (2015) proposes the following changes for science education in light of this new paradigm of sustainability science:

- Improving and expanding problem-focused, project-based learning that draws upon multiple domains of knowledge as needed for the problem at hand;
- Developing stronger collaborative and communicative skills;
- Building an understanding of the uses and processes of modeling in science;

- ✎ Incorporating greater consideration of social, ethical, and cultural aspects and implications of science and technology.

Carter's (2007) and Chabay's (2015) visions of a *new* science education are relevant to GBL discourses because they provide a conceptual framework to inquiry that could bring deeper and broader understanding to the field of GBL.

On the one hand GBL could serve as an ally that bridges sustainability science and science education by helping to improve and expand problem-focused, project-based learning and develop stronger collaborative and communicative skills, among other areas where GBL is relevant to the transition toward this new paradigm. On the other hand, a new science education paradigm could help scholars move beyond the “add-on” vision to the curriculum of GBL to an understanding of GBL as a complex, multilayered, context-dependant, sociocultural activity.

Research that focuses on GBL as a tool to teach and learn has not taken into account that school gardens and garden programs are embedded in social and cultural assumptions. In other words, “like other spaces created by people; gardens say something about the people who construct and use them” (Li, Hodgets, & Ho, 2010, p. 787). Furthermore, school gardens, garden programs and community gardens tend to privilege the worldview, discourses, and practices of the dominant culture, thus marginalizing people from nondominant cultural groups because they may see these spaces as being owned and operated by a cultural group that is not their own (DuPuis & Goodman, 2005; Rennie, Feher, Dierking, & Falk, 2003).

In order to maximize students' experience and learning in both the short and the long term, GBL advocates and practitioners need to look closely at sociocultural theories of learning,

and consider the social and cultural contexts in which gardens are embedded, as well as students' social and cultural realities.

3.4.2 Identity and Science Education

“Learning forms identities and identities shape learning”
(Coll & Falsafi, 2010)

In this section, I consider the notion of *identity*, how identity has been theorized in educational research and specifically in science education discourses, and why this is relevant for GBL research.

There is a growing recognition among education stakeholders “that identity formation must become an important focus in education” (Kaplan & Flum, 2012). Although identity is a key term in the social sciences the variety of nuanced meanings has contributed to the ambiguity of the concept (Flum & Kaplan, 2012). Rattansi and Phoenix (2005) have pointed out, “everyone it seems is talking about identities, but it is not at all clear that they are talking about the same thing” (p. 98). Coll and Falsafi (2010) explain that there is an interdisciplinary consensus regarding the importance of studying identity and in some basic theoretical assumptions like understanding identity as dynamic and fluid. However, arriving at a common language to conceptualize identity is difficult and not necessarily desirable to construct a rigid definition of identity.

Coll and Falsafi (2010) identify two research branches that have examined formal and informal educational contexts through the identity lens (Gee, 2000). These branches rely on the understanding that identity is a concept at the core of educational processes and that it is developed in the space between the individual and the social context (Flum & Kaplan, 2012).

The first area of research has focussed on the construction of social identities in educational contexts; specifically this body of educational research has concentrated in the construction of identities of minority groups in response to migration processes in which more attention has been paid to social identities such as gender and ethnicity (Coll & Falsafi, 2010). The second area of research described by Coll and Falsafi (2010) is broader in scope. This body of research has focussed on exploring educational identities, i.e. the ways in which students identify with the social and cultural practices in the educational contexts, in both formal and informal education. My study fits in this second area of identity research, because it centres on students' identity construction through practice.

Identity as an analytical lens is important in the exploration of education because cultural practices and skills that children learn, in and out of school, not only have an impact on what they learn and do but also fundamentally implicate who children are (Perkins, 2007). The theorization of identity in the social sciences has been an important development in the last 20 years (Coll & Falsafi, 2010; Flum & Kaplan, 2012; Gee, 2000; Hall, 1996). Roth and Tobin (2007) point out that “identity during the last decade has increasingly becoming one of the core issues in the study of knowing and learning generally and knowing and learning in science specifically,” (p. 1) although this growth does not ensure clarity or agreement among social science researchers about the meaning of the concept of identity (Coll & Falsafi, 2010).

There are important disciplinary differences in the theorization of identity. A dichotomy exists and remains largely distinct in the literature (Nasir & Hand, 2008). According to Tobin and Roth (2007), “most educational research uses either of two approaches: The psychological or the sociological approach” (p. 149).

The *psychological approach* refers to a body of knowledge and literature that has been heavily influenced by psychoanalyst, Erick Erickson (1902–1994) whose “work is regarded as highly instrumental to the effective introduction of ‘identity’ as a core concept in the social sciences” (Flum & Kaplan, 2012, p. 240). He is considered one of the classic theorists of identity theory (Schwartz, 2001). In his theory of psychosocial development, Erickson was interested in how children’s socialization affected their sense of self. As a product of his times, he was “committed to both humanistic ideals and his belief in the integrity of the individual personality” (Schachter, 2005, p. 138). As such, he theorized identity as “having integrity and continuity and as important in keeping the internal and external worlds aligned to each other” emphasizing “the ego identity construct consist[ing] of a series of age related stages, with identity being the main task of adolescence” (Rattansi & Phoenix, 2005, p. 101).

According to Penuel and Wertsch (1995) and Schachter (2005), the development of Erickson's ideas has resulted in an overemphasis on the individualistic-developmental aspects of Erikson’s theory, and one of the major contributions of Erikson's work to psychology, “that the social, cultural, and environmental are deeply embedded in the essence and core of personality” (Schachter 2005, p. 137), has been forgotten. In Erickson’s view

identity encompasses individual and social meaning and it is considered in terms of the interplay between individual and society. The emphasis, or what pole is given primacy, may change with the perspective, but the essence of identity denotes the personal as well as the communal. (Flum & Kaplan, 2012, p. 240)

Roth and Tobin (2007) have pointed out that the problematic nature of identity arises from the fact that identity can be understood on the one hand as being the core identity of

someone, and on the other hand the experience of the different ways in which we relate to others in the varying contexts of everyday life.

Erickson's notion of identities as coherent and stable is increasingly being called into question within the growing field of identity development (Rattansi & Phoenix, 2005), and Schachter (2005) has argued that "Erickson's theory is more and more considered to be irrelevant to current social conditions" (p. 138). In contrast, other authors (Flum & Kaplan, 2012; Kaplan & Flum, 2012) have argued that Erickson's seminal work is comprehensive and maintains its relevance to the needs of our time, emphasizing that Erickson's perspective on identity formation is valid, compatible, complement and converge with other perspectives (Gee, 2000; Penuel & Wertsch, 1995; Wenger, 1998). Flum and Kaplan (2012), point out that this convergence of perspectives is essential to gain a better insight into complex phenomena.

The other approach to identity construction that has been used in education and science education is the *sociological approach* in which identity has been theorized as largely influenced by the recognition that identities develops in relation to key social circumstances, social roles, cultural institutions, social structure and everyday interactions with others (Nasir & Cooks, 2009). Roth and Tobin (2007) have emphasized that identities change, from one setting to the next, by means of our transactions with others, reminding us that it is a fluid transaction. In this approach, identity is not an affair of the mind alone; it is a social and cultural construct that shifts depending on where the individual is and is revealed in our interactions with others.

Identity construct has been receiving increasingly more attention in science education literature (Varelas, 2012). Within the field of science education identity has been conceptualized in different ways. In a literature review conducted by Pozzer and Jackson (2015), in which they analyzed ninety-one papers published in science education journals in the period between the

years of 2000-2009, they find that the most common conceptualization of identity used is a “highly dynamic perspective in which identity was said to be in constant flux, contextually situated, constructed only within interactions, and /or continually under negotiation” (p.216). The findings of Pozzer and Jackson (2015) revealed that while none of the literature conceptualized identity within a static perspective, many studies frame identity as being

relatively slow to change, framing identity as cumulative, or layered characteristic of a person that develops, forms of shifts over time due to a string of events and interactions. Such a perspective allowed for identities to be carried with a person across situations. (p.216)

Additionally, Pozzer and Jackson (2015) indicate that of the ninety-one papers, forty-six papers were focused on student identity and almost three-quarters of these student centered articles “addressed issues of equity, focusing on either racial/ethnic or gender differences” (p.215). This finding corroborates Coll and Falsafi’s (2010) argument that in educational research, social identities such as gender and ethnicity have been given more attention than exploring educational identities.

Taking a different tack, Shanahan (2009) explores and reviews how the concept of identity has been conceptualised and studied within science education. She notes that “who we think we must be to engage in science” (Calabrese-Barton, 1998, p. 379), is the form in which the science education community has understood and used the notion of identity. She points out that most studies of identity have recognised that identities do not exist as isolated constructs in the minds of individuals. Identities are co-constructions, inextricable from both the individuals and their surroundings and relationships. Students do not and cannot

construct identity at will and out of nowhere. They are constrained and guided by the possible identities available in the social situation. (Shanahan, 2009, p. 44)

Shanahan (2009) uses the “Personality and Social Structure Perspective to examine the attention paid by researchers to three levels of identity analysis: personality, interaction and social structure an identity conceptualization” (p. 43). Her findings highlight that most authors have focused their attention on aspects of identity related to individual agency to the exclusion of issues of social structure, and she argues that this attention is related to the perspectives and assumptions associated with communities of practice (Lave & Wenger, 1991; Wenger, 1998), a theoretical framework that in her opinion has dominated and heavily influenced the perspectives and assumptions of identity studies in science education. Shanahan (2009) argues for the need to analyze identity at both the individual and the social level since individuals are constrained and guided by the possible identities in the social situation. In her view, attending to the influence of structure and the way it is created in different learning settings is important. Based on Brickhouse (as cited in Shanahan 2009, p.44) she explains this with an example of under-represented students in science by pointing out that the question is not what is wrong with girls or others students. The questions we should be asking is what is wrong with science and how can that can be changed.

3.4.2.1 Identity and Learning: Practice-Linked Identities

In this research study I approach the notion of identity using the theoretical lens of sociocultural theories of learning. Although, Vygotsky did not talk about identity development, he provided us with conceptual and methodological tools for understanding how sociocultural processes shape individual identity formation (Penuel & Wertsch, 1995). Lev Vygotsky’s social

theory of human learning is one of the theoretical underpinnings of my work, in which learning is seen as a product of interaction between individuals in which “learners first participate socially or intermentally in the use of cultural tools and practices and then individually or intramentally appropriate the tools” (Polman, 2010 p.132), This framework provides support to understand the way sociocultural processes are central and significant in identity construction and learning.

Particularly I draw from Nasir and Hand’s (2008) construct of practice-linked identities, by which they mean “the sense that there is a connection between self and the activity. More specifically, practice-linked identities are the identities that people come to take on, construct, and embrace that are linked to participation in particular social and cultural practices” (p. 147). In practice-linked identities, construction the participation in social and cultural practices, in this case in the ILLP, “extends beyond learning (though learning is certainly critical) to the very definition of who one is and who one is in the process of becoming through participation” (Nasir & Hand, 2008, p. 176). Similarly, Coll and Falsafi (2010) have argued that

participation enables a sense of recognition as someone or something to a higher or lower degree. Individuals are considered and consider themselves as belonging to contexts to a different extent depending on how they are recognized in them. (p. 213)

Practice-linked identities are shaped by the nature of engagement with a practice and the others participating. The nature of engagement that is afforded and constrained within the features of the practice supports the construction of practice-linked identities differently among participants. Engagement as a sense of belonging is an important element of practice-linked identities. Nasir and Hand (2008) have pointed out that engagement has to do “with students’ feelings of competence and mastery in a social context, as well as their sense that the context will offer relationships that support and value their unique selves” (p. 145). Additionally, research on

engagement has shown that when an individual feels that his or her identity is linked to a particular setting, he or she is more engaged and learns more (Nasir & Hand, 2008; Skinner & Chi, 2011). Likewise, in Nasir and Hand's (2008) construct of practice-linked identities "the self, others, and socially organized practices all play a part in shaping" them. Therefore, identities are both, enduring and shifting with each new context and experience" (Nasir & Hand, 2008, p. 21).

While the strength of the sociocultural approach is to consider identity as a practice-activity-constantly constructed and reconstructed in interaction, one of its weakness in opinion of Esmonde et al. (2009), is the lack of attention that has been paid to consider the ways social identities (race, gender, socioeconomic status) "interact and inform the construction of practice-based identities" (p. 21). They argue that social identities are important and should be taken into account when inquiring into identity development since "who students are influences what and how they learn together" (Esmonde et al., 2009, p.19).

While there are many areas to explore within GBL and identity construction, the one I focus on in this study draws on Nasir and Hand's (2008) question: "What is it about some out-of-school learning settings that make them positive environments for the development of identities that support learning?" (p. 146). Locating their question in a specific out-of-school setting—the ILLP—and in a specific cultural practice—GBL—allows me, through conversations with student alumni of the ILLP and their parents, to inquire whether the ILLP is an environment that supports the construction of practice-linked identities and inquiring into the nature of those identities.

It should be noted that most research studies on identity development in science education have been conducted within the classroom setting (Shanahan, 2009). My research study, however, focuses on a program that happens mostly in an out-of-school setting. Until

recent years, there were few studies that focused on learning science outside of school or in conjunction with schooling that use identity as an analytical tool to understand learning. More recently that trend has been changing, and studies of science in the making in settings other than schools are becoming popular (Rahm, 2010). Their relevance to contemporary discourses of science learning and teaching has now been acknowledged in educational agendas. Based on Rahm's (2007) notion that learning in out-of-school settings offer new identity opportunities for students, dissimilar to those available in the classroom, Shanahan (2009) has called for further inquiry into how identity in these settings is seen not only in terms of agency but also in terms of structure. Nevertheless, with this recognition has come the idea that these out-of-school programs are a "potential quick fix to an ever increasing problem of science illiteracy in North America" (Rahm, 2010, p. 1). In spite of these types of claims, the attention that out-of-school settings have received from science education researchers has made it a vibrant area of inquiry about identity formation, learning and teaching science.

While the field of GBL research is growing, more research is needed to understand the importance of gardens as teaching and learning venues, and to shift attention away from learning gardens as tools to embracing their full potential.

In my study I use a sociocultural approach to identity construction to explore and understand children's practice-linked identity construction in the ILLP. In doing this I highlight the importance of using identity as a lens in educational practice, research and theory. Identity is at the core of educational processes, "hence the process of identity formation and academic learning intersect and complement each other" (Flum & Kaplan, 2012, p. 244). Using identity as a lens to investigate GBL could help to strength the GBL movement and to validate learning gardens as academic venues in which children re/construct their identities.

In conclusion, I acknowledge here how I use identity as a theoretical and methodological lens. My view falls within a “negotiation approach” to identity (Pozzer & Jackson, 2015) which focuses on identity construction during interactions in contrast to a “possession approach” which focuses on a stable version of self “core identity”. In the possession approach, “there is little space for the impact of others in one’s identities, as even which identity is emphasized at any given moment is conceived as individual’s choice” (Pozzer & Jackson, 2015, p. 223).

Conceptualizing identity as negotiated requires a focus on the social aspects of interactions and participation. In this approach to identity, identity cannot be fixated or stabilized (i.e. ecological identity) – it is always unstable and always constructed and negotiated in interaction (Pozzer & Jackson, 2015). Pozzer and Jackson (2015) point out that what we bring with us into interactions and that we also carry around are *dispositions*. The authors distinguish dispositions from one’s identity by explaining that dispositions may be used for defining aspects of selfhood, which display membership in particular groups and associations to establish social roles but which are distinct constructs from identity.

Thus, a negotiation approach is appropriate to investigate identity construction through participation in a one-year, intergenerational, garden-based learning experience. Consequently, the qualitative methodology and data collection methods I selected are consistent with this negotiated approach to identity.

Finally, Pozzer and Jackson (2015), in their effort to conceptualize identity in science education, have pointed out that the use of the terms identity development and identity formation “could portray identity as a personal characteristic that is shaped over time in a cumulative process rather than being re/constructed in interaction” (p. 223). That is to say, these terms underscore a possession approach to understanding identity. In my study these terms are used

when citing others words, and occasionally in my words, however the use of this terms are not aligned with what entails a possession approach. I have chosen to use the term construction to emphasize that identities are re/constructed in interactions.

Chapter 4: Methodology and Methods

In this chapter I address the methodological considerations of my study. First, I present and justify the qualitative inquiry that guided my research and that frames my approach to exploring the research questions of this study: What are the practice-linked identities that culturally diverse, urban, elementary students construct through participation in a one-year, intergenerational, garden-based learning experience? And what elements of this garden-based learning experience appear to play a role in supporting the construction of these identities?

The second part of this chapter introduces “the new sociology of childhood,” the perspective on childhood and children that underpins this study. In the third part of this chapter, I outline in detail my research design: how this study was carried out, with whom and where this study took place. I also explain the methods I used for data collection and data analysis. Finally, I discuss the ethical considerations of my study.

4.1 Research Methodology

This section addresses the research methodology I employed in this study. I draw from Guba and Lincoln (1998) the notion that ontology and epistemology influence methodology, and from Thorp’s (2006) argument, extending Guba and Lincoln’s ideas that the methodologies researchers employ are an extension of their world views.

This dissertation is a qualitative case study that employs research methods such as individual interviews and focus groups with ILLP student alumni, individual interviews with parents of ILLP student alumni, photographs as ice breaker activity, research memos and field notes and my participant observations of the ILLP, to understand students’ experiences through their recollections of their participation in the ILLP. Additionally, I draw from “the philosophy

of phenomenology in its emphasis on experience and interpretation” (Merriam, 1998, p.15). The phenomenological branch that influences this study is “hermeneutic phenomenology or interpretive-descriptive phenomenology” (Van Manen, 2014, p.26). Consistent with this approach, the findings of my study are not only descriptive of how the experience (phenomenon) is perceived by participants; they are also an interpretation by the researcher of the meaning of the lived experiences (Merriam, 1998). Interpretative phenomenology recognizes that human consciousness is a construction of lived experiences in which meaning is created as individuals construct their worldview with their existing knowledge resulting from previous experiences. Also, phenomenology requires bracketing of the researcher in order to identify personal experiences with the phenomenon and “to partly set them aside so that the researcher can focus on the experiences of the participants in the study” (Merriam, 1998, p. 78). This as Merriam (1998) points out is an ideal since interpreting the data always incorporates the researcher’s assumptions on the topic.

Furthermore, Thorp’s (2006) methodological approach “of letting go, getting lost, and finding my way” (p.117), guided my research methodology. Basically, Thorp calls for researchers to pay close attention to the phenomenon, to observe, to be present and equally important “resist that pressing urge to make sense of it all, to impose your questions, categories, and order too soon” (p. 117). Thorp argues that “constructivist/phenomenological methodologies require a certain spaciousness of thinking that allows for things to emerge on their own terms” (p. 117). While this process is an imperative part of conducting qualitative research, a novice researcher must learn this in the field, as little has been written about this process and what is involved in the uncertainty of conducting research in a non-linear way. In this sense Luker,

(2008) and Thorp's (2006) texts offered me with a space to embrace uncertainty and what it may offer, and not to dwell on worries about uncertainty.

Equally important in my work is Denzin and Lincoln's (2008) notion of the qualitative researcher as a person for whom research is an interactive "process shaped by one's personal history, biography, gender, social class, race and ethnicity and those of the participants" (p.6). Denzin and Lincoln's idea influences my study, because of its emphasis on the researcher as the primary instrument of the research, thus recognizing that the instrument is limited by being human "that is, mistakes are made, opportunities are missed, personal biases interfere" (Merriam, 1998, p. 20). Additionally, Denzin and Lincoln's (2008) and Thorp's (2006) notions of research as a process that is not linear or guided by recipes describe how I engage in the making meaning of the phenomenon studied here.

Stake (2005) points out that case study "is not a methodological choice but a choice of what is to be studied" (p.443). According to Merriam (1998), "the single most defining characteristic of case study research lies in delimiting the object of study, the case." Hence, the case is "... a single entity, a unit around which there are boundaries" (p.27). In my study the case, the bounded system, is *particularistic* in the sense that I focus on a particular event bounded by time —seven years—and space, the ILLP. The case has *subunits* which are the ILLP's student alumni. It is *descriptive* because "the end product is a rich 'thick' description of the phenomenon under study" and it is *heuristic* in the sense that aims "to illuminate the reader's understandings of the phenomenon" (p.30): students' practice-linked identities construction through participation in a one-year garden-based program.

I adopted a case study research strategy in my study for a number of reasons. First, the use of case study as a research strategy was coherent with the qualitative nature of my research.

In qualitative research, a single case is chosen because researchers are interested in insight, discovery, and interpretation to understand the particular in depth, not to find out what is generally true of the many or to test hypotheses. In this sense case study as a research strategy is not concerned with generalization (external validity) of the *end product*. Instead external and internal validity and reliability in my study are guided by Merriam (1998) who states that

Internal validity is addressed by using triangulation, checking interpretations with individuals interviewed or observed, staying on site over a period of time, asking peers to comment in emerging findings, involving participants in all phases of the research, and clarifying research biases and assumptions.(p.218)

Furthermore, Merriam (1998) points out that reliability of the study is enhanced when an audit trail is left by the researcher. In the trail, the researcher explains what and how the study proceeded and the details about the theory underlying the study and assumptions. Merriam (1998) suggests that external validity or generalization, one of the most contested ideas in qualitative research, has been seen in qualitative research in terms of traditional research. She argues that usually when external validity is sought by qualitative researchers they take two approaches. In the first approach, researchers imply that because you cannot generalize from a case study then, this is one of the short falls of this type of research methodology. The second approach that researchers have taken is based on sampling techniques. Researchers turn to standard sampling procedures to strengthen external validity that allows them to generalize their findings. In my study, I do not follow either of these two approaches because the aim of my study is not the generalization of the results. While some of my findings could be extrapolated to similar garden-based learning experiences, the particular experience I study is rooted in the participants and the place where it took place.

Consequently the external validity of my study is informed by Merriam's (1998) view of external validity of the reader or user generalizability that "involves leaving the extent to which a study's findings apply to other situations up to the people in those situations" (p. 211).

Second, case study research strategy does not claim any particular method for data collection (Brown, 2008; Merriam, 1998). This is important because it allows the researcher to construct the research design with the phenomenon in mind. In my study the methods I used for data collection and data analysis were interviews, transcripts, and photographs. These methods were appropriate to my inquiry because of the qualitative nature of my study. I was interested in listening and understanding the participants' memories about their experience at the ILLP. During the field work, I used photographs to build rapport with the participants and to elicit their memories of their past experience at the ILLP. The process of conducting the interviews and the exercise of transcribing them provided me with data to analyse, interpret and describe the participants' experiences.

Finally, because there are few studies about the long-term impact of GBL experiences on children, this dissertation takes the approach of an exploratory case study that is intrinsic and instrumental. Stake, (2005) explains that an intrinsic case study is undertaken because "first and last, one wants better understanding of a particular case. It is not undertaken primarily because the case represents other cases". While an instrumental case study "is undertaken to provide insight into an issue or to redraw a generalization" (Stake, 2005, p.445). Stake notes that "there is no hard-and-fast line distinguishing intrinsic case study from instrumental, but rather a zone of combined purpose" (p. 445). Accordingly with Stake's identification of case study, the case study I undertook is intrinsic because I am interested in better understanding of this particular case the ILLP, and it is instrumental because the case represents other cases, illustrates GBL

practices, and contributes to our understanding of GBL in school gardens and in garden-based programs. My research study is also exploratory because I did not have a hypothesis prior to the processes of data synthesis and analysis. My findings emerge through these processes (Williams & Dixon, 2013).

4.2 The ‘New’ Social Study of Childhood

The main actors of this study are the children who participated in The Intergenerational Landed Learning on the Farm for the Environment Project (ILLP), a one-year garden-based learning program (Mayer-Smith, Bartosh, & Peterat, 2009). Given that children’s voices were the focal point of my research, I consider it important to describe the perspective that I draw on for my understanding of children and childhood. I position my research study within the new social study of childhood, and provide the framework for the methods and design of my study.

In the same way that identity has been explored in the disciplines, of sociology, anthropology and psychology, among others, so too have childhood and children. This has produced multiple and diverse conceptualizations of childhood and children which have framed the assumptions of researchers when conducting research with and on children. As Farrell (2005) points out, “our understandings of research with children and indeed, of ethics in research with children, are embedded within our understandings of children and childhood” (p. 5).

The social study of childhood has been defined by Wells (2009) as “a catch-all term for research from different disciplines (interdisciplinary) in the social sciences and humanities that has put children and childhood at the center of its concerns” (p. 4). This new field is characterized by the assumption that children are active participants in society and not passive subjects of the social process (children’s social agency), that childhood is a socially constructed

phenomenon bounded by time and place and that the category “child” is not universal (Holloway & Valentine, 2004; Prout, 2011; Valentine, 1997; Wells, 2009).

The ‘new’ social study of childhood has been important in challenging tacit assumptions about children and childhood, advancing our understanding of how childhood is shaped by cultural and social practices and processes (Wells, 2009). It is important to remember that the evolution of “the sociology of childhood (Jenks, 1982), to the sociological study of childhood (James & Prout, 1990), to the new social studies of childhood (James et al., 1988) ... reflect[s] an explicit recognition of the growing cross-fertilisation of ideas between researchers in a variety of social science disciplines” (Holloway & Valentine, 2004, p. 5).

Nowadays there is a tendency to see children as passive, at risk and naïve. This tendency has been influenced by at least three factors: research in which children have been objects of study without their voice being heard (Hirshfeld-Becker et al., 2007), adult fear and concern for children’s safety and wellbeing, and the notion that children’s stages of cognitive development are a sequence in which “children’s behavior progressively evolves from simplicity to complexity”(Valentine, 1997), that has predominated the developmental paradigm in the field of education (Valentine, 1997).

According to Benzaquén (2004), there are two dominant perspectives on childhood that have been extensively used in the academic world. The first one is the developmental perspective (Piaget) in which children transition from one stage to another, and in each stage children have needs that “must be appropriately met to avoid undesirable effects” (p. 15). The sciences of childhood are grounded in this perspective. The other perspective is a psychoanalytic one: children are seen as immature adults and childhood explains adults’ origins. In the opinion of Jenks (2005) there is a hegemony of sorts in the social sciences: “social sciences have handled

childhood either through theories of socialization or through developmental psychology both of which have led to children being considered as a natural rather than social phenomenon” (p. i).

The ‘new’ sociology of childhood, developed during the 1980s and 1990s, drew on four main existing theoretical frameworks (Prout, 2011). First, interactionist sociology “problematized the concept of socialization as rendering children too passive, placing an emphasis on children as active agents in the creation of meaning through their interactions with adults and other children” (Prout, 2011, p. 4). Second, structural sociology presented childhood as a permanent feature of social structure, alongside other structures such as class and gender. Third, feminism positioned children as a minority group oppressed by adults. Finally, social constructionism “swept through the social sciences, problematizing and destabilizing taken-for-granted concepts, including childhood, and subjecting them to a relativist and culturalist gaze” (Prout, 2011, p. 4).

The ‘new’ sociology of childhood contributes to our understanding of children beyond socialization and developmental theories. The consequences of this theoretical framework can be seen in different areas when studying children and childhood. Specifically, in conducting research with children “one of the aims of this movement is to develop mechanisms promoting children-centred research, creating an opportunity for children, in their own voices, to discuss their experiences of their lives” (Barker & Weller, 2003, p. 222).

One of the aims of my research study is to move away from the older perspectives on childhood and children, and in so doing, move closer to the ‘new’ sociological study of childhood (Farrell, 2005; Green & Hill, 2005; Prout, 2011; Wells, 2009). There are two implications of this position for my research. First, because children are social actors participating in socially constructed entities and/or institutions, their opinions should be sought

on issues that concern them and then implemented (Prout, 2011). Second, “giving voice to children is not simply or only about letting children speak; it is about exploring the unique contribution to our understanding of and theorizing about the social world that children’s perspectives can provide” (James, 2007, p. 262) to educational initiatives. In short, their voices should be sought out, listened to and their opinions implemented. As Lundy (2007) has pointed out, “there is a need for a greater awareness of the fact that respecting children’s views is not just a model of good pedagogical practice (or policy making) but a legally binding obligation” that is codified in the Convention of the Rights of the Child (p. 930).

In the field of GBL, dominated as it is by adult agendas, even if adults have the best interests of the child in mind (Wake, 2007a, 2007b, 2008), children’s perspectives in different aspects of the learning experience are a much needed source if the field is to be expanded.

4.3 Qualitative Research Methods

The qualitative research methods that I used in my study included individual interviews and focus groups with alumni (former students) of the ILLP, individual interviews with parents of ILLP student alumni, photographs as ice breaker activity, research memos and field notes and my participant observations of the ILLP. It is “through these materials [that] researchers turn the world into a series of representations...to secure an in-depth understanding of the phenomenon in question” (p. 3). Through the representations that emerged from the data I deepened my knowledge and understanding of the experiences of the participants of my study helping me to answer my research questions:

- ◆ What are the practice-linked identities that culturally diverse, urban, elementary students construct through participation in a one-year, intergenerational, garden-based learning experience?

And

- ◆ What elements of this garden-based learning experience appear to play a role in supporting the construction of these identities?

4.3.1 Children's Interviews

Interviews as a method of inquiry have been used by qualitative researchers from diverse disciplines and the employment of interviews as an inquiry tool is commonly justified as a method that allows researchers to understand and explore the worldviews of others in depth. Even though interviews are a valuable and important means of inquiry because of the rich data that they make available to the qualitative researcher, there is another side of interviewing that has received less attention from researchers. Fine and Sandstrom (1988) have articulated this: “like the white researcher in a black society, the colonial researcher in an indigenous population or the ethnologist observing a distant tribal culture, the adult researcher interviewing children cannot pass unnoticed” (p. 13). Their assertion resonates with my previous experience conducting interviews with children. At those times I was conducting interviews that looked more like clinical interviews than conversations, in the sense that, consciously or unconsciously, the presence of the researcher was nullified or not questioned at all, and assumptions about children and childhood were never talked about in the process of designing the interviews.

My work as a research assistant designing and conducting interviews encouraged me to consider the methods that we use to conduct research with children. The immediate result of my consideration was to acknowledge that it is impossible to nullify the presence of the researcher—

her assumptions, ideas, voice, worldviews, etc. Instead, we need to incorporate it into our conversations when conducting and writing about our research. We need to bring it to the table to frame and position our work. In doing this, we as researchers with explicit research agendas can navigate the process of interviewing and acknowledge for example the power relations that any interviewing entails. This positioning with regards to what entails conducting interviews with children informs my study in meaningful ways, not only in the theoretical part of it but also when conducting the interviews. I was attentive when conducting the interviews to being in the conversation as a facilitator; I tried to pay attention to the dynamics of the interview and, to follow the natural course of the dialogue. Consequently, self-reflection about my role as an interviewer was present during and after the interviews. In the opinion of Habashi (2005), this is important because of its implications “on restricting children voices, especially when their views challenge our status quo” (p.34). Self-reflection provides to the researcher an opportunity to communicate children’s views even if they challenge our scholarship (Habashi, 2005).

Interviewing has been a technique used by teachers and educative researchers as a way to understand children’s conceptions, experiences and beliefs; their words provide a door into their worlds. However, as mentioned earlier, interviews need to be examined from a different perspective than they have been traditionally.

Something that caught my attention during my years as an education graduate student is that even though researchers in education inquire into children’s experiences through their voices, little attention is paid in methodology text books as to what entails conducting interviews with children. It is assumed that interviewing children is similar to interviewing adults. Moreover, there is little consideration about how the continuing changes in the societies children live in impact the notions about children and childhood that underpin research. This needs to be

addressed in the research methods that we use because it challenges the tacit developmental conceptualizations of children and childhood that have guided much of the research with/on children.

In this investigation the research methods used were constructed with the participants in mind, meaning that my research was guided by my understanding that participants were active participants, not merely research subjects, as well as the recognition of children as the informants of their own lives. I used unstructured interviews to conduct both the focus groups and individual interviews. This approach was “developed in the disciplines of anthropology and sociology as a method to elicit people’s social realities” (Zhang & Wildemuth, 2009). In the literature, the designation “unstructured interview” is used interchangeably with the terms “informal conversational interview, in-depth interview, no standardized interview, and ethnographic interview” (Zhang & Wildemuth, 2006, p. 1).

The implications of using an unstructured approach to interviews does not mean being unfocused or without a plan; it means that, unlike structured interviews in which the strict plan of the interview guide is followed, the unstructured interview follows a conversation thread about a specific experience shared by the researcher and the participants. In order to have “conversational boundaries,” I used a set of guiding questions or prompts, an “aide mémoire” (Zhang & Wildemuth, 2006, p. 2), during the interviews.

The interviews conducted in this study were conversations about an experience that the participants and I shared, although we played different roles. Each interview felt like any conversation with people who know each other. My role was to be a “good listener” to the stories that participants brought to the conversation and to listen to them as “integral not peripheral” (Chase, 2005).

It is important to point out that due to my participation in the ILLP, I held an insider position throughout my research. I was one of three ILLP staff members who was present during all the students' visits to UBC Farm. Thus participants knew me as we had worked together in the past for at least one year in the ILLP.

Until the day that the participants of my study received the letter of invitation to participate, I was an ILLP staff member as far as the participants were concerned. However, when we sat down to talk I explained to them that I was at their school, library or home because I had an explicit research agenda—to explore their memories about their experiences in the ILLP—and that I was there in my role of graduate student conducting research for my dissertation.

4.3.1.1 Focus Groups

To explore the recollections of the student alumni of their experiences in the ILLP, I chose to use focus groups. This is a format that, in the past, I have found useful in talking to children who shared a common experience, know each other and know the interviewer. I used focus group interviews as a research method for my master's thesis (Urueta-Ortiz, 2009), and from that experience I learned the advantages and disadvantages of using this research method. Focus groups make possible an in-depth exploration of a topic about which little is known (Stewart, Shamdasani, & Rook, 2007), making this research method a propitious one to engage the qualitative nature of the research questions of my investigation. Also, focus groups can help to reveal group consensus on an issue, if there is one (Cyr, 2015). Moreover, using focus groups as a way to explore children's experiences and perspectives recognizes children as the experts on

their own lives (Levin & Zimmer, as cited in Green & Hogan, 2005).

Nowadays, “focus group” is used indiscriminately to refer to all group interviews in spite of the fact that group interviews differ in nature and type (Fontana & Frey, 2005). I use the definition for focus groups provided by Green and Hogan (2005): a “discussion involving a small number of participants, led by a moderator, which seeks to gain an insight into the participants’ experiences, attitudes and/or perceptions” (p. 2).

Focus groups as an interview technique were developed in market research to elicit information on the “why” of consumer behaviour and habits (Kamberelis & Dimitriadis, 2005). During the 1980s “social scientists, particularly within sociology and education, took an interest in the method which they believed had the potential to contribute to their discipline as a qualitative research method” (Green & Hogan, 2005, p. 3). Health education and health psychology are the fields with the largest number of published studies that use focus groups to collect data (Green & Hogan, 2005; Gibson, 2007). In the last fifteen years, the employment of this research method to explore perspectives of children and young people has grown (Morgan, Gibbs, Maxwell, & Britten, 2002; Green & Hogan, 2005; Gibson, 2007). The range in the use of focus groups to explore children’s views and perspectives has extended from exploratory studies to program development and evaluation to developing and adapting questionnaires.

As a method of inquiry, focus groups make it possible “to explore the nature and effects of ongoing social discourse in ways that are not possible through individual interviews or observations” (Kamberelis & Dimitriadis, 2005, p. 903). The rich experiential information of the group is one of the advantages of this type of method, in that group dynamics play an important part in the construction of meaning. As Kamberelis and Dimitriadis (2005) have pointed out, focus groups facilitate the exploration of collective memories vis-à-vis the individual interview

because they are fundamentally social events. In a study like mine, this characteristic of focus groups is an important one because the children who participated in my study experienced the ILLP as a group, not alone.

However, Cyr (2015) has cautioned that when focus groups are used to collect data, the data collected at the level of the individual “is often privileged over the social nature of the encounter” (p. 4). In her opinion this is due to an uncritical adoption of a tradition that developed in a different field (marketing), which has very different philosophical roots. She also points out that others have suggested “that this approach disregards the social context, including the potential relationships between participants and the larger social structures in which the opinions and perspectives of individuals are sought” (p. 4).

For my investigation, the focus group was more like a group conversation rather than a debate. My role as interviewer was to facilitate the conversations, as mentioned previously interviews were designed to be unstructured and flexible. While it is possible that individuals in such a focus group would debate the issues at hand, the purpose of using this method was not to have the group come to an agreement. The aim was for children to “discuss the topic within the concrete scope of their own experience and in their own terminology so that the text that emerge are more closely attuned to what children consider relevant” (Gebhard, Nevers & Billmann-Mahecha, 2003, p. 94).

The logistics of conducting focus groups are complex when compared to those involved in interviewing participants individually. The leader becomes less of an interviewer and more of a facilitator or mediator and needs to manage the dynamics of the group. Additionally, the facilitator needs to “be sensitive to the evolving patterns of group interaction” (Fontana & Frey, 2005, p. 704). Both elements are essential when conducting focus groups with children.

According to Stewart et al. (2007), focus groups can be an “emotional roller coaster that veers from the dull formality of a committee meeting to moments of group hilarity to mildly hostile silence” (p. 115), challenging in situ the moderator and later affecting the transcription and analysis of the interview. Wilkinson and Birmingham (2003) remind us that “ironically the greatest strength of focus groups—their group dynamics and interactions—can also be the source of their greatest weakness” (p. 108). This success of focus groups relies heavily on the moderator’s ability to conduct the interview, her knowledge of the topic, her familiarity with the participants and the environment in which the interview takes place.

From my previous experience with focus groups (Urueta-Ortiz, 2009), I can assert that a common disadvantage of this method, one that Green and Hogan (2005) have also noted, is that children do not always use their own words; sometimes participants provide the same answers that someone else in the group has given. Also, I have found that for children, engaging in discussions of the issues at hand is difficult owing to the fact that children in their everyday life are used to participating in one-on-one conversations with adults. Another important issue that could arise during a focus group is one participant dominating the conversation, a situation that challenges other participants’ voices to be heard and the facilitator’s role as a moderator of the conversation. Taking into account these disadvantages helps researchers to recognize these patterns and, when they are encountered, to proactively change the flow of the conversation to include all participants.

Vaughn, Schumm, and Sinagub (1996), Green and Hogan (2005) and Gibson (2007) have provided suggestions on how to plan and conduct focus groups in terms of composition factors such as size, age, gender and other variables relevant to the topic of discussion. However, the suggestions that the authors provide are not recipes, since focus groups are designed with

particular research questions in mind. It is important to remember that focus groups are social events and so when they are used to explore children's ideas, they need to be flexible in terms of following the conversations rather than a script. If focus groups are conducted prescriptively they could easily re-enact the dyad of the clinical interview in which one adult asks questions of one child. Finally, based on my experience of conducting this type of interview with children, rapport, informed consent, flexibility and creativity are essential elements if the conversations are to be democratic exercises in which everyone participates and has a say.

In my research study I used icebreaker activities at the beginning of the focus groups and individual interviews. The use of icebreaker activities when conducting focus groups with children is important because it sets the stage for their later involvement and creates a space in the conversation where all the participants can be involved (Green & Hogan, 2005). An icebreaker activity that I choose for the focus groups was for children to take photographs before we started the conversations. The purpose of this icebreaker activity was twofold: first, to get children to think about their experiences at the ILLP and, second to use the photographs as starting points for the conversations.

Another icebreaker activity that I used was to ask children to write their pseudonym tags at the beginning of the focus group interviews before we began the conversation. I asked the students to write on the pseudonym tag paper three words that came to their minds when thinking about their experience at the ILLP. This activity emerged as an alternative icebreaker during one of the first focus groups. Because the focus groups took place during the winter and some participants would not or could not go outside the pictures that some participants took turned out to be somewhat stiff and repetitive; they were taking pictures of the same objects inside the

school—watering cans, a mural with pictures from the ILLP, and paper leaves. In contrast, writing three words in their name tags generated diversity in their recollections.

4.3.2 Participant Observation

Participant observation was another research method that I used in my study. Usually participant observation is understood as a “means whereby the researcher becomes at least partially socialized into the group under study in order to understand the nature, purpose, and meaning of some social action that takes place” (Schwandt, 2007). In my study participant observation was a natural consequence of my participation in the ILLP. It evolved in an organic way as I was fully involved in the project, as a staff member working side by side with all the participants while also going through the process of being a graduate student. As Thorp (2006) writes, it was too late for traditional participation observation that set aside the observer and the observed.

4.3.3 The Role of Memories in Identity Construction

It has been argued that experiences with nature during childhood have an impact on development into adulthood, and that peoples’ knowledge, attitudes and behaviours are influenced by these childhood encounters (Wells & Lekies, 2006). This inspired me to inquire into the long-term memories of young people’s participation in the ILLP to understand the influence of this experience in their lives.

Interest has existed in the research areas of science, technology, engineering, and mathematics (STEM) in informal settings and the visitor studies field about the long-term memories of children and adults that have participated in informal educational experiences.

However, there are few studies to date on the long-term impact of informal STEM programs (McCreedy & Dierking, 2013) and museum visits (Anderson 2003; Anderson, Storksdieck, & Spock, 2007; McManus, 1993) on children and adult participants. It is from the research fields of STEM in informal settings and visitor studies that I have drawn the idea of using long-term memories to study the impact of the ILLP in children's construction of practice-linked identities. Anderson, Storksdieck, and Spock (2007) point out that long-term studies reported in the literature are usually confined to weeks or months after the learning experiences mostly for practical reasons. However, these authors argue that

longer time frames are likely to act as powerful filters, leaving in memory the most important aspects of an experience in ways that add value to the field by uncovering significant positive or negative remembered experiences that may yield other and possibly profound evidence of the impact of the experience. (p. 210)

The nature of my participation in the ILLP contributed to my research design. I had the possibility of counting on longer time frames because of the student alumni of the ILLP who participated in my study were in the program at some point when I was a research assistant in the project.

Furthermore I have drawn from the field of 'memory-work' (research method) that maintains that "the act of remembering actions, episodes and events from the past makes certain aspects of the process of identity-forming accessible" (Schatz & Walker, 1995, p.42). This inspired me to inquire into the long-term memories of ILLP student alumni and their parents to explore the construction of practice-linked identities through participation in the project. Schatz and Walker (1995) note that memories are not direct quotations from experience, what is "significant about memories is not their surface validity as true records, but their active role in

the construction of identity” (p.41). It was during the conversations (focus group and individual interviews) guided by prompts and with the aid of icebreaker activities that I tried to draw out participants’ long-term memories of their participation in the ILLP. What is more, during the group interviews memories were collectively remembered by the participants.

The term memories and recollections are used in this study in an interchangeable way, meaning recollections are considered memories for the purpose of my study.

4.4 Research Design

The research design of this qualitative exploratory case study, the process and the specifics of it—data collection and the synthesis and analysis used in this case study—are delineated in the following sections.

4.4.1 The Participants

The participants in this study were ILLP student alumni and their parents. Table 1 summarizes the number of students (N=27) and adults (N=5) who participated in the interviews conducted for this study.

In total, twenty-seven student alumni participated in my study (see Table 2). The student alumni who participated were part of two classes that took part between September 2006 and June 2013. I selected this period of time because I had worked with the project during these years. Because of my role as a staff member in the ILLP, the students knew me and remembered me, even though we have not been in contact since their time in the program. The fact that children knew me was important, because it contributed to the flow of the conversations. It also increased students’ willingness to be a part of my study.

Table 1. Summary of Participants and Type Interviews Conducted

Type of Interviews			Type of Interviews	
Focus Groups interviews			Individuals Interviews	
	Total number of focus groups	Students participating in focus groups	Students participating in individual interviews	Parent interviews
Elementary School	7	23 (Ten Grade 5 students, five Grade 6 students, eight Grade 7 students)	2 Grade 6 students	4
High School	0	0	2 Grade 9 students	1

In order to ensure the anonymity of participants, and to give children more involvement in the research process (Barker & Weller, 2003) each participant selected a pseudonym (see Table 2). Students seemed to enjoy the opportunity to be part of the process. As one of the students noted: “A fake name! A secret identity!” (although secret identities were only hidden to those outside the interviews). I did not provide prompts or suggestions regarding which names they should or should not choose; each child chose whatever name s/he wanted.

Table 2. ILLP Student Alumni (N=27)

School Name			School Name			School Name		
Seed Elementary School			Root Elementary School			Other schools		
Student pseudonyms	Grade when attending ILLP	Grade when Interviewed	Student pseudonyms	Grade when attending ILLP	Grade when Interviewed	Students pseudonyms	Grade when attending ILLP	Grade when Interviewed
Butter	Grade 4	Grade 5	Bookaholic	Grade 5	Grade 7	Cotton	Grade 4	Grade 9
#yoloswag	Grade 4	Grade 6	Directioner	Grade 5	Grade 7	James	Grade 4	Grade 6
Bart Simpson	Grade 3	Grade 5	Bri	Grade 5	Grade 7	Janice	Grade 7	Grade 9
Lorde	Grade 4	Grade 5	Will Chamberlain	Grade 4	Grade 6			
Pikachu	Grade 4	Grade 6	Mario	Grade 5	Grade 7			
Bob	Grade 4	Grade 5	My Little Pony	Grade 5	Grade 7			
Purple Frank	Grade 4	Grade 6	Chocolate	Grade 4	Grade 7			
Franklin Burger	Grade 4	Grade 5	Jaiya	Grade 4	Grade 6			
Patty the Pancake	Grade 4	Grade 5	Chuck Chen	Grade 5	Grade 7			
Isabella	Grade 4	Grade 5	Bruce Lee	Grade 5	Grade 7			
Bob	Grade 4	Grade 5						
Mario	Grade 4	Grade 5						
Randy	Grade 4	Grade 5						
Emily	Grade 4	Grade 6						

The elementary schools of the students that participated in my study were located in Vancouver, British Columbia. The school names have been changed to maintain the anonymity of the participants of my study. Root Elementary School and Seed Elementary School, had been involved in the ILLP for seven years and four years respectively.

Root Elementary School is situated in a working-class neighbourhood in the east side of the city. This school has a culturally and diverse population of 198 students, which include 90 students identified as English Language Learners (ELL). The school has nine classes spanning Kindergarten to Grade Seven (Vancouver School Board, n. d).

Seed Elementary School is located in the heart of the city of Vancouver (West side), situated in a middle-class neighbourhood. It has a population of 323 students enrolled in thirteen classes, from Kindergarten to Grade Seven. Seed School is “representative of the international community with twenty-three different languages being spoken at home by their students” (Vancouver School Board, n. d, p. 3). There are few ELL students. There is a significant number of special needs students with at least two in each class. The school has a dynamic parent community and a Parent Advisory Council (PAC) that actively supports and contributes to the educational experience of the students (Vancouver School Board, n. d).

4.4.2 The Research Process

The design of this study was flexible, emergent and evolving. When working with schools, teachers and parents, flexibility was important because of the unpredictable variables that affected the research process. Among these variables were time constraints, children’s attendance at school on the date that focus group interviews were conducted, teacher schedules, school activities, and parents’ job schedules. As mentioned previously, I use of the word

“process” instead of “procedures” to speak about the nature of my research, which was a process that unfolded in nonlinear ways.

Conducting a long-term study has its own peculiarities because it requires time and resources over several years. An advantage of my study was my participation in the ILLP (seven years), because it allowed me to work with seven different cohorts of elementary school students. The student alumni that participate in my study were students from those seven cohorts. Also, my involvement in the ILLP helped me gain access to the parents, school principals, current teachers of ILLP student alumni, and teachers who had participated with these students in the ILLP.

Student alumni of the ILLP were either still attending elementary school or had graduated and were attending high school. Two approaches were used to contact student alumni and their families (See Figure 7). The first approach involved a snowball sample technique, that consisted of the ILLP teachers at Seed School and Root School explaining the study to their students and sending the information about this study (invitation letters, children's assent forms and parents/guardians' consent forms) to families in order to reach siblings, cousins and friends that were ILLP student alumni.

The second approach involved contacting student alumni through another program of the ILLP, Sustainable Opportunities for Youth Leadership (SOYL). SOYL is a summer Internship that “prepares Vancouver secondary students to be leaders in their schools and communities through hands-on experiences developing school gardens and supporting community organizations that advance our local food system” (ILLP, 2013). A number of student alumni of the ILLP elementary program had become involved in SOYL. These students were contacted and informed about my study by the manager of SOYL program.

As a part of the recruitment process, parents/guardians of ILLP student alumni were also invited to participate in an individual interview, or if they preferred, a family interview. This last option was designed with parents' schedules in mind. For some parents an interview that included both children and parents was easier to schedule. I also believed a family interview might generate conversations among parents and children that could help me to understand children's experience at the ILLP.

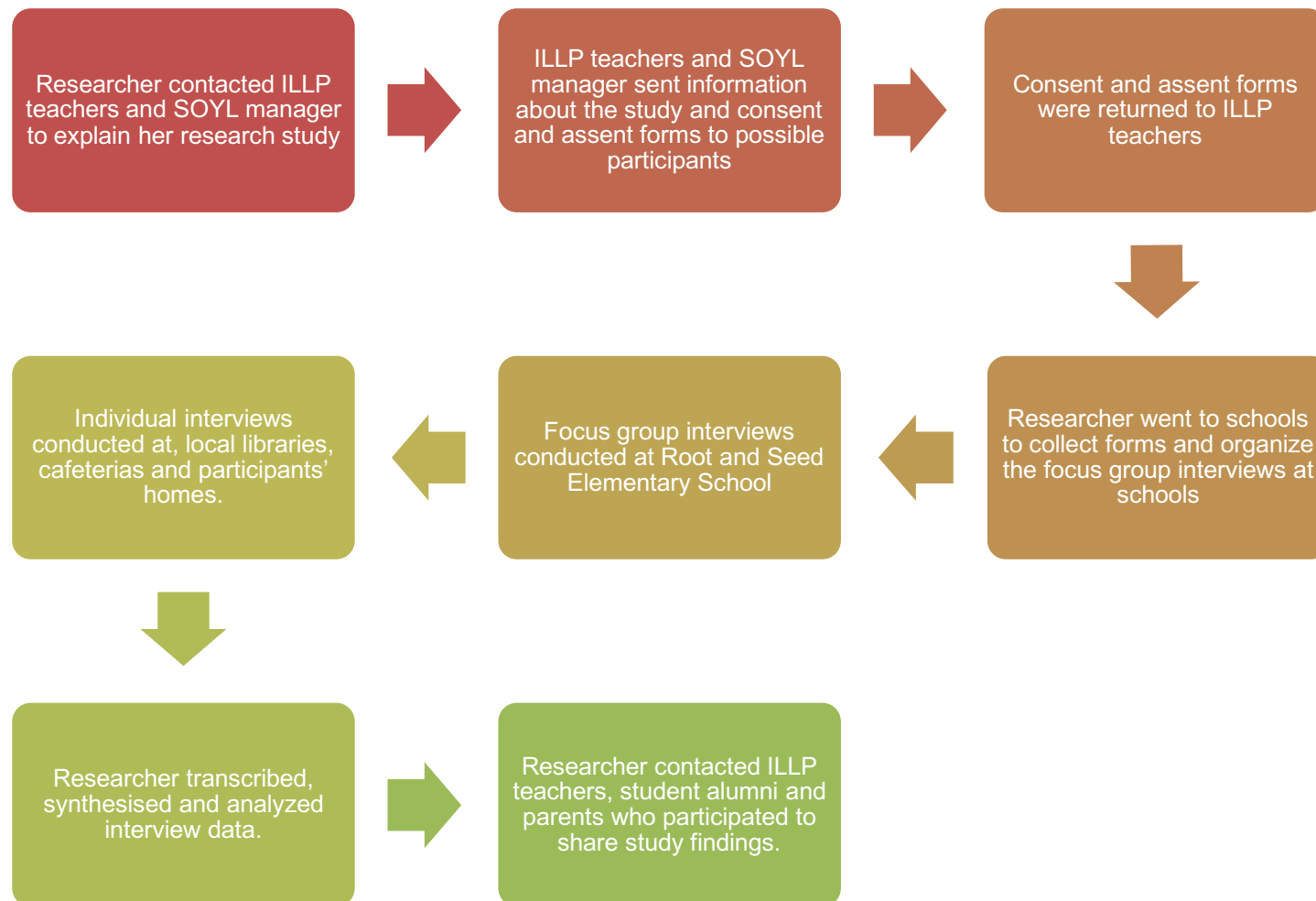


Figure 7. Process of the Research Study

4.4.2.1 The Focus Groups Process

Each focus group comprised three or four students from a particular ILLP cohort (see Appendices II and III). The current teachers of ILLP alumni arranged the groups based on activities of classes that students shared. For example, students who were in band practice were grouped together in order to facilitate the transition from the band class to the focus group.

As previously described the first step in conducting my research involved contacting the ILLP and the SOYL manager. This approach was important in the design of my study because it allowed former participants of the ILLP to be contacted in an ethical way through a third person (their former teachers) without coercion. At the time of this study (2013–14) there were four Vancouver elementary schools participating in the ILLP. My criteria for selection of schools were: 1) I had worked with a class from the school and 2) that the school had participated in ILLP for more than two years. This facilitated my contacting ILLP student alumni through siblings, cousins and friends. Three of the four schools participating in 2013-14 met the criteria, but ultimately I worked with two schools because those two teachers were willing to mediate with ILLP student alumni.

The logistics of contacting participants for my study was guided by the teachers' knowledge of their schools. Because Root School, is a "neighbourhood" school and students are local neighbours, siblings, and cousins, the teacher recommended that I send the invitation letter through siblings, cousins, and friends of ILLP student alumni who were currently enrolled in his classroom, facilitating snowball sampling. In the case of Seed School, the teacher suggested that he use email to send the study's invitation letter to the parents because that was how parents and teachers communicated on a regular basis in that school.

The focus groups were conducted in the schools during school hours. An advantage of this was the familiarity the students and I had with the space. The logistics of the focus groups were affected by school dynamics; in some cases time was an issue, in others the space was not optimal, but in all cases the students were enthusiastic and shared their words and ideas generously.

The length of focus group interviews ranged from 45 minutes to one hour. These interviews were guided by prompts and questions (See Appendix I) but the overall process was semi-structured, allowing the conversations to follow a ‘natural’ pattern.

Although focus group interviews have many advantages, one of the disadvantages is that the format of focus groups can silence some voices because of group dynamics homogenizing the conversations. Keeping this in mind, I was attentive during the conversations and encouraged all the participants to speak and to be heard. In this way those voices were also part of the narrative even if they were not the common voice.

4.4.2.2 Individual Interviews Process

As mentioned previously in this chapter, individual interviews conducted for my study took place in local libraries, cafeterias and participants’ homes. The participants selected the location most convenient for them. In total, I conducted five individual interviews with ILLP student alumni and five individual interviews with parents.

One of the individual interviews with a student alumna took place in a Vancouver public library rather than in her school because she was attending high school. Another student who wanted to participate but was not able to meet with me in person sent me the answers to the interview questions by email. Three elementary school student alumni were unable to participate

in a focus group at their schools but were available to participate in individual interviews. For one student who had switched schools, an interview took place at his home with his mother also participating in an individual interview. The interview with the second student took place in a public library in the Vancouver suburb of Burnaby, BC. The interview with the third student took place in a public library in Vancouver.

The individual interviews conducted with parents took place in different locations as well. Two interviews took part in Vancouver's public libraries. These interviews were conducted after I interviewed children participants. The other three interviews took place in different places, at one of the schools during recess time, in a coffee shop near one of the schools and one at the participant's home.

The length of individual interviews varied, but the average duration was 45 minutes. The difference in time duration depended on participants' schedules.

All the interviews, focus groups and individual, were audio recorded and transcribed by me. At the beginning of each interview conducted for my study, I explained to the participants that I was recording the conversation with a digital pen and explained to the participants how this worked. The use of a digital pen¹ was less intrusive than having an audio recorder on the table. Also, it allows me to write notes during the conversations and after concluding the interviews go back to specific moments of the interviews by typing a word in the dot paper. The digital pen plays back whatever was recorded at the time those notes were taken. After the interviews, the audio files were downloaded to a computer. This technology creates PDF files of the handwritten notes making it easier to organize all the data.

¹ Digital pens are also called smartpens. This technology has a microphone for recording audio and a built-in micro camera that syncs the digital sound recording with the researcher's handwriting via a special dot paper.

4.4.3 Data Collection and Analysis

Stewart, Shamdasani, and Rook (2007) argue that when analysing focus group interviews “there is no one best or correct approach to the analysis of focus group data. As with other types of data, the nature of the analyses of focus group interview data should be determined by the research question and the purpose for which the data are collected” (p. 109).

One of the main issues in the analysis of focus group data is the unit of analysis. Traditionally the unit of analysis has been the group (Smithson, 2000) because often people using focus groups interviews seek to generalize findings in terms of the group (Stewart et al., 2007). However, using the group as the unit of analysis raises some questions regarding the nature of qualitative data because it would be difficult to have a group so homogeneous that would allow generalizations about individual experiences.

In my research study both the group and the individual are units of synthesis and analysis. As per Cyr (2015), I paid attention to the social nature of focus groups. On the one hand, the group (as a unit of analysis) generates recollections; it is not a tool to normalize students’ recollections. On the other hand, the individual (as a unit of analysis) is present in the synthesis and analysis of the data as well, because participants are diverse, and although they share some characteristics like age, school, and participation in the ILLP, their stories, realities and worldviews are not homogeneous.

As mentioned earlier in this chapter the purpose of focus groups is to provide an in depth exploration of a topic about which little is known. Little is known about the long-term impact of garden-based learning in children’s lives; thus focus groups were useful.

4.4.3.1 Thematic Analysis

The research findings of this study are the product of a process of synthesis and analysis of the conversations that I had with the participants of this study. The meaning-making process in my study involved a non-linear relationship with the data in which reduction and analysis of the data are intertwined (Luker, 2008). The process did not begin when I conducted the first interview. It began during my participation in the ILLP in informal conversations with the students.

This meaning-making process was shaped by my personal experience, my worldview, the literature reviewed for this study and my work in this field as a researcher and garden educator.

My conversations with the participants were not bounded by structured questions. Instead, the interview questions and prompts unleashed vivid memories that followed their own story and overlapped, like in any other conversation. The open-ended nature of the questions made it difficult to recognize patterns and separate the findings into discreet themes, as there was overlap in the data. In order to make sense of the data I followed Thorp's (2006) methodological approach in which navigating the conversations (interviews) involved "resisting the pressing urge to make sense of it all, to impose my questions, categories, and order too soon" (p.117).

I organized my findings of my study into broad themes with subthemes. My approach in identifying themes started while interviewing the participants of this study. During the conversations I made notes of key ideas that caught my attention. I also kept field notes about the dynamics of the interactions during the focus groups. I used the notes as reminders of the particularities of the conversations and the interactions that arose in the moment.

When possible I illustrate the findings (themes) presented in chapter five with photographs that provide a visual aid to the reader, a window into the ILLP and the UBC Farm Children's Garden. As Thorp (2006) asserted, "photos often were our words" (p. 3).

I also wish to stress that, student alumni and parents' memories of children's participation at the ILLP were not uniform and some differences (but also similarities) were evident in the ways in which girls, boys, mothers and fathers articulated their memories, however, gender differences were not the main focus of my study.

Although the study's design did not include triangulation of the data, some themes appeared both in data from the focus groups and individual interviews with children and parents. Most parents' recollections converged with students alumni's memories in terms of the excitement and positive feedback of the experience and the impact of it on their children's attitudes. This study was not concerned with validation of children's voices through adults' voices. Instead, I listened to all participants' narratives in order to deepen and broaden my understanding about children's experiences at the ILLP. The conversations converged in an organic way providing me with more information about their experiences and their impact.

The full transcription of the interviews was a second step in working towards the thematic analysis of the data. It was during the transcription of the interviews that I started to code themes in participants' contributions. Once all the transcriptions were finished, in an iterative process I reread them and rethought the emergent themes in light of the complete data set. I went back and read the full transcripts and listened to the audio recordings multiple times during my analysis of the conversations. This revisiting exercise served to expose participants' particular memories and assisted me in extracting students' quotes to illustrate the findings of my

study: the practice-linked identities that student alumni construct through participation in the ILLP.

4.5 Ethical Considerations

I received approval to conduct this study from The University of British Columbia Behavioural Research Ethics Board (BREB) and the research committee of the Vancouver School Board (VSB). My research was categorized as a minimal risk study by the BREB. In order to meet the expectations of the BREB and the VSB, all the participants of my study voluntarily signed assent and consent forms. Assent to participate in my study was sought from students and consent from the parents or guardians. Students had the final say in whether or not they would participate, meaning, even if the parent/guardian signed the consent form, if the student did not want to participate (expressed by not signing, not assenting, or verbally expressing their wish not to participate), they were not interviewed.

All the information of this study was kept secure in password-protected computers, and documents were kept in locked filing cabinets at an office in the University of British Columbia.

The identities of all the participants and whatever they said were kept confidential and anonymous. Pseudonyms were used for all participants and school names. Although this was not a participatory research study, instead of the researcher assigning pseudonyms to the participants, the participants were asked to choose their own pseudonyms.

In my effort to conduct my research with clarity and honesty, I explained to all the participants that I was conducting this research study for my dissertation.

Another ethical issue addressed in the design of this study was letting participants know through the consent and assent forms that whatever they shared during the interviews would be a

part not only of this dissertation, but would also be used for future research and might appear in journal articles and/or conference presentations.

It is important to me to be reciprocal when conducting research. To that end, I offered to provide a summary of this study to participants, former teachers of participants, principals of the elementary schools in the study, and the ILLP.

4.6 Limitations of the Study

I conclude this chapter, with a discussion of the limitations of my study. First, it is of value to point out that I started this research study convinced that garden-based learning provides children with experiences that influence their lives. Furthermore, I also believe that “learning gardens are legitimate academic venues and more than a curricular add-on” (Williams & Brown, 2012, p. 200).

In Chapter One of this dissertation I have shared my upbringing in which experiential learning was an important factor in my educational experience. However in doing this, I am not idealizing my own childhood and/ or romanticizing versions of the past. I am aware of the problems that romanticized or nostalgic versions of the past introduce to the field of garden-based learning. Jorgenson (2011) argues that “educators must cultivate something more complex than the tug of the individual childhoods we imagine we spent in nature, because a simple and nostalgic vision of an American childhood outdoors is an insufficient response to complex socio-ecological” issues like the ones we, individuals and societies are experiencing right now. Furthermore, Jorgenson asserts that “these are cultural problems requiring cultural solutions” (p.48).

Nevertheless, it is impossible to detach my study from my world views, my teaching philosophy, and my life experiences. Moreover, it is impossible, and not desirable, to neglect my ‘otherness’ that has been shaped by the facts that I am an educated woman, born and raised in Mexico City in a middle-class family, and that I have experienced Vancouver from the perspective of an international student.

Second, the findings of this study are intertwined with the physical environment and the human relationships that have been established through my active participation in the ILLP. My opportunities to observe and participate with the ILLP, as well as some of the previous relationships I have developed with the students render this study unrepeatable. This study is not concerned with the generalization of its findings, and it would be not appropriate to do so since they are context-dependent. Also, the ILLP is a complex community of practice in which many elements converge to make it a successful garden-based program. In short, the findings of this study cannot be extrapolated to other garden-based programs or school gardens. Jorgenson (2013) points out that those programs that are reported in the literature as being successful (e.g. Cutter-Mackenzie, 2009; Mayer-Smith, Bartosh, & Peterat, 2007; Thorp, 2006) have specific qualities that make them exceptional and successful. They often rely heavily on the support they get from participants, researchers, parents, volunteers, external funders, and community partners. I agree with this assessment; however, I also believe that successful school garden programs and school gardens help validate the school-garden movement and promote the practice and research of garden-based learning in ways that can help the garden movement grow stronger and maintain its place in the educational agenda, contributing to the development of more successful learning gardens.

Nevertheless, the findings of this study do confirm, extend and raise new questions within the field of garden-based learning research.

Third, a limitation of this study was the time when it was being conducted. More specifically, the interviews conducted with parents were not representative of the population of my study. Parents who participated in the interviews were (mostly) non-working parents or self-employed individuals, with flexible schedules. Furthermore, some of the parents who participated were involved in the day-to-day care of their children because of their children's special needs. Of the five adult interviews conducted for this study, four were parents from one particular, and more affluent school. I was able to contact only one parent from the other school that was willing to participate, but after talking with him about scheduling a meeting, it became clear that we could not find a time that worked for both of us. He explained to me that with both parents working, time is a constraining issue. Furthermore, the constraints of time and money also limited my ability to collect data beyond a two-month period. So while, my original research design included follow-up interviews with participants this was not possible. Instead, I decided to interview all the students who had replied to the invitation to participate in my study. By doing this, I ended up accepting more students to participate in the interviews than I had originally planned and did not conduct follow-up interviews.

Fourth, because of my involvement in the ILLP as a participant and as an observer over a period of seven years, I have had the privilege of working with at least seven teachers. I can affirm that the teacher's role is central to student's experiences at the ILLP. Likewise, the role of the teachers was also paramount in this study. Teachers helped me contact alumni and organize the interviews at their schools. Teachers enthusiasm and affiliation with the ILLP was crucial in order to contact students. Lack of teacher's affiliation limited my access to ILLP student alumni

in a third school. There is no doubt that the active participation of Mr. Seed and Mr. Root in the activities at the Children's Learning Garden at UBC, as well as the work they do in their classrooms, play a central role and likely influenced students' positive experiences and recollections of the ILLP.

Fifth, another limitation involved conducting the interviews at the schools. Access to the alumni participants at the schools was constrained by multiple factors including the cooperation of their current teachers, activities going on at the schools, and extracurricular activities students were involved in. The interview period for this study coincided with the time that elementary school students were having a provincial exam. This situation made the organization of focus groups at the schools more difficult. Additionally finding older student alumni at high schools proved challenging. Even when initial contact was made, the students who replied to the invitation ended up being so busy with school and extracurricular activities that it was not possible to interview many. Only two junior high school (Grade 9) students participated in my study. One of them was very enthusiastic about taking part, but due to time limitations, could only participate by answering my interview questions through email.

Finally, it must be noted that the interpretation of the data (the children's experiences) has been done by an adult. In acknowledging this, I am positioning myself as the adult researcher with an explicit agenda, and with bias. In recognition of this, my "critical eye," and the theoretical framework of this research study, both assist with the reflexive exercise involved in the subjective interpretation of the data. Nevertheless, the fact that I was an adult, distanced me from the children's experiences. I point this out because the children's voices that shaped this chapter, reminded me of my position as an adult and as an adult researcher and how this interrelates with my research that focuses on children's experiences. I knew that one of the

critiques to my research would be my bias as an “enthusiastic” garden educator. However, being an insider because of my membership in the ILLP, and at the same time an outsider whose tone deaf moments to the main culture were constant reminders of my otherness, kept me from making assumptions about why children do not eat certain foods, or why children did not know the names of edible plants.

Throughout conducting my study, I have followed Merriam’s (1998) approach which asserts that “validity and reliability in qualitative research involves conducting the investigation in an ethical manner” (p.198) and that “the best a researcher can do is to be conscious of the ethical issues that pervade the research process and to examine his or her own philosophical orientation vis-à-vis these issues” (p.219). Merriam (1998) further states that reliability is enhanced through the investigator explaining the assumptions and theory that underlie their study, through their triangulating the data, and by leaving an audit trail. All of these points have been covered in this research study. Even though triangulation was not part of the design of my study, the interviews with children and parents did converge in an organic way reinforcing my analysis and understandings of children’s experiences and the impacts of the ILLP.

Chapter 5: Findings

The reader will recall that I set out to answer the following questions:

- ◆ What are the practice-linked identities that culturally diverse, urban, elementary students construct through participation in a one-year, intergenerational, garden-based learning experience?
and,
- ◆ What elements of this garden-based learning experience appear to play a role in supporting the construction of these identities?

As established earlier on, my working definition of practice-linked identities was taken from Nasir and Hand (2008): “identities that people come to take on, construct and embrace that are linked to participation in particular social and cultural practices” (p. 147)—identities that “extend beyond learning (though learning is certainly critical) to the very definition of who one is and who one is in the process of becoming through participation” (p. 176). Nasir and Hand (2008) ask a question relevant to my second research question as well: “What is it about some out-of-school learning settings that make them positive environments for the development of identities that support learning?” (p. 146).

In this chapter I present and discuss the findings that emerged from: the focus groups interviews with ILLP student alumni, individual interviews with ILLP student alumni and individual interviews with parents of the ILLP student alumni. The voices that I heard during the interviews offered a myriad of recollections about student alumni’s experiences as well as parents’ memories of their children’s experiences of participating in the project.

From my analysis of the interviews, I found strong evidence of six practice-linked identities connected with children’s experiences in the ILLP:

- 1) Identities constructed through relationships with non-parental adults: Farm Friends
- 2) Identities constructed through relationships with more than-human-world: Interacting with other non-human animals and systems
- 3) Identities constructed through new relationships with food and culture: Intercultural and intergenerational discoveries and frictions
- 4) Identities constructed around the ideas of freedom and agency: Taking risks, taking ownership, taking control
- 5) Identities as learners: Expanding the sense of what learning is and where it takes place
- 6) Identities constructed through play: Imagination and pretend play in the forest

In what follows each of these identities will be discussed with the supporting evidence from the interviews and focus group conversations. I will elaborate on:

- ◆ What characterises each of these identities, and the ways they are linked to practice and,
- ◆ The elements of the ILLP experience that appear to play a role in supporting the construction of these identities.

Although is not possible to recreate these elements directly in a different project because there are situated in a complex and particular learning context, the ILLP, an analysis of these practice-based identities in the context of the ILLP may offer suggestions and directions for other similar projects to help to support similar kinds of identity construction.

5.1 Identities Constructed through Relationships with Non-Parental Adults: Farm Friends

A premise of a negotiated approach to identity implies that “our identity is a direct result that we are always an *other* to somebody else, therefore the process of identity construction always involves some form of identification, counteridentification, or disidentification with a particular group or groups of people”(Pozzer & Jackson, 2015, p. 220). Through these social others and social interactions, children re/construct their identities. In my study the Farm Friends (FFs) are the ‘others’ with whom ILLP student alumni re/construct their identities. I have used the term non-parental adults to refer to them because the term has been used in the literature (Groendal, 2012) to refer to adults, other than parents, that are significant in meaningful ways in children’s lives.

5.1.1 What Characterizes ‘Identities constructed through Relationships with Non-Parental Adults’, and How are They Linked to Practice?

Children construct and re/construct their identities during their daily experiences, they learn about themselves and construct their identities within the context of their families and communities. This includes their relationships with people, places and things and the actions and responses of others.

It has been argued that children’s relationships with non-parental adults, through mentor and mentee relations, could contribute to positive outcomes (Groendal, 2012) when a bond is formed during the relationship; and when this involves trust, empathy and mutual benefit, the relationship can produce improvements in the youth's socio-emotional, cognitive, and identity development (Rhodes, Spencer, Keller, Liang, & Noam, 2006). Also, it has been noted that when

children have positive experiences they develop an understanding of themselves as significant and respected, and feel a sense of belonging (Nasir & Hand, 2008).

5.1.2 What Elements of the ILLP Experience Appear to Play a Role in Supporting the Construction of these Identities?

During class not being in the class,
during school not being in school,
being with other people [Farm Friends].
Jaiya (grade 6)

I begin this section with this quotation by Jaiya because it reflects many voices that I heard during the interviews. Jaiya voiced this perspective during one of the focus groups when I asked her group what they had enjoyed the most.



Figure 8. Learning Together

ILLP student alumni dominant and richest memories involved the social aspects of the experience in which the social context, involving interactions with Farm Friends, was among children favourite and most vividly-recounted and detailed memories.

Children's memories of their FFs were thoughtful and full of details. In both individual and focus group interviews it was evident how well children connected with their FFs. They remembered fine details about their FFs including when and why FFs in their group left the group. Student alumni recalled their disappointment if their FF were leaving the group or did not show up for a visit. As Bob (grade 5) explained, “I think they [FFs] were really nice and they were fun to have around. It was kind of sad when my FF left at the middle of the year and we got a new one.” Emily (grade 6) when talking about her FFs expressed her sadness as well: “they are really helpful, ‘cause they probably have been with lots of other kids before and they had the experience planting before. I knew that Anne loved gardening so she was a really big help. And I was really sad to see her leave. She left us some seeds.”

These recollections are related to the fact that it is not uncommon for the undergraduate or graduate students who participate as FFs to leave the project at the end of the term; usually because their class schedule changes. Some FFs also leave for personal reasons. The dropout rate for young adult FFs was higher than for the older adults participating in the project. From the programmatic side of the project, FF’s leaving or not showing, affects the dynamics of Farm visits. The ILLP has a network of Farm Friends-on-call, who serve as substitutes when a FF is absent. However, students’ recollections illustrate that losing a FF had a lasting impact.

Overall, FFs understand the importance of their role, that gardens take time to grow and that each year the garden is different because of the weather and the quality of seeds. They understand that in the garden success looks different in every row. In addition, Farm Friends are

patient people who understand the cycle of nature; you cannot rush it. Their understandings of the garden infused their work and interactions with the students contributed to self-acceptance in ILLP student alumni that has transcended the immediate experience. That is, FFs impact children's construction of their identities through their attitudes towards children, enabling a sense of recognition and belonging. That fostered children's feelings of self-acceptance as learners.

Student alumni recalled their FFs as being accepting and respectful even if they were "crazy", eccentric and different. Randy (Grade 5) clarified this when speaking about his FF and explaining why being at the farm with adults was different than being at home.

Randy: I think like to take responsibility in a fun way. Because if I make my bed in a fun way instead of [pause] my parents will be like [yelling voice], "You are supposed to make your bed not fool around!" and then I reply, "what do you think I am doing!"

Researcher: Good point.

Randy: But in the farm, I can be like [making sounds like a boom box] and plant stuff at the same time! Then they [Farm Friends] will be like, "Ah! That kid is having a good time."

The impact of the support provided by these non-parental adults on children's agency is an important finding of this study. Randy's recollection, indicates that Farm Friends validated and accepted his approach to performing tasks on his own terms, and this was significant for him. Patty the Pancake (Grade 5) pointed out something similar:

I think working with other people [Farm Friends] was really fun and [so was] planting but they were not very strict so we can like goof off but also work at the same time and

run around. I think it was a good experience, and also I like it because we get to be away from school.

Patty the Pancake's recollection reflected her view of FFs as adults who were "not strict" in the traditional sense, unlike parents and teachers. This quality provided a space to play and learn at the same time, space that children valued.

Isabella (Grade 5) explained: "They did not care if me and Bob were crazy!" Isabella was referring to her FFs' acceptance of their behaviour that was playful and eccentric; they had been full of curiosity and energy, exploring the space and participating in the garden activities on their own terms. Isabella, (among other students who participated in the ILLP) was a child who was known as a "kinesthetic learner." She needed to move, talk, and play while working at the Farm visits.

Not all FFs had the same understanding and experiences with ILLP children. For some this outdoor classroom without walls in which children and the garden drove the curriculum (Rahm, 2010) was a new experience and sometimes a challenge. In the seven years that I worked with them I encountered FFs whose understandings of children and learning were bounded by traditional approaches to learning. They expected children to behave in certain ways. When confronted with the diversity of children participating in the ILLP, some excelled and others had to work to accommodate children's playful behaviour in the outdoor classroom.

ILLP student alumni recollections about their FFs were full of detail. They remembered professions, ages, and physical characteristics, especially distinctive ones like tattoos or piercings. The following excerpt from a focus group conversation between Directioner (Grade 7), Bookaholic (Grade 7) and Bri (Grade 7) illustrates this:

Bookaholic: I remember we have two Farm Friends, Angel and Nico, and Nico could not come to most of them [visits] and then we have this other girl she had a really cool piercing, it was like [pause]

Bri: It was like yeah a piercing in her ear!

Directioner: She was very nice!

Bri: Her piercing was really thick and big.

Bookaholic: She was really nice! I was really, really sad that Nico could not come to the last visit.

All: Yeah.

Directioner: And we never see them again.

Bookaholic: We saw Eugene [Farm Friend] a couple of years ago at school. [They are talking about one of the Farm Friends who returned to their school to work with a different cohort of ILLP children.]

Chocolate's (Grade 7) recollection of her FF was similar. "I remember Dina's face but I do not remember Helen's face, but I just remember she had a nose piercing."

Children's experiences are constructed by them but shaped and constrained by the environments that they are exposed to. For some of the students, their relationships with the Farm Friends were opportunities to engage with diverse people. Janis, a mother of one student alumni, recognized this during her interview; she stated that her son's experience at the ILLP working with diverse people was really valuable.

My son is really lucky his grandparents are here. We, my husband and I we try to bring our kids everywhere so they get exposed to a lot of people from all type of ages not only theirs. It is important because it also helps to see the value of

different people, people that maybe they are not exposed to all the time. I think that was really neat for him and there are different things that people bring, based on his stories there is so much knowledge and connection to people doing something together, and it is so different. Like how many times do we get the chance of learning with someone that is X number of years older... It promotes inclusiveness in the community like everybody is included and more exposure to that type of thing makes it feel natural without being ... So I think it is neat in Vancouver how we have that diversity. There is a little bit of bias towards, I think, the East Asian side, but you know still there is more diversity but definitely with age my sense is that we are a society that we see people who are young and who are active and we can't sort of ignore people who are older.

Following Nasir and Hand's (2008) identification of resources that are critical to support practice-linked identities, I suggest that FFs are pivotal to what the authors have called "relational resources" that are, the interpersonal connections to others in the context that can increase connection to the practice. Furthermore, these resources (FFs) are fundamental in the development of ILLP student alumni construction of "ideational resources" that are the ideas about oneself, and one's relationship to, and place in the practice and the world (Nasir and Hand, 2008). Both resources, ideational and relational, were present in student alumni recollections and parents' comments regarding the elements that appeared to play a role in supporting children's practice-linked identities at the ILLP.

My findings about the significance of FFs for the ILLP student alumni and their parents echo Groendal's (2012) quantitative research study. She examined the qualities of the relationships that developed in the ILLP between children and non-parental adults (Farm

Friends). Groendal found that the relationships with Farm Friends “contributed primarily to children’s lives through their provision of instrumental aid and admiration (enhancement of worth) to children” (p. 60). She point out that almost 80% of the children reported that “they often or always felt admired, respected and approved by their FF and that they [FFs] taught them how to do new things and provided help” (p. 60). Children who participated in my study remembered their FFs positively and in their recollections they spoke highly of them. Student alumni recognized FFs as knowledgeable adults that helped them to navigate the natural world; they had answers to their questions and suggestions. Kong (2004), has pointed out that while children are curious about what they see in nature, this curiosity is sometimes not encouraged because adult themselves do not have the knowledge to share with their children or a learning identity that could support nature’s potential as a living classroom. What is more, she argues that “when children’s curiosity is aroused and questions cannot be answered children quickly appear to lose interest and become bored” (Kong 2004, p. 228). In short, children’s voices in my study portray FFs as knowledge mentors that modeled an image of non-judgemental adults who provided support for children to grow.

I close this section by quoting one of the students who had a difficult time with her peers. I asked if she remembered with whom she worked and she told me about the other students: “I usually do not remember people who are unpleasant to me,” but when I asked her about the Farm Friends she referred to them as “nice persons.” She found in her Farm Friend what she did not find in her peers, the support to continue doing things in her own way and at her own pace. As Falsafi and Coll (2010) assert, it takes two to construct identity.

5.2 Identities Constructed Through Relationships with the More-than-Human World: Interacting with Non-Human Animals and Systems

The memories children shared during the interviews and focus groups regarding their experiences with non-human animals were much more than a list. They were thoughtful portrayals of the children's encounters with non-human animals that in some cases scared them, and thoughts about how those experiences helped them to overcome their fear of, and aversion to, animals. Children's feelings towards animals changed from fear to understanding and tolerance over time. This learning process sheds light onto how children experience the more-than human-world, specifically non-human animals, and how their practice-linked identities are shaped by learning experiences with the more than human world at the ILLP.

5.2.1 What Characterizes 'Identities Constructed through Relationships with the More-than Human-World', and How are They Linked to Practice?

There has been a growing interest in the literature regarding the intersection between identity and nature and its practical significance (Clayton & Opatow, 2003). In this section I explore this intersection through student alumni memories of their encounters with the more-than human-world during their visits to the UBC Farm.

According to Clayton & Opatow (2003), psychological research (theories) in which identity is seen as static or purely intrapsychic has given scant attention to our relationships with the more-than-human world. The relevance of our experiences with other people and ourselves has been the central focus in the construction of identities; however the significance of our non-human environment in most theories of identity formation is insignificant (Gebhard, Nevers & Billmann-Mahecha, 2003). Likewise, more complex conceptualizations and analyses of identity

construction have missed the large non-human world, nor broadened their conception of identity to include how the more-than-human world influences individual identities since “the natural environment serves to inform people about who they are” (Clayton & Opatow, 2003, p. 9). Moreover, the impact of learning how-to-be with other non-human animals in children’s development has not been investigated as much as other elements that form part of the complex world of children. Fawcett (2002) has pointed out that scant attention has been paid to “the social and cognitive roles other species (like wild animals) may play in child development” (p. 134).

Identity has remained largely as an anthropocentric construct, rooted in multiple levels of social relationships (Clayton & Opatow, 2003). This anthropocentric view has supported the misleading idea that experiences of nature are separated from social experience.

The idea that experiences of nature are separated from social experiences has contributed to the dichotomy of culture/nature as binary opposites that “fosters a hyperseparation in which differences among humans and non-human animals are emphasized and magnified” (Kalof, 2003, p.161) and where identity is not part of the equation.

In what follows I illustrate with excerpts from the interviews, how children’s encounters with non-human animals challenge their previous attitudes and behaviours towards them. Also the examples provided contribute to understanding the impact of the learning experiences in children’s re/construction of their identities through learning how-to-be with other non-human animals.

5.2.2 What Elements of the ILLP Experience Appear to Play a Role in Supporting the Construction of These Identities?

Some students, like Chocolate (Grade 7), who participated in ILLP three years prior, learned about animals with the support of her Farm Friend. She learned about hummingbirds and how to take care of them by learning how to feed them:

Chocolate: They [hummingbirds] are small and they have really long beaks and the tongue is inside, I remember after that [ILLP visit] my parents got a hummingbird feeder.

Researcher: Did you still have it?

Chocolate: Yes two different hummingbirds are coming.

Children shared what they learned at the ILLP at home. For example Chocolate brought home what she learned about hummingbirds and her family engaged in continuing the learning at home.

Another encounter with non-human animals that was well remembered by student alumni was children's hands-on experiences with chickens. This encounter motivated children during the visits to ask questions about chickens and eggs. Where does an egg come from? Why can't chickens fly? Which chicken is the father? So if there are no males, why do we have eggs? "Chicken facts" was how students referred to their knowledge about chickens that grew out of their experiences in the ILLP. Chickens were a highlight for students on their visits to the ILLP. These chickens were part of other research projects at UBC Farm and thus not present every year in the ILLP's visit activities. The years that the chickens were at the UBC Farm, ILLP students had the opportunity to learn (more) about chickens, and interacted with them as non-pets. Some children already knew about chickens through experiences at petting farms, and a few children

that participated in this study had previous experiences with chickens as livestock, although most did not.

The following excerpt from one of the interviews provides an illustration of a student's recollection of her learning experience about chickens at the ILLP.

My Little Pony: I remember visiting the chickens.

Researcher: Why do you think you remember that?

My Little Pony: I feel sorry for them [chickens] but then they [Farm Friends] started telling me lots of facts about chickens.

Researcher: Why do you feel sorry for them?

My Little Pony: Because you are taking the eggs.

Researcher: Ohhh, okay. And what did you learn?

My Little Pony: That there are no males in there, so the eggs won't grow to be chickens anyways.

Researcher: Yeah, those eggs are not fertilized.

“Chicken facts” were facilitated by ILLP staff and FFs. These facts (information) in addition to the hands-on experience, helped to change students' previous ideas about eggs. This new knowledge was retained and became part of the “chicken facts” they learned at the ILLP.

Ana, a mother I interviewed along with her son, James shared a story about a gift James had brought her from one of his first visits to the ILLP. He was telling her about his day at the UBC Farm and then he remembered that he had brought something home to share with her; she thought it would be a plant or something like that. She was surprised when her son grabbed something from one of the pockets in his jacket. When he opened his hand, he was holding a

dead mouse! Unlike some of the children, James did not show aversion towards nature; he did not mind touching the soil, animals, or the compost.



Figure 9. Animal Encounters at the Children's Learning Garden

It was during my interview with James and Anna that he described finding a big banana slug in the compost. Using his hands he showed to Anna and me, the size of the slug; it was impressively large. Immediately his mother said, “But you did not do that with your bare hands, right!?” This instance has contributed to my thoughts about how adults censor children’s experiences with nature by being overly protective. Anna recognized the value of her son’s experience at the ILLP, though her response towards what her child was sharing pointed in a different direction. While James was talking about exploring nature’s pleasures, she was “emphasizing instead nature’s dangers” (Kong, 2004, p.226). Children learn how-to-be in relation with other animals through socialization with adults and peers, hence other’s attitudes and behaviours towards non-human animals have an impact in children attitudes and behaviours. While Anna’s affiliation and support of GBL experiences in his child education were strong, her

relation with non-human animals might be less *natural* than her son. Fawcett (2002) provides an interesting point that could explain Anna's attitudes. She points out that "it is a common belief in Western cultures that human maturity involves a critical separation from the animal part of us" (p.133). She adds that unless children grow to be field biologists, animalness disappear from adult's lives.

Non-human animals were favourite memories for other students, like Cotton (Grade 9). When talking about his favourite experience in the ILLP, he said, "...but the best part of it all was walking on the main road to get to and from the [UBC] farm and trying to find snakes."



Figure 10. Summer Snakes at UBC Farm

Contrary to Cotton's attitude towards snakes, other children's attitudes towards animals were less positive. I will use the word biophobia to describe the fear of or aversion to animals that some children expressed during the interviews. When I asked student alumni what their least favorite thing to do in the ILLP was, a number of students spoke about their animal encounters.

For some of these students, the experience in the outdoor classroom was an opportunity to deal with their fears. Lorde (Grade 6) explained this: "Probably [my least favourite thing to do at the UBC Farm] was to try to pick up a spider. I am terrified of spiders, but [I did pick it up] because another student was trying to kill it and I did not want to kill it." Other students expressed a great fear of spiders. One student, in a focus group said "I kill spiders; sorry I hate spiders." During this conversation another student in her group shared a different approach to deal with her fear: "My sister gets scared whenever she sees a spider, she actually wants to go near the spider because she does not want to lose it [that is, not know where it is]." The first student replied, "I should do that, but I can't 'cause they are so creepy." These comments show that even though children understand that there are other ways to deal with unpleasant insects, aversion is a feeling that is difficult to control. I think one of the consequences of socializing experiences (knowledge) through the focus groups conversations in children's lives will be learning other ways of dealing with insects, which will impact children future experiences with unpleasant insects.

The forest was a place of explicit learning and reflection for some students. I asked the students in one of the focus groups what they thought they had learned during that year at the farm. They said:

Bookaholic: Before the farm I was very, I hate the outdoors [pause] I still are.

Bri: You are!

Bookaholic: I hate the outdoors but like I learned more about it. I enjoyed the farm. I am just not that type of person.

Bri: Oh yeah I did not like the hiking trips in the forest.

Researcher: Why not?

Bookaholic: I like, nature is pretty but I am always so tired I can't admire it and I hate walking.

Bri: I hate walking!

Researcher: Okay so you do not like the physical part?

Bri: Noooo.

In this excerpt children's voices provided a picture of their complex thoughts. On the one hand, their words express dislike to nature as they identified themselves as non-outdoors people. On the other hand, they were thoughtful about the experience; even though they recognized being not the type of person who likes outdoor activities. They recognized that they learned from the experience and enjoyed their time at UBC Farm. This provides us with information to understand how ILLP student alumni defined themselves through the ways that they interact with nature; in the previous excerpt children identified themselves as non-outdoors people.

Similarly, children defined themselves through the ways they interact with non-human animals. The theme of one of the ILLP visits was pollination. In preparation for this visit, students reviewed the topic of pollination at school with their teachers, and during their visit to the farm they participated in a tour of the beehives. During the beehive tour, children expressed anxieties and emotion. Children's expressions about being afraid of bees were the constant during the bee tours. Despite their fear they had many questions about bees. A graduate student who worked with bees led the beehive tour. This was very important because she was able to

answer most of the questions, students asked about bees. Children had the opportunity to observe the bees inside the hive from a “safe distance” and the activity included the option for children to wear bee suits so they could go close to the beehives.



Figure 11. Bees Everywhere

The hive tour helped children confront their fear and aversion to bees, and they remembered this hands-on learning experience. One student, Bart Simpson, vividly recalled how this experience changed his perspective about bees.

Researcher: What do you remember about the bees?

Bart Simpson: I remember I was scared about bees.

Researcher: Really?

Bart Simpson: Petrified. And my Farm Friend made me go there and showed me that they were almost harmless creatures, and now I do not have a problem with bees. I remember trying the honey.

#yoloswag: I also remember the bees; I was not scared like Bart Simpson. The reason I got to taste more honey.

Butter: I remember the bees and tasting the honey. I was not scared because Mr. Seed had told us about the bees.

It is notable that these children reflected on their own learning experiences in the ILLP. As Patty the Pancake (Grade 5) said during one of the interviews when talking about learning new perspectives at the ILLP: “Well, I guess I got a new perspective on bees ‘cause we learned about that and I got pretty close to the bees. And we ate honey.” Emily’s (Grade 6) recollection: “I remember bees and I am not a big fan of bees but I know that they are really really helpful. I think before the farm I did not like them, [but] after going to the farm because I was around them more, so I actually ended liking bees. But I still do not like wasps.”

ILLP student alumni gave voice to how the learning experiences influenced their beliefs, fears and understandings and how their experiences changed their attitudes and behaviours. Even if some were still afraid, they understood their fear. For example, Lorde, while she did not like spiders, she did not kill them. She confronted her fear by trying to pick up a spider. Patty the Pancake’s recollection is another example of this. When wearing the bee suit she had a close encounter with bees: “I had like five bees on my face with the suit on, it was creepy!” I asked her what she thought the learning was in that experience. “Having bees in your face is fun and scary,” she replied.

My findings indicates the majority of children enjoyed being at the Children’s Learning Garden and experiencing new things like trying different foods; learning about gardening and nature; and experiencing the outdoor setting. Every year, there were children unwilling to touch the soil, or only with garden gloves on, and children who were afraid of insects and worms. After a few Farm visits most of these students became less anxious and scared and were willing to experience the more-than-human world without filters such the physical ones, like the garden

gloves, and the invisible ones that are the roles society imposes on us about how-to-be with animals and how to behave in the more-than-human world.

Listening to student alumni during the interviews, I learned that some students did not like being outdoors for “other” reasons such as not being able to control the weather or getting tired when outside. There were only a few students like this. However, their comments reminded me that biophobia exists and for some people is difficult to overcome and for others, is not something that they would like to change.

ILLP student alumni reflections about what they learned at the ILLP concerning the more-than-human world illustrates the importance of hands-on experiences in which children are guided and encouraged by adults and peers to experience nature with their bare hands and their open minds. The “wild nature” that student alumni access during their visits in the ILLP prove to be a generator of powerful memories that display the long-term impact of such learning experiences. Likewise, the experiences motivated children to engage in reflecting on those experiences with a learning attitude, and to see themselves as learners.

Student alumni practice-linked identities construction with the more-than-human world was supported by the material, ideational and relational resources provided by the ILLP. This finding sheds light on how the more-than-human world is an important element in children’s identities construction, emphasizing that not only the more-than-human world has been given an identity through the way in which people view and experience their relationship with it, but also how the more-than-human world influences individual identities (Clayton & Opatow, 2003). Also, this finding indicates that encounters with the more-than-human world are mediated by diverse factors not only by experiencing the more-than-human world, inclining me to recognize its complexity. Furthermore, it underscores that children needs and understandings of nature may

differ from adults' views of the more-than-human-world. I would like to stress the importance of adults in children's construction of their practice-linked identities. FFs knowledge of the more-than-human world was paramount in changing attitudes and behaviours of ILLP student alumni.

Finally, I should point out that while the hands-on experience provided in the ILLP was an important element in changing children's attitudes and behaviours to animals, it was not sufficient for all children. Elements like genetic influences, temperamental predispositions, parental psychopathology, parenting practices, and individual conditioning histories (Ollendick, King, & Muris, 2002) have been identified as factors that play an important role in children's attitudes and behaviours about the-more-than human world.

5.3 Identities Constructed through New Relationships with Food and Culture:

Intercultural and Intergenerational Discoveries and Frictions

In this section I discuss the findings related to how ILLP student alumni identify and define themselves through the ways that they interact with food and how this impacts their identities construction. Also, parents' voices are presented because they enriched this finding by providing complementary information about their children's attitudes towards food and eating attitudes and behaviours.

5.3.1 What Characterizes 'Identities through New Relationships with Food and Culture', and How are They Linked to Practice?

The intersection of food and identity is a clear one. Food is "central to individual identity, in that any given human individual is constructed, biologically, psychologically and socially by the foods he/she chooses to incorporate" (Fischler, 1988, p. 275). The food we eat and buy

informs others about who we are, what we value, and sometimes where we come from or where we have been.

Informed by Fischler's (1988) ideas that "not only does the eater incorporate the properties of food, but, symmetrically, it can be said that the absorption of a food incorporates the eater into a culinary system and therefore into the group which practises it, unless it irremediably excludes him" (p. 280), and by Stead, McDermott, MacKintosh, and Adamson (2011) who have pointed out that "food is used by young people to inform and support their identity and the ways they relate to and judge others" (p. 1137), I approach the findings in this section. What I emphasize here is the role that food played in re/constructing children's identities and how food serves to inform children about who they are.

The scant literature that intersects food and children's construction of their identities under the premise that food not only nourishes but also signifies (Fischler, 1988) it is preceded by the fact that research into young people and healthy eating has focussed on identifying the 'barriers' to healthy eating and on developing interventions to address them. School gardens and garden-based projects have been seen as outlets to educate students about nutrition through hands-on activities like eating, cooking, tasting and growing edible plants. Mostly nutrition educators and health professionals interested in the wellbeing of children have designed garden-based nutrition interventions (most often based on quantitative research) to increase consumption of fruits and vegetables among school age children (Parmer, Salisbury-Glennon, Shannon, & Struempler, 2009; Robinson-O'Brien, Story, & Heim, 2009; Wells, Myers, & Henderson, 2014). However, the majority of studies only focused on children's dietary intake of food, neglecting the many cultural and socioeconomic variables that contribute to dietary intake, obesity and

hunger also this literature has tended to neglect the emotional, social and symbolic aspects of food for young people, and the roles food might play (Stead, et al., 2011; Thorp, 2006).

5.3.2 What Elements of the ILLP Experience Appear to Play a Role in Supporting the Construction of These Identities?

Food conversations were natural occurrences during the interviews because students saw me as the person who cooked with them during the visits. Also, as stated by one of the student alumni, food was everywhere in the Children’s Learning Garden: “When I said to my Farm Friend I was hungry she pointed out a kale plant and I ate it.” In fact, tasting edible plants while working in the garden beds was the norm. The only rule was not to eat from other garden beds.



Figure 12. Eating in Situ

Being chefs and eating (mostly kale) were remembered by many of the ILLP student alumni as one of their favourite activities at the ILLP. The fruits and vegetables that children and Farm Friends grew in their garden beds were new for some of the students. Children recollections included stories about eating new foods and learning about some unexpected “consequences”:

Researcher: Do you remember the food that we were eating at the farm?

Bruce Lee, Jaiya, Chuck Chen: Yeah!

Researcher: Were you familiar with that food before you went to the farm?

Bruce Lee: Well I had it before once when we came for family day with my sister.

[His sister participated in the ILLP two years before him.]

Researcher: But for example the vegetables that we were eating?

Bruce Lee: No, I had never eaten beets before.

Jaiya: And then you get obsessed with them, when what was her name? Elian² or something like that.

Bruce Lee: Oh yeah and we ate beets! [The researcher brought beets to the classroom when conducting her research]. All the boys and I went into the washroom to check if our pee turns red.

Jaiya: Oh, so that is why you ate them!

Bruce Lee: And then we went home and then it worked!

While some of the students were familiar with the food that they were growing others expanded their knowledge as Bri (Grade 7) and Bookaholic (Grade 7) explained:

Researcher: Were you familiar with the type of food that we were growing?

Bri: Yeah....

Bookaholic: Noo!

Researcher: Bookaholic, you were not familiar?

² Elian conducted her MA thesis research at this school. These students participated in her research and they remember that she brought food to the classroom.

Bookaholic: Well the first time that we were introduced to the farm program you made us eat a flower [nasturtium]. I was like really freaked out, like why is she making us to eat a flower?

Bri: Am I going to die?

Bookaholic: Everyone was saying that it was spicy and I am like ahhhh I took a bite and I found a centipede in my flower so I did not eat it.

Researcher: Okay fair enough, but what about the things that you planted in your plot?

Bookaholic: Oh I knew the basics. There are leafy plants there that pop out of the ground but I did not know the different types and like and I found out that there is more than just lettuce in the leafy stuff, I found kale.



Figure 13. Flower Eater

Regardless of children's initial knowledge about edible plants, the garden was a flexible and rich learning space for everyone. As shown above students with some familiarity of garden's food, and those without this knowledge, had experiences that added to their previous knowledge.

The range of food topics discussed during the individual interviews and focus groups was broad. Some students talked about their unwillingness to eat food that they grew in their raised beds because of their lack of familiarity with those foods. Bart Simpson (Grade 5) elaborated about this:

Some of the food I really did not like. Usually I just have really simple things like hamburger or just cereal or go to a restaurant but not really....I am not going to say I do not eat healthy things, I do that, but it was kind of different to eat things that I had not eaten before and they just had so many things on them [ingredients in the] that I cannot eat them because it was too much....And I have not eaten pumpkin before. I think we had pumpkin soup or something like that.

Another student, #yoloswag (Grade 6), was willing to try new foods, but our garden food was not food that his family ate. He explained: “I started eating more kale but since my parents are Asian, both of them, they do not like Western foods so I cannot have as much ... But whenever they go to a natural food store I just remind them to buy kale.”

#yoloswag’s voice was not unique. This was not the first time that I heard children express a disconnection between the food they ate at home (cultural foods as children called them) and the food they grew in the Children’s Learning Garden. It was a recurrent conversation I heard over the years, while I cooked with the ILLP students. During the interviews when alumni talked about their cultural foods, some would also recommend what we should cook and eat during the visits, e.g. Vietnamese or Chinese food. Other students when talking about their cultural foods, mentioned to me that the vegetables (e.g., eggplant) they needed in order to prepare those types of dishes were not grown in the Children’s Learning Garden. One student explained to me that in his culture, “you do not eat raw food. It has to be cooked.” Even though

he tasted the new food we grow at the children's garden, eating raw vegetables was not part of his eating regime.

The voices of the ILLP student alumni illustrate how children's agency regarding food is limited and shaped by adults. This demonstrated that eating behaviors are learned (and taught) at home, though eating is not restricted to homes; eating is a part of our social lives.

Janis, a mother of ILLP student alumni, when describing what she valued about her son's experience in the ILLP, shared her memories of eating Korean food at school when she was a child and being the only non-Caucasian student at her class. She pointed out that nowadays Vancouver schools are culturally diverse but when she was a child it was not like that. She expressed that she valued the cultural diversity that her son is part of at his school. She pointed out that when her children

grow up they will know people of all ages, colours, which is a natural way to live.

I think we are lucky, Vancouver is diverse to a certain degree, so there is that kind of exposure, I mean more than when I was a kid. I was the only non-Caucasian at school [laugh], now it is very different, I can send my son with rice instead of a sandwich and it is not a big deal.

Janis elaborated about her experience as the only non-Caucasian student.

Researcher: It was a big deal?

Janis: Yes, it was a big deal! Oh yeah! My mom packing my lunch it will be rice and at school kids will go like, what are you eating!? Like, smells weird.

Researcher: Really?

Janis: Oh yeah I got really hassled for that. I am Korean, so we had something that looks like sushi but it is cooked and sometime they [her parents] packed for

me [lunch] that so kids were like, what is that? They made fun of me. Or shrimp chips. Do you know them?

Researcher: Yes.

Janis: I brought those to school once I remember, and they [children] were like ewwww.

Janis words highlight the important role that food plays in our lives not only as the element that keep us alive, but also as one of the elements that displays who we are, where we come from, what we like, what we value, etc. Fischler (1988), emphasizes that “food is central to individual identity, in that any given human individual is constructed, biologically, psychologically and socially by the foods he/she choses to incorporate” (275). Stead, McDermott, MacKintosh, and Adamson (2011), have argued that “food is used by young people to inform and support their identity and the ways they relate to and judge others” (p. 1137).

5.3.2.2 Kale Connoisseurs

Kale (*Brassica oleracea*), a plant from the brassica family that is high in vitamin C, easy to grow, and more important, easy to grow in this northern latitude with frost (West Coast Seeds, 2008), grows in the Children’s Learning Gardens everywhere you turn your head (see Figure 14). Different varieties of kale are present throughout the year making it available to eat and cook in all the 11 students’ visits to UBC Farm.

The alternative food movement has labeled kale a superfood. Packed with nutrients, kale has been marketed as especially beneficial for health and well-being (Hanna, Pope, & Rowland, 2012). The marketing industry has recently constructed a central spot in the alternative food movement to sell kale products. Its visibility in television programs and cookbooks and through products made of kale has increased during the last few years.



Figure 14. Kale and Me

While I cannot confirm whether kale consumption by the general population has increased or not because of marketing, what I can assert is that during the interviews alumni frequently recalled eating, harvesting and cooking kale. That is why kale is a subtheme in this chapter. Student alumni comments were filled with descriptive words: “ready to eat,” as Lorde (Grade 6) noted. “Everyone had kale, you see people like I give you kale if you give me like more kale!” Children also remembered that the kale that they ate in the ILLP “tastes better at the farm than the ones you buy at the store.” A Grade 6 student explained:

Yes [I was familiar with kale] because my mom always make kale chips but I never like it because I am pretty sure she bought a non-organic kale. It did not taste right, it was not fresh, and then it was like I do not really like kale. And then

my Farm Friend said, just try it, and I tried and it was so good. Way better than the one my mom buys, right. So now I have been growing kale from the seeds that [my] Farm Friend gave me. I have like three rows of kale.

These children are right. Kale they grow in their garden beds at the Children's Learning Garden at UBC Farm tastes different from the kale you can buy at the grocery store because kale at the children's garden freezes during the winter months. This sweetens its flavor.

Most participants of my study were not familiar with kale before taking part in the ILLP but over the course of the year they learned to love it. One student alumni recalled: "...because those were my best moments I guess, eating kale and a bee landed in my face... and the fields, running with my friends playing tag or something."

ILLP students introduced kale to their families by bringing kale plants, seeds and kale leaves home. Some student alumni shared stories about how they took kale seedlings they had grown at ILLP and transplanted these at home or at their relatives. Bringing edible plants home was important for children. They were proud of what they grew and wanted to show and introduce to their families what they had been doing and learning at UBC Farm.

Children's memories about bringing home plants (mostly kale) that they harvested or that the FFs gave them, were full of detail about how they introduced their families to new and different foods. Bringing edible plants home was an opportunity for students to switch roles with adults, instead of being the learners they were the teachers. They taught their families about kale, how to plant it and how to cook it

While children brought home other plants and seeds, the overwhelming number of references to kale indicated that their interaction with this edible plant had a significant impact in

their food identities construction. Some ILLP student alumni continue to grow and harvest from the kale seedlings they brought home.

5.3.2.3 Identities as Picky Eaters

Children's comfort levels with trying food at the ILLP were as diverse as the children themselves. In each class that participated in the ILLP there were children who would not try edible plants, in the garden or when prepared in salads or other dishes. In contrast, there were other students willing to try all the edible plants in situ and in the food that we cooked.

ILLP student alumni defined themselves through the ways that they interact with food. Being a picky eater was a very salient-food related identity that emerged during the individual interviews and focus groups:

Jaiya: I am still not willing to try new foods.

Researcher: Why?

Researcher: Would you consider yourself like a picky eater?

Jaiya: I would not say kind of, I would say I am a picky eater!

In fact, student alumni voices complemented what I observed when I worked in the ILLP. In the following excerpt Bookaholic (Grade 7) explains her views on why students were picky eaters:

Our generation is very spoiled. We are very picky eaters 'cause I eat nothing in our farm trips [the other children in the group assert this is correct about her]. I ate only the things I was familiar with. I was familiar with fruits [apples and oranges that we offered to students when they arrived] and vegetables, or if I thought it would maybe taste good I ate it. But if it looks weird, I was like, "no, I am not going to eat that."

Bookaholic would not taste new food during visits because if she did not “know the food,” she assumed she would not like it. Other students who knew her mentioned that she would not even try the apples. Bookaholic recalled that one of her Farm Friends made a deal with her to sample an apple but her attitude towards food was not impacted by the program. Being a picky eater was part of Bookaholic’s identity. Despite this, she said that because she was a perfectionist she would want the garden bed to be pretty: “I would plant things even though I do not eat them and I will give them away. But as long as the garden looks pretty I will be like okay, I planted this.” Not all participants looked at their gardens in the same way. For Bookaholic, the garden was not about growing and eating edible plants, it was about the beauty of the plant display.

Some students overcame their pickiness and became more willing to try new foods because of exposure to new food that came through the ILLP. These students constructed a new practice-linked identity related to eating. They embraced a “try-it-out” identity.

Lorde (Grade 6) who was influenced by her involvement in the ILLP identified herself as a picky eater:

Yeah that is definitely me. I used to be a really really picky eater. Once I tried [something I could not understand what] then and I was ewwww this is gross, I do not like it. But now, I am like oh this is so good I love it!

Then she explained, “I learned to try new things [referring to food] at the farm.” Isabella (Grade 5) also changed her perspective after her participation in the ILLP.

Isabella: I learned that you can eat flowers and a lot of different plants that taste good and are healthy.

Researcher: You did not know that before?

Isabella: Well I usually hate vegetables, I like them now.

Parents of ILLP alumni also identify their children as picky eaters. Children and adults voices converged in this matter. Janis, one of the mothers who participated in an individual interview, described the change in her son because he had been in the ILLP:

I found it hard sometimes to get him to eat certain foods, but once he was at the farm he was so interested, and that he was more willing to try and it was almost like a chance for him to show off what he knew. When we would go to the grocery store before he did not have any interest. Like he would call things like, anything green was lettuce. It was like he really did not care what it was. But then after the farm He came back you know he would say “oh I know what that is,” and he surprised me a lot of the times.

Janis’s experience was similar to another mother, Anna, who also acknowledged that her son, James, was more willing to try new foods after his ILLP experience:

It was a pretty good outcome! James has been always a picky eater. No offense James. [He was present in the interview.] He remains; he still is an incredible picky eater, and getting him to be interested in vegetables... Fruits no problem, but vegetables has been always a problem. But going to UBC Farm whether ILLP or Farm Wonders [summer camp held at the UBC Farm] he started eating potatoes, roasted potatoes. He will eat kale; he enjoys walking through gardens and picking things like nasturtium, or beans, and will eat what he knows he grows. And suddenly it is not the scary vegetable that I am putting on the plate in front of him. If he knows where it comes from or if he has helped in growing it or helped harvest he is far more interested in trying it. And he may not love the taste of it

but he is more much interested in trying if he knows that he participated in growing it.

These parents echo what I heard from the children themselves. After participating in the ILLP, they looked at food differently. Food was no longer a remote aspect of their lives, now they knew where it came from, how to produce it and in some cases, how it tasted. However this was not the case for all students. Children were critical about the food they had during ILLP visits.

ILLP student alumni acknowledge that they would have liked to have food that was “unhealthy food, but with a healthy twist” (Directioner, Grade 7). They were disappointed about always having the same ingredients to cook and eat. “Most of the time that we were there we ate kale, carrots, cucumbers. There is some other stuff we did not have, like a lot more stuff [talking about variety of fruits and vegetables]” said William Chamberlain (Grade 6). Another student noted that the food was not child friendly. Students also pointed out that they did not have a say in what to eat or what to cook and they suggested asking participants what they would like to eat and cook. Moreover, they suggested having a democratic vote among the children to decide what to cook during their visits to the ILLP.

The following excerpt illustrates what alumni would have liked to eat during their visits to the ILLP.

I think, I know that the whole point is to make us healthier but you should have more junk food like food that people really enjoy. We eat a bunch of fruit stuff, [but] once in a while we should have a not so healthy choice, like caramel apple, make your own caramel, potato chips; something that can be made like tacos,

from scratch, something that is enjoyable and not always a hundred percent healthy. (Bookaholic, Grade 7)

While some picky eaters changed their attitudes and behaviours towards foods, it appears that children's identity of being a different group than the adults (based on age), was not supported by food practices at the ILLP. Children's lack of identification with food practices at the ILLP reminds us that eating identities are shaped by social, cultural, economic, biological and psychological forces (Bisogni, Connors, Devine, & Sobal, 2002; Fischler, 1988) and that "the 'barrier' to healthy eating for young people is not simply that healthy eating fails to appeal to many young people" (Stead, et al., 2011, p. 1137).

I support Stead, et al. (2011) who argue that "the challenge is to develop intervention solutions which recognise the enormous complexities of young people's everyday lives to meet their emotional as well as their nutritional needs" (p. 1138). GBL practices could play a central role in this if children are involved not only as recipients of healthy food but as the designers of their own food activities, because as children's voices clearly state: experience is not enough.

While talking about their recommendations, student alumni in one group talked about the importance of having a "multicultural garden" at the Children's Garden. Participants in this group were three students; two of them were new immigrants to Vancouver. One student was from China and the other one was from México. These three students were concerned about children whose first language was not English feeling left out or marginalized. They suggested that there should be banners at UBC Farm with signs welcoming people in different languages, "so everyone feels welcomed." In

addition, they talked about the importance of having Farm Friends who spoke languages other than English so children who were not fluent in English could have them as a support. One of the students said, “I know a lot of people here who do not speak English in the school. I know someone that speaks Slovak, maybe we can have a Farm Friend that could speak both languages and could also help the students.”

The children also proposed that ILLP should have a special place in the Children’s Learning Garden to grow fruits and vegetables from other cultures. In this case, students referred to Mexican food plants. Another student, not an immigrant, suggested that ILLP “have a week devoted to all other languages so all the people that only speak English, they start learning about the other cultures.” He added that it would be a good idea for students to bring seeds from home to plant in the Children’s Learning Garden.

The experience at the ILLP provided the necessary elements for some children to construct practice-linked eating identities. The most salient was children expressions about the way they interact with food changed, from being picky eaters to a “try-out” identity. This was supported by hands-on experiences with edible plants. Further, it appears that being able to experience the whole cycle of food production—planting, harvesting, cooking, eating and composting— in the course of one school year is a pivotal element in the ways children define themselves with respect to food. Also, because of the knowledge gained in the ILLP children recognized themselves as learners and experts on food matters bridging what they learned at the ILLP and their homes.

There were also strong dissident voices, as some children’s were critical about the food they had during ILLP visits and the edible plants they planted. It seems like their identity as children, a different group of people from the adults, was not supported by the ILLP. In this case

I ask: What are the missing elements in this garden-based learning experience that could support children food identities? Certainly this opens the door to further research about how to interweave who the children are, what they like to eat, how they eat and what edible plants they want to plant, via the food discourses underpinning GBL.

Student alumni have provided interesting points that can help us start to reimagine the food component of the ILLP. In this finding I have shared the voices of student alumni who wished to have representation in the design of food activities in the ILLP. Co-design of food activities with children in the ILLP could be an exciting exercise to bring students cultural and social identities to the table.

5.4 Identities Constructed Around the Ideas of Freedom and Agency: Taking Risks, Taking Ownership, Taking Control

In this theme I explore children's identities and their sense of agency at the ILLP through their recollections of their experiences at the ILLP.

5.4.1 What Characterizes 'Identities Constructed around the Ideas of Freedom and Agency', and How are They Linked to Practice?

I draw from student alumni recollections of their experiences at the ILLP, to stress the importance of children's sense of agency in the construction of practice-linked identities. This sense of agency was felt and captured during the interviews through student alumni's narratives. Children's relationships with FFs, peers and the more-than-human world at the ILLP and the actions and responses to others, provided children with a sense of agency that served as an active element in children taking risks, taking ownership and taking control of their experiences at the ILLP.

The voices that spoke so enthusiastically about the joys of being covered in dirt, engaging in ‘gross’ behaviours such as playing with worms, and even “kissing a worm!” (Grade 6 student) are significant. The fondness with which children spoke about these experiences illustrates of the lasting value of hands on, experiential, and exploratory learning in the garden.

Freedom was understood by the students as the opportunity to move around, run, play, pretend play, go into the forest by themselves³ and work at the garden beds on their own terms without the constraints of classroom rules and adult control. Conversations with student alumni indicated that they valued the opportunity to follow their own agendas. Students expressed their appreciation for and recognition of the ILLP as a place where people (adults) were “not too strict” and an environment where they could be “semi-free.”

ILLP student alumni also pointed out that they enjoyed their experience in the ILLP because they were able to do things that they were not allowed to do at home, like getting their hands dirty and experience nature in situ. Isabella (Grade 5) explained she loved “Being dirty, and being really excited, and getting mud everywhere, being really gross and touching and playing with worms” (See Figure 15).

³ In fact, students were never alone in the forest. At least one adult was always with them. Farm Friends knew that there always needed to be at least two adults accompanying the children on forest trips.



Figure 15. Earth Worms

5.4.2 What Elements of the ILLP Experience Appear to Play a Role in Supporting the Construction of These Identities?

Children who participated in this study enjoyed the visits to UBC Farm because they felt free or “semi-free” there, away from school and “not doing school.” Children’s recollections were *infused* with feelings of freedom. They recognized that they were learning and being taught by others, but clearly stated that they enjoyed being without the limitations of the four walls of the classroom. In the following passages, #yoloswag (Grade 6) voiced these feelings:

Well I was opposite to Bart Simpson, I was enthusiastic [about participating in the ILLP] because first of all it means missing school. Second one I was also excited

because [there] it was going to be something to learn like every day that I go to the farm there is something new to learn.

This same student indicated that he had a preconceived idea of what participating in the ILLP would be like, but that changed after being there:

I thought it is going to be fun learning about nature but I kind of thought it was to be more like a professor monotone going [he changed his voice to make it sound like an adult's voice] "this plant is" [talking slowly and wagging his finger] This is like a different type of learning, not like taking [a] test, you know like studying for a test. This is like you are learning and it so fun that you remembered it. So yeah that was what I thought.

#yoloswag imagined that participating in the ILLP would resemble a classroom setting in which the teacher adopted a traditional approach to learning, a classroom in which teaching was a lecture. #yoloswag's excerpt also indicates that he finds experiential learning fun, a characteristic that in his opinion leads to remembering what he has learned.

The support and guidance provided by the FFs and teachers contributed in meaningful ways to children's agency in the garden. The freedom of being who you are, felt and expressed by ILLP student alumni, reinforces FFs and teachers' pivotal role in the construction of children as capable learners, even though some children did not conform the norms of their classrooms. This also emphasizes the garden as a "co-teacher" as well as an out-school-classroom that affords meaningful and significant learning experiences for children to build on.

5.5 Identities as Learners: Expanding the Sense of What Learning is and Where it Takes Place

In this section I explore the notion of learner identity that emerged from my conversations with ILLP student alumni and their parents.

5.5.1 What Characterizes ‘Identities as Learners’, and How are They Linked to Practice?

During my analysis of the interviews, the notion of learner identity proposed by Falsafi and Coll (2010) and Kolb and Kolb (2009) emerged as one of the practice-linked identities constructed by ILLP student alumni through participation. Learner identity has been described as “the situated construction of oneself as a learner” (Falsafi & Coll, 2010, p. 219). These authors report that their construction of learner identity is rooted in the three important theoretical aspects of sociocultural approaches to identity: the discursive nature of identity, identity construction as deeply embedded in activity and as a part of a social practice, and approaches that emphasize recognition as essential to identity construction.

This notion has helped me to make sense of children’s experiences of the ILLP. It served as an analytical lens (Gee, 2000) to inquiry into the identity construction of the ILLP student alumni. Hence, learning is the means of constructing identities and therefore the identity of a person as a learner is essential to other identities constructions (Falsafi & Coll, 2010, p. 216).

During my years working in the ILLP I noticed in my practice this learner identity in children; however I did not have either the words or the theoretical construct to talk about it. It was not until I conducted the interviews and analysed them that learner identity emerged as a theoretical construct; and when searching for literature to back up my finding, I found that the

term has been used by other authors (Falsafi & Coll, 2010; Kolb & Kolb, 2009), but is still fairly unknown and conceptually underdeveloped (Falsafi & Coll, 2010).

The importance of exploring children's subjective experience of being learners is pivotal to facilitate the construction of self-identify as learners. Learner identities are constructed over time; thus, having early experiences in life that potentially can engage children in constructing learning identities is necessary and imperative to create a pathway into the "learning way" (Kolb & Kolb, 2009, p. 5).

Kolb and Kolb (2009) point out that "people with a learning identity see themselves as learners, seek and engage life experiences with a learning attitude and believe in their ability to learn. According to Kolb and Kolb (2009), those who develop a learning identity bring this identity with them to all their further experiences; it infuses all aspects of an individual's life.

5.5.2 What Elements of the ILLP Experience Appear to Play a Role in Supporting the Construction of These Identities?

When student alumni were ask to talk about the most useful thing they learned during their visits. Their answers were diverse. Students noted they learned, "how to run a successful garden." They could recall important facts about gardening: how to plant a seed, how deep the seed needed to be planted—"two times its size" as one student said—how far apart seeds needed to be planted and how much water they needed.

Student alumni recollections about what they learned in the ILLP aligned with the ILLP curriculum. For instance, students learned how to identify edible plants. One student pointed out that this was useful knowledge for her because she would be able to identify edible plants on hiking trips with her family. Students also said that they learned how to care for plants. During

interviews students illustrated their knowledge of plants and compost. This prompted me to ask if they thought other students their age had the same knowledge. Their answers indicated they knew these things because of their involvement in the ILLP. This was evident in My Little Pony's (Grade 6) account. Her experience at the ILLP provided her with the knowledge to "know what is what." She explained during one of the focus groups, she had moved to a French immersion school for one year after her ILLP experience. There were no plants at her new school but "there was one time that a tulip did grow, and the other students were saying 'it is a rose, it is a rose!' but it was a tulip and I told them that."

Student alumni memories about what they learned in the ILLP were filled with details of their hands-on experience of acquiring new skills. They learned skills that were uncommon among urban children their age. During one of the focus groups students referred to these new skills as knowledge that provide them with "bragging rights." One of the uncommon hands-on activities that student alumni recalled was shoveling manure. Bookaholic and Bri (both Grade 7) remembered shoveling manure as a good experience, even "if it smell[ed] really bad!" I asked, "Why do you think it is a good experience?" Bookaholic replied, "well I can say I have done it [said with pride]," and "I can say I shoveled manure. What do you do?" She added, "Bragging rights!"

Knowledge acquired by the ILLP student alumni was shared at home. Students talked about how they taught their families how to plant, how to care for plants and how to use the seed catalogues. In addition, ILLP alumni introduced new foods to their families by bringing plants from the Children's Learning Garden back to their homes. Being able to bring edible plants back home to show their families how the plant looked and knowing the plant's name were important skills for students.

Bart Simpson's recollection illustrates how children introduced their families to new foods. He remembered: "On my first visit I did not know what this farm will be like and then I saw them [lemon cucumbers] I was like OMG is this a lemon? Now I know it is a cucumber and when I brought it home and my parents were like what is this? They did not have a clue of what it was! I always remember that."

Janis, a mother, commented that her son brought home dry beans that his Farm Friend had given him. She described how he sprouted them, planted them, and actually grew them. According to Janis, her son was invested in caring for the beans. She explained that after the ILLP her son wanted to plant edible plants. Because they lived in an apartment they bought planters for their balcony which he planted. She said, "Oh gosh! He knew exactly what he wanted, an edible flower [nasturtium], so we planted those and he picked them all and people would come over and he said, 'have you ever tasted this flower?' And he was sharing that with people." She also noted her surprise about his knowledge of plants. He was able to identify edible plants in gardens that she did not know.

Composting inspired a variety of reminiscences. While this was the activity that most students said was their least favorite because of the smell or because it was gross, they recognized it as a key learning experience.

Familiarity with compost varied among the students interviewed. Those students who were familiar with the practice of composting before their participation in the ILLP acknowledged that even though they had heard about compost they did not know what it was and how it worked. Will Chamberlain and My Little Pony (both Grade 6) claimed to know about compost practices because their families owned farms in the Philippines and British Columbia, but they did not know the importance of the practice.



Figure 16. Helping to Compost

Will Chamberlain learned that composting “is good for the plants and the environment because you do not need to throw away food.” Lorde (Grade 5) explained that she had composted before her time in the ILLP but “did not know all about it.” She “just knew that eventually it disintegrates into dirt” but “did not know how important it was.”

Student alumni also recognized that after their time in the ILLP they started composting. Bart Simpson (Grade 5) said he had learned a new skill: how to compost: “I never used to compost. I thought it was disgusting and stuff, now is interesting watching the bugs doing their job.”

Another salient topic in line with this theme was nurturing and caring for plants. Following their time in the ILLP student alumni cared more about plants. The following transcript excerpts exemplify this.

Well at first I was never into gardening. I thought that was something that I just could never get into, and then I went to the farm I was not enthusiastic about going at first and then, after the first one [visit] I started to think that it could be a

little fun, and then after the third [visit] I thought this is great and loving this, I did not want it to end. I think it made a big impact in my life style. Now I am more into nature and now I stop to think and I remember. I stop when I see a beautiful flower, think of the farm. (Bart Simpson Grade 5)

Learning to care for plants in ILLP inspired some student alumni to teach others about care for plants. My Little Pony (Grade 6) illustrates this:

Well now I care about plants a little bit more 'cause when I see someone litter on a plot, I told them like what if this was your garden do you want somebody to "put" their garbage on it? [Pause] not really. My mom has plants at home but she does not water them, so I end up watering by myself; she does not water them until one month, I am like, I know that they need more water than once a month.

This is not a cactus!

The outdoor classroom—the garden—welcomed learner diversity. There is no universal child, universal learner, or universal garden. This is an important message that children learned; it is okay to be different and to learn in different ways. Likewise, parents of ILLP student alumni recognized that the garden was an educational environment that embraced their children's learning needs. ILLP provided learning opportunities for children whether they had learning disabilities or just learned in a different way. Anna the mother of an ILLP student alumnus explained:

My son has a learning disability, he has dyslexia, and that was his last year at a public school (the year he participated in the ILLP) because he was extremely anxious following the very rigid guidelines of that school. They teach in [a] certain way to a certain type of kid, but if you need to learn outside of that it is

very difficult. Luckily Mr. Seed was a really good teacher that understood that working outside of the box was better for most kids and certainly for mine. It is the only way to learn. In that sense the ILLP is one of his great allies for him. But I think it speaks to every kid not just only to those who cannot sit in a desk for hours. I just think we are not meant to learn that way, not meant to sit and read and write all day long in order to learn. Learn by doing I think.

A number of the interviews concluded in a discussion and reflection about children's learning experiences. For student alumni and parents that participate in my study attending the ILLP at UBC Farm was a learning experience that was special, different, and appreciated. Children voices stressed that they appreciated learning in an out-of-school-setting. In some cases, the experience of learning with others (Farm Friends) was the main highlight, in other cases it was the lack of walls and "lessons" and that learning was enjoyable.

Parents who participated in this study were enthusiastic about their child's involvement in the ILLP and embraced the type of learning that the students were exposed to—hands-on and real world—because it resonated with their values. Some parents expressed dissatisfaction with the traditional education system expectations in which all children were expected to behave and learn in a certain way. Parents in my study believed that their children learned better when they were engaged in active learning and "experiencing things" rather than sitting for long hours at a desk. Moreover, they were critical of schools that privileged certain ways of teaching and learning for "certain" type of students, ignoring children who were not "that type of student."

I concluded this section iterating that exploring identity construction is important in the examination of education because cultural practices and skills that children learn in and out of

school not only have an impact on what they learn and do but also implicate who children are (Perkins, 2007).

The ILLP has provided a learning space in which student alumni constructed meaningful learning “through not only making sense of the practice and the learning situation, but also making sense of themselves in the specific learning situation” (Falsafi & Coll, 2010, p.220). Moreover, according to Falsafi and Coll (2010) learner identity is the basis for the construction of other identities. In my study, learner identity is the result of ILLP student alumni participation an engagement with the practice (GBL), the place (the Children’s Garden at UBC Farm) and others (FFs and peers). Learner identity is also a practice-linked identity that permeates and supports the other practice-linked identities described in this Chapter.

5.6 Identities Constructed through Play: Imagination and Pretend Play in the Forest

The student alumni interviewed for this study spoke with excitement, great passion, and enjoyment as they shared both their collective and individual memories of their time with the ILLP. In particular, the forest near the Children’s Learning Garden at UBC Farm was noted by student alumni as the space that provided them with a big wide world of wonder and awe during their visits to the ILLP.

The forest that student alumni talked about was the agro-forestry trail, an interpretative path adjacent to the Children’s Learning Garden at the ILLP. More than half of UBC Farm is covered in forest (Mitchell, n.d). This forest provides an opportunity for UBC Farm visitors to be in a forest without leaving the city. The teachers and ILLP staff use this trail for afternoon activities in which students explore the forest, through unstructured and structured activities.

5.6.1 What Characterizes ‘Identities through Play’, and How are They Linked to Practice?

Before I delve into children’s memories of what they played in the forest, I would like to point out that the playing activities children referred to during the interviews and the ones I am referring here are the sociodramatic or make-believe play typical of elementary-school age children (Bodrova & Leong, 2015). In the text I use ‘pretend play’ and ‘role playing’ as synonyms to refer to this sociodramatic or make-believe play. Make-believe play has been used by teachers and parents as a pedagogical tool to engage children in, for example, reading and drama (Booth, 1985), but in my study, this type of play was not directed by any adult.

Furthermore, my analysis is based on a sociocultural approach to play (pretend play) and guided by Vygotsky’s notion of social interaction as the motor of children's development (Shuffelton, 2009; Vygotsky, 1933/1966). Although, Vygotsky did not talk about identity development, he provided us with conceptual and methodological tools for understanding how sociocultural processes shape individual identity formation (Penuel & Wertsch, 1995). Vygotsky points out that “play [pretend play] is the source of development and creates the zone of proximal development” (Vygotsky, 1933/1966, p.16), stating the significance of play in children’s development and learning. He argued that when children play they “create an imaginary situation, take on and act out roles, and follow a set of rules determined by those specific roles” (Bodrova & Leong, 2015, p.374) and that these three characteristics of pretend play are fundamental to the development of higher mental functions in children. Additionally, although fantasy play is certainly a critical aspect of children's development, “this is no reason to assume it ought always to be cheerful, lighthearted and fantastical; fantasy play can involve

children struggling to come to terms with difficult and painful realities To children, it is serious business” (Shuffleton, 2009, p. 30).

I am aware that the emphasis given to play as development and progress has tended to *institutionalize* play, deemphasizing children’s use of play for their own affairs of power, in the ways they construct personal and shared meaning, and how they establish multiple roles and identities (Sutton-Smith 1997; as cited in Wood, 2007). Moreover, my perspective on children development as inherently socially and culturally situated within complex cultural practices and beliefs systems and the complexity of children’s relationships with other social actors (Wood, 2007) underpins my work.

5.6.2 What Elements of the ILLP Experience appear to Play a Role in Supporting the Construction of These Identities?

The forest at UBC Farm provided children with a space to play. It seemed to be a door to an imaginary world, where adults’ agendas, the garden activities and the classroom did not restrict the children. One of the predominant memories of student alumni that participated three years ago in the ILLP was to pretend play the “Hunger Games” in the forest. The Hunger Games is the first book in a trilogy of young-adult novels written by Suzanne Collins. It has been described as “a post-apocalyptic novel that explores what the future could look like once our unsustainable lifestyles cease to be sustained” (Green, 2008).

Children from all the ILLP schools were engaged in role playing the Hunger Games since the book trilogy came out in 2008. Boys and girls were immersed in an imaginary world, making teams, fighting with sticks, screaming, running into the woods, etc. Children used the novel, the

movie and video games as a basis for their role play in the forest that was the *perfect* environment to recreate post-apocalyptic scenarios.

One of the ice breakers that I used at the beginning of the interviews in order to initiate conversations, was having children write the first five words that came to mind when thinking about their experiences at the ILLP. Randy (Grade 5) who participated in a focus group explained one of the words he wrote during this icebreaker activity, “fun memories”:

I wrote down “fun memories” because it was awesome! And I especially had fun when we went into the forest and played Slender Man's Forest [video game]. Slender is this tall guy and his face is completely white and his arms go all the way down and if you look him in the face he kills you. It was fun and scary.

Another student participating in the focus group discussion, Isabella, pointed out that the forest, “just looked like the forest in the [video] game.” After this they continued talking about the video game and Randy reminded us that on Family Day—an annual activity where families of the children in the classes participating in the ILLP are invited to visit the Children’s Learning Garden and participate in different activities—he and his friends were playing in the forest when he heard a howl:

I was like what, what [pause] and I went to investigate and we found a bunch of [inaudible]...and sticks and then there, [talking to researcher] have you ever seen this strange carvings in the woods? Then we ran out and we came back with sticks and then my friend was like “Dude I think I actually see him! [Slender].”

Isabella and Randy’s recollections were vibrant and full of emotion. In fact, the forest as I learned through children’s voices was the space that belongs to them in the sense that adult’s agendas were not guiding their playing activities. It was a time to interact freely with peers. The

emotions student alumni expressed during the interviews are a reminder of the powerful emotional responses that places can foster and how these emotions are an integral part of learning. The video games, movies and books that children recreated at the forest were just the inspiration and platform for their own plot to play together. Moreover, children “relate to stories in terms of their own identity, just as who they are determines their response to their, family, friends, and environment” (Booth, 1985, p.194).

During one of the focus groups at Root School, Bruce Lee (Grade 7), Jaiya (Grade 6) and Chuck Chen (Grade 7) talked about being in the forest as a chance to “be alone” and “to be lost”:

Researcher: What else do you remember about being at the farm?

Chuck Chen: Taking walks on the forest.

Jaiya: Stop I was going to say that, stop!

Bruce Lee: I remember one time that we got lost.

Researcher: In the forest?

All: YEAH!!

Bruce Lee: We forgot where we were and we got lost! Oh we went to the large; I think it was the big farm [They were referring to another part of UBC Farm not the Children’s Learning Garden.]

Researcher: What was the thing that you enjoyed the most?

Bruce Lee: Walks in the forest.

Researcher: And why do you think you remember those things?

Bruce Lee: Because I like the outdoors! Getting lost, found the way out [pause] happy feeling!

Jaiya: So you need to get lost to be happy?

Bruce Lee: NO.

Jaiya: You said you like to get lost!

Bruce Lee: Sometimes I go to Central Park just to get lost in the forest trail.

Bruce Lee's feeling of accomplishment and reassurance came about during a walk in the forest. His autonomy and sense of agency were supported by the experiences at the forest in which he constructed a confident self-identity.

Children's recollections of the forest as their favourite place to be during their Farm visits also included descriptions of running in the forest, walking in the forest, and seeing a lot of trees, and being with their friends. Singer, Michnick-Golinkoff and Hirsh-Pasek (2006), point out that "as the pressure on children in school increases, paradoxically their ability to relax and just have fun through play is being restricted" (p.3). The forest at the UBC Farm provided a space for children where they felt unrestricted, where playing and experiencing the 'simple' pleasures of being in nature became memorable experiences that transcended time.

My study was concerned with the identities that children come to take on, construct and embrace that are linked to participation in the ILLP, based on Nasir and Hand's (2008) definition, these identities "extend beyond learning to the very definition of who one is and who one is in the process of becoming through participation" (p.176). The voices I heard during the interviews articulated the importance of play in becoming through participation and in the construction of playful identities. These identities are fundamental in the construction of meaningful learning experiences.

Despite the fact that play contributes "to development in the domains of social, emotional, and cognitive development, including language, numeracy, and literacy" (Zigler & Bishop-Josef, 2006, p. 29) the critical importance of play in learning has been diminished by a

focus on the “cognitive child” in which cognitive skills are seen as cognitive development. Cognitive skills are only one part of cognitive development; there are other important elements like the physical, emotional and social systems that are fundamental parts of children’s cognitive development (Zigler & Bishop-Josef, 2006). Hence, children’s experiences in the forest contributed to student alumni development as a “whole child”; a vision in which children are seen and understand as complex individuals in which children’s development is not reduced to cognitive skills, and attention is paid to the socio-cultural realm of children.

The findings of my study presented in this section, highlight the centrality of play in learning (Bodrova & Leong, 2015; Vygotsky, 1933/1966) and identity construction (Booth, 1985), and the importance of having educational contexts that foster children’s playing, exploring, interacting, and learning on their own (Bartlett, 2011).

The elements of this garden-based learning experience that appear to play a role in supporting the construction of student alumni’s playful identities are particular to the ILLP’s design. It is not common that a GBL project in an urban setting has access to a forest. This particularity is one of the elements that support such identities. Nasir and Hand (2008) have called these sorts of elements the material resources in identity formation. Material resources are the physical artifacts in the setting that support one’s sense of connection to the practice. The authors have pointed out that access to these identity resources are mediated by others. In my study, Mr. Root’s and Mr. Seed’s teaching philosophies and their willingness to allow children to play with minimal supervision played a central role in children’s playful identities construction. Peer interaction was also an important element in constructing these identities.

Other important elements fostered by place and affecting children’s identities construction arose when analyzing the interviews. The first one is what I have called ‘the awe

factor'. Awe is defined as the "feeling of solemn and reverential wonder, tinged with latent fear, inspired by what is terribly sublime and majestic in nature, e.g. thunder, a storm at sea" (Awe, 2014). The awe factor was present in children's recollections, when describing their experiences playing in the forest. By this I am referring to children's capacity for being in fictional contexts—make believe situations—in which their responses are real. Bolton (cited in Booth, 1985) argues that the emotional responses may be a "modified version of the same emotion felt in an actual event, but it can be equally or even more intense" (p. 195). The awe factor thus refers to children's emotions expressed during the interviews when remembering their experiences at the forest.

The second element that emerged from analysing children's interviews is wonder. The 'wonder' I am referring is a state of mind or feeling "that moment when a young person enters the realm of delighted fascination and amazement" (Trotman, 2014, p. 22) and that in opinion of Hadzigeorgiou (2014) wonder has an esthetic dimension in which "astonishment and admiration can both be present in the experience of wonder"(p. 45). Wonder was an integral part of student alumni experience at the forest and at the Children's Learning Garden. Pierson (2014) asserts that "the fact that wonder is an essential part of learning is by no means a new insight" (p.4). However she states that in our educational system the concept is still almost completely absent.

Authors such as Thorpe (2006) and Williams and Brown (2012) have emphasized how wonder and awe are fostered by learning gardens and how gardens are places where "unplugged" play happens, away from the "dominant social norms of speed and instant gratification codified as much by video games" (Williams & Brown, 2012, p.36). In my study, children's play was both plugged in and unplugged reminding us that children bring a range of cultural interests that

are part of their identity with them into the places where they participate and these interests are “often enriched by peer group culture” (Sanders, 2007, p.1214).

Sanders (2007) in her study report a similar situation like the one I found during the analysis of my data. She found out how children are immersed in their culture as part of their learning experiences in a botanical garden. She noticed that children participating in her study had specific cultural influences when building relationships with plants: “Pokemon cards” and “Harry Potter” books. Children in her study name carnivore plants using Pokemon cards names that had similar characteristics to the plants they observed. Another cultural influenced she find was children looking for poisonous plants they learned through reading “Harry Potter” series of books. Sanderson (2007) points out that “such cultural influences can be important catalysts for children’s interest in plants, from which develop their botanical knowledge” (p. 1214).

Schuffelton (2009) notes, that scholarship on the intersection of toys, patterns of consumption, and the media, has pointed out that since the mid-20th century, children's playthings have become tools for fantasy play that is farther and farther from the real world of adult roles. In a time when children are “watching large amounts of electronic media, scripts come from television shows, movies, and video games, which are, in turn, the production of adults' fantasies about what life is, could be, or should be” (Shuffelton, 2009, p. 229).

In the same way that wonder is absent or not promoted by education systems, children’s unstructured time at school and out-side school alone or with friends has been substantially reduced to the point that in some parts of the world recess time has been limited or eliminated from school schedules (Bartlett, 2011, Patte, 2009; Pellegrini & Robyn, 2006). In the previous scenarios, wonder and awe are viewed as not being result-oriented, and as a result less attention has been given to them in pedagogy. This, combined with ILLP parents’ dissatisfaction with

education designed to have children writing and sitting all day at their desks, highlights the importance of places such as the forest at the UBC Farm in which children are engaged emotionally, intellectually and socially through play. Where wonder and experiencing awe moments when encountering the natural world happened away from adult interventions and parental control: “Learning that emerges through play is meaningful because of the authenticity of those playing—the play occurs on their terms” (Carruthers Den Hoed, 2014, p. 26).

I believe these elements (resources) were paramount in providing children with moments in which they experienced the space on their own terms, through their own lenses and at their own pace, contributing to the construction of memorable and significant moments that helped construct their identities.

5.7 ILLP Echo Effects

In this section I present the findings of my study with regards to the impact that children and parents perceived from participating in the ILLP. In my study impact is understood as the “echo effects” (Mayer-Smith & Peterat, 2015, p. 20) that participating in the ILLP produce on adult volunteers and children. Mayer-Smith and Peterat (2015), have described the “echo effects” as the far-reaching impacts that extend beyond the ILLP – for example, projects initiated by former participants. The authors refer to these as “environmental echo effects of the Intergenerational Landed Learning Project. These new food environment projects are echoes that reflect, adapt, and re/ present our program’s ideals, principles, and approach” (Mayer-Smith & Peterat, 2015, p. 20).

As mentioned before in my study the “echo effects” are the far-reaching impacts that extend beyond children’s participation in the ILLP. Exploring children’s “echo effects” will

provide much-needed empirical evidence of the reach and impact of GBL initiatives (Mayer-Smith & Peterat, 2015).

While the findings reported here are in some cases related to identity construction not all of them are centered on identity. However, these findings are relevant not only for my study but also for the practice of GBL and the ILLP design.

During the interviews I asked alumni about the impact that ILLP had on their lives as well as parents about the impact on their children lives. This question was inspired by the long-term design of my study. This question was difficult for most students to answer. However some students not only remembered experiences at the ILLP but also reflected on those experiences and their impact. Will Chamberlain (Grade 6) viewed project impact as being able to share knowledge with others.

Will Chamberlain: Because I know more about gardening and chickens.

Researcher: And why do you think that is important?

Will Chamberlain: For the future for the next generation I can tell them.

Say [someone] knows nothing about chickens and he is doing a project on chickens I can help him out on that project.

For other students the impact came from learning new ideas, new perspectives, and different approaches to learning. Lorde (Grade 6) explained she learned “to [learn] to be more relaxed. I was really tense, I never want[ed] to sit down, I always wanted to do something the right way and if I did not then I got angry at myself and then [now], I just relax. Planning is all about patience and calm stuff.” For Patty the Pancake, learning patience was new: “You need to wait...how we found the cardboard things [the covers for the garden beds that children put on

top of the soil], so we need to wait for that [winter] to end, and to wait to go back to the farm. It takes a lot of patience to grow plants.”

These student alumni voices illustrate what students learned from experiencing the nuances of the outdoor classroom. As Thorp (2006) wrote about garden-based learning experiences: “stepping out of the classroom and into the garden, one enters a place of slow rhythmic continuity” (p. 5). ILLP student alumni experienced this “slow rhythmic continuity” and they remembered it as a new perspective that they learned while participating in the ILLP. For some alumni learning to be patient was the most significant impact of the experience.

One student alumni commented that the ILLP experience influenced her different phases of interests:

I have been through many phases of things that I was passionate about ‘cause like when I was doing the farm I wanted to build my own garden; I built it with my friend. And then I planted kale and everything and they just died, so that phase died.... so if it comes back then it might be really like having an impact on what I chose for the future, but I do not know. (Bookaholic, Grade 7)

For Bookaholic another impact of the ILLP experience was related to photography: “It got me into photography. I like nature photography. I think I will have fun memories about it, but I do not think it would be that important, unless I decide to want to be something that has to do with plants.”

The ILLP experience helped some students discern what they liked and disliked and the implications of this. In the following excerpt My Little Pony (Grade 7) elaborates on “not being that type of person,” therefore, she cannot see the impact of ILLP in her future.

Researcher: Do you think the project has an impact on you and your future?

My Little Pony: Not really.

Researcher: Why?

My Little Pony: I want to be a pharmacist.

Researcher: Do you need to be like a farmer in order to be concerned about plants?

My Little Pony: No.

Researcher: How do you see being a pharmacist?

My Little Pony: Medications and like stay inside all day.

Researcher: Why inside all day?

My Little Pony: To prepare stuff all day.

Researcher: Why do you want to be inside?

My Little Pony: Staying outdoors tires me.

Researcher: The outdoors tires you? So you do not like to be outside?

My Little Pony: Well I am fine being outside but I prefer being inside.

Researcher: Like working inside rather than outside? Why do you think you prefer that?

My Little pony: Because it is warm and the temperature I can control.

My Little Pony's words offered a different reading of identities linked to children's experiences at the ILLP. For the most part student alumni enjoyed being outside, being active. According to My Little Pony her future identity as a pharmacist was not supported by the learning experience in the outdoor classroom. She did not recognize the experience as an element to build on her future identity.

Chocolate (Grade 6) recognized the learning experiences she had at the ILLP as an important part of her current skills and knowledge: "There is more knowledge for and more opportunities for me to do stuff, more travelling and more hiking more exploring." When asked

why she linked the project and her experiences of it with those activities and she indicated “knowing what I could do, like what science I can use,” would benefit her future endeavours. She understood that the knowledge she acquired would benefit her in future learning experiences or “if I ever want to do a job that involves gardening.”

I also asked parents about the impact they perceived of the ILLP on their children. Most recognized that impact was not easily measurable but that impact would be mostly long term. Some parents described impact as knowledge that their children would use if they moved out of the city to pursue jobs in the agricultural field or if they had access to community gardens in the city. But mostly, they saw the project impacting their children’s knowledge of where food comes from and what it takes to grow food. One parent shared his concern about the naïve understanding among urban youth about what it took to produce food. He pointed out that through the ILLP, children could get a better understanding of food production what it was, and what was not. “It is hard work,” he said.

All parents acknowledged that an immediate influence of the program was how much their children shared with them about their time in the ILLP. Children had many stories to share about what happened on the day they visited UBC Farm. Parents commented that this was not something that usually happened, in fact, it was often difficult to get their children to share what they had done at school. But going to UBC Farm was a day to share with family.

Parents believe that the impact of the project would be greater and longer lasting in their children if they were provided with more information about their children’s participation and the project. Parents who participated in the interviews suggested that it would be valuable to involve the parents in the project. One of the fathers pointed out that even though they knew about their

children's participation (mostly through consent forms) he had no personal involvement, so at the end of school year there was no continuity or a way to build on the experience.

Parents of student alumni recommended having an initial meeting for parents about the project and another meeting at the end where they could see what the children had done. In addition, they mentioned that if one of the goals of the ILLP was to have a longer lasting impact then having meetings with parents to learn about how to extend the learning at home would help them to continue the learning at home since their children no longer had opportunities like the ILLP. Four of the five parents acknowledge the limitations of living in apartments without spaces to grow food and the logistics of everyday life that made it difficult for them to provide such learning opportunities. It is worth noting that most of the student alumni report not having comparable learning experiences in or out of school after they completed their year in the ILLP. As student alumni pointed out "it was a one of a kind experience."

5.8 Summary

My study findings indicate that through garden-based learning practices the ILLP provided the necessary resources to support the construction of the following practice-linked identities: 1) Identities constructed through relationships with non-parental adults: Farm Friends, 2) Identities constructed through relationships with the more-than-human-world: Interacting with other non-human animals and systems, 3) Identities constructed through new relationships with food and culture: Intercultural and intergenerational discoveries and frictions, 4) Identities constructed around the ideas of freedom and agency: Taking risks, taking ownership, taking control, 5) Identities as learners: Expanding the sense of what learning is and where it takes place, and 6) Identities constructed through play: Imagination and pretend play in the forest.

Both student alumni and parents' voices emphasized that participating in the ILLP was important because it provided children with diverse and different opportunities to construct identities dissimilar to the ones provided by the classroom. This finding is consistent with Rahm's (as cited in Shanahan, 2009, p. 61) assertion that informal settings provide students with new identity opportunities other than those available in the formal setting. In this study, these "new" identity opportunities were made available through participation in the ILLP. By providing support, freedom and meaningful mentorship experiences, children learned not only the practices (skills) they also construct a learner identity.

The elements of this garden-based learning experience that appear to play a role in supporting the construction of these identities are diverse and interrelated. Nasir and Cooks (2009) identified three kinds of resources that support practice-linked identities when available to participants in learning settings. The first one is the material resources: the physical artifacts in the setting that support one's sense of connection to the practice and its organization. The second one is the relational resources: the interpersonal connections to others in the context that can increase connection to the practice. The third one is what they called the ideational resources: the ideas about oneself and one's relationship to and place in the practice and the world, as well as ideas about what is valued and what is good (Nasir & Cooks 2009). These three kinds of resources also emerged in my study as pivotal to children's construction of practice-linked identities.

The elements that appear to play a role in supporting the construction of practice-linked identities in children that participated in the ILLP were closely related to the role of non-parental adult mentorship relations. Based on ILLP student alumni's voices and their parents which speak of competence and mastery gained through participating together. I can assert that recognition,

reassurance, respect, and *expert* knowledge that FFs provided to student alumni play a crucial role in student alumni engagement and in children's unique sense of themselves. When individuals feel that their identities are linked to the settings they are in, they are more engaged and learn more (Nasir & Cooks, 2009). Nasir and Hand (2008) have pointed out the importance of engagement in the process of learning, engagement "has to do with students' feelings of competence and mastery in a social context, as well as their sense that the context will offer relationships that support and value their unique selves" (p.145).

The physical space (material resources) in which the ILLP is located supported students construction of practice-linked identities. In this case, the natural and built environments were fundamental resources that provided children with experiences to learn the practices involved in the ILLP visits. Important elements were the plants, the trees, the food, the forest, the non-human animals, the tools, the kitchen, etc.

According to my findings, wonder and awe are two salient elements that emerged from and infuse children's experiences at the ILLP. Specifically the forest was remembered by student alumni as the space to play and wonder with friends.

Wells and Lekies' (2006) research study reminds us that while "domesticated nature," (i.e. gardening experiences), are important and contribute to positive attitudes towards the natural world, children's experiences in the "wild nature" are related to both to positive attitudes towards the environment as well as environmental behaviours during adulthood. Although the practice of gardening is the main focus of the visits to the UBC Farm, in the ILLP program, children are also being provided with the *resources* and the opportunity to experience "wild nature." This opportunity is an important one for urban children who often do not have ready access to "wild nature" (Kong, 2004). Furthermore, studies (Kong, 2004; Lester & Maudsley, 2006) have

documented the importance and value of children playing in unstructured spaces, as well as engaging in “risky” play. Such findings provide strong support for advocating that all children should have the opportunity to engage in such experiences.

Finally, student alumni voices remind us “that their needs and experiences may differ from that of the adult world” (Kong, 2004, p. 231). Student alumni voices provide evidence to question adult agendas regarding the design of GBL experiences for children. My findings resonate with Wake’s (2007a, 2007b, 2008) ideas about gardens designed in the best interest of the child, but where adult agendas prevail. Even though gardens are intended for the enjoyment and learning of children “the result is a garden designed on behalf of children that is influenced by adult expectations and politics, which determines the expression and use of it” (Wake, 2007a, 2007b, 2008).

In short in my study children define themselves through the ways that they interact with nature, food, and with others, thus the quality of these interactions matter.

Chapter 6: Implications, Conclusions and Suggestions for Future Research

This final chapter is divided into four sections. In the first section, I recapitulate the research questions that have guided my research study and summarize the key findings of my study relevant to the research questions and present other findings. In the second section, I discuss the implications of my study for practice, theory and research. The third section offers suggestions for future research, including specific areas of research that could be explored at the ILLP. Lastly, in the fourth section I conclude this chapter with final remarks.

6.1 Summary of Findings

In this section I recapitulate the research questions that have guided my research study to summarize the findings from this case study relevant to the research questions.

There has been relatively little research conducted and published exploring the long-term impact of children's participation in garden-based learning activities at school gardens or in garden-based programs (Blair, 2009; Mayer & Peterat, 2015; Ozer, 2007). This study, therefore, took the approach of an exploratory case study to investigate former participant's memories of the Intergenerational Landed Learning on the Farm for the Environment Project (ILLP) to understand how participation supports the construction of practice-linked identities. Through focus groups and individual interviews with student alumni of the programme and their parents I engaged in conversations to explore the following research questions:

- ◆ What are the practice-linked identities that culturally diverse, urban, elementary students construct through participation in a one-year, intergenerational, garden-based learning experience?

and

- ◆ What elements of this garden-based learning experience appear to play a role in supporting the construction of these identities?

My research indicates that participation in the ILLP provided students with a rich and meaningful learning experience, adding to the growing body of literature that supports school gardens and garden-based programs as legitimate academic venues where children learn and thrive (Blair, 2009; Desmond, 2003; Thorp, 2006; Williams & Brown, 2012). By inquiring into ILLP's student alumni memories of their participation in the ILLP and those of their parents, I came to understand which experiences at the ILLP have transcended time. Children's and parent's recollections provided me with narratives which I used to explore which practice-linked identities were supported by the ILLP.

My approach to understanding practice-linked identities was broad; I did not focus in one specific identity, such as ecological identity or science identity. As previously noted, I draw from Nasir and Hand's (2008) definition of practice-linked identities that are the identities that people come to take on, construct and embrace that are linked to participation in particular social and cultural practices" (p.147). The strength of this sociocultural approach to identity is that it allows "the researcher to focus on individual experiences without losing sight of the larger social contexts in which identities are constructed and made meaningful" (Esmonde, et al. 2009, p.21).

The practice-linked identities that student alumni construct through participation in the ILLP were: 1) Identities constructed through relationships with non-parental adults: Farm Friends, 2) Identities constructed through relationships with the more-than-human-world: Interacting with other non-human animals and systems, 3) Identities constructed through new relationships with food and culture: Intercultural and intergenerational discoveries and frictions, 4) Identities

constructed around the ideas of freedom and agency: Taking risks, taking ownership, taking control, 5) Identities as learners: Expanding the sense of what learning is and where it takes place, and 6) Identities constructed through play: Imagination and pretend play in the forest.

Important resources were identified as the elements of the experience that play a role in supporting the construction of these practice-linked identities. In what follows I identify the key outcomes of the study, namely the practice-linked identities and the elements that play a role in supporting children's construction of these.

1) My study indicates that regardless of the number of years that had passed between children's experience at ILLP and the interview, the dominant and richest memories of ILLP involved the social aspects of the experience. The social context, involving interactions with peers and Farm Friends, was among children favourite and most vividly-recounted and detailed memories. This was supported by parents who also spoke about the importance of these relationships in their children's lives. The places where these interactions took place – the forest, the Children's Learning Garden, and the kitchen – were key elements in student alumni memories. My finding resonates with Anderson (2003) study of adults' recollections of experiences attending a large exhibition, in which social context and social interactions were also the most dominant memories of adults' experiences.

FFs' mentorship which included support, encouragement, respect and expert knowledge was paramount in student alumni engagement with the ILLP. These elements supported the construction of practice-learning identities as capable learners and doers.

2) ILLP student alumni learned through their participation at the ILLP how-to-be with nature and non-human animals. These experiences were important for student alumni

development and the construction of their identities by providing new perspectives about how to deal with unpleasant insects or how to deal with fear and aversion towards spiders and bees.

My study supports calls for providing children with experiences in wild (forest) and domesticated (gardens) nature spaces, contributing to what has been argued before by diverse authors (Kong, 2004; Lohr & Pearson-Mims, 2005; Wells & Lekies, 2006) that nature experiences during childhood can have an important influence on adult environmental attitudes and behaviours toward the more-than-human world. Though the design of my study is short in terms of the years that had passed since student alumni participated in the ILLP, it reinforces what has been stated by other authors: that meaningful and significant learning experiences with nature accompany children in their future endeavours. Also, as mentioned by the children and parents that participated in this study, most of them live in spaces with no access to nature or with constraints that make it difficult to engage in gardening practices. The ILLP provides a natural learning setting that would otherwise be difficult to access for some of the children.

3) A significant outcome of my study was that participation in ILLP had an impact in children's knowledge and attitudes towards food. This finding is significant because it provides us with information about how participation in a one-year garden project can contribute to changing eating behaviours and attitudes towards food. This has been the goal of diverse research studies that have focused in using gardens as tools to improve children nutrition education.

Hands-on activities and knowledge at the ILLP promoted the construction of practice-linked eating identities. Some student alumni recognized themselves as picky eaters. Parents also identified their children as picky eaters. 'Picky eater' was a very salient-food related identity for

many of the student alumni. During the interviews they reflected in how the experience at the ILLP trying new food and learning where food comes from changed their attitudes and behaviours towards food. Parents' voices converged with children's voices in this theme. Parents acknowledge how after the ILLP their children were more willing to eat vegetables and were encouraged to try different food. Hands-on activities and knowledge at the ILLP promoted the construction of practice-linked eating identities.

Other aspects of children's eating identities were not supported by the project, specifically, their identity as a group based on their age (children). When children were asked about the food we cooked and ate at the ILLP, student alumni volunteered descriptive phrases such as "I am not a pumpkin person" or "I am not a vegetable person". It seems that the ILLP did not support children's food identities. Children expressed their dissatisfaction with the food they had at the ILLP visits; they did not consider the food to be "child friendly" and they recommended having "healthy food with an unhealthy twist". Lack of variety in foods and diversity in *cuisines* was another element that they suggested should be changed. Lack of children's agency in food activities at the ILLP was pointed out by student alumni. To address this issue, they proposed that children should have a vote to decide what to cook during ILLP visits.

4) Children who participated in this study enjoyed the visits to UBC Farm because they felt free or "semi-free" there, away from school and "not doing school." Children's recollections spoke about their agency at the ILLP and how this provide them with a sense of ownership in which they took risks and were in control of their learning.

Student alumni recognized that they were learning and being taught by others, but clearly stated that they enjoyed being at the Children's Learning Garden at UBC Farm, without the limitations of the four walls of the classroom.

5) My study highlights and illustrates the emergent learning opportunities supported by the rich educational context of the Children's Garden at UBC Farm. Children's construction of practice-based identities as capable and knowledgeable learners was advanced by the mentorship relationships afforded by the intergenerational character of the project in which FFs expert knowledge and ILLP curriculum has transcended time. Children's memories about the knowledge they acquired through their experiences were noteworthy.

Learner identity was one of the identities that emerged from my conversations with student alumni. Also it was an analytical tool I used to make sense of children's experiences of the ILLP.

Furthermore, through conversations with children and their parents I found that students transmitted the knowledge they acquired at the ILLP to their families and peers. This suggests their experience in the ILLP and the knowledge they gained empowered them to teach others, both adults and children; they were comfortable as "the experts" when talking about edible plants and gardening practices.

Additionally, findings of my study support Mayer-Smith and Peterat's (2015) statement that "meaningful learning in gardens requires repeat exposure and participation that extends over a full growing cycle" (p.92). Children's memories of their experiences in the garden reflect this as they emphasise that they learned that growing edible plants takes time and patience. This

learning was possible because of the length of the experience (one academic year), permitting children to experience the full cycle of plants.

6) The forest at the UBC Farm provided student alumni with a natural, unstructured space to play (pretend play) and imagine other worlds, where wonder and awe were elements that triggered vivid and emotional memories. Children bring their culture to forest activities by reenacting videogames and movies. These became the *scripts* to play (pretend play) and to create imaginary worlds away from adults' agendas. This finding highlights the importance of play for children's identity construction. Children learn about themselves and re/construct their identities while playing with others. Through play, children try on "different suits" and different roles. It is an opportunity to experiment and see things from other perspectives.

My findings support and contribute to discourses in contemporary research on the intersection of education and identity (Coll & Falsafi, 2010; Polman, 2010), specifically in the field of science education in which the concept of identity has been increasingly used to understand how students learn and participate in science in formal and informal places (Nasir & Hand, 2008; Pozzer & Jackson, 2015; Shanaghan, 2009).

My findings also support the use of sociocultural approaches to explore identity construction. Furthermore, my findings highlight the need for sociocultural approaches to explore re/construction of identities, considering not only children's relations with others but also children's relations with the more-than-human world.

Finally, my findings provide support for the continued delivery of the ILLP and the model of garden-based education that the ILLP has developed. The program's physical location on an urban farm in a research university and its design, provide children with GBL experiences

in which they have encounters with the more-than-human world that are necessary for promoting behavioural and attitudinal changes towards the natural environment. My analysis of the interviews and focus group data indicate that children's experiences at the ILLP will have an impact on their future. Children will either use the knowledge gained in the program in their future educational experiences, or the experiences they had at the ILLP during one year will bear fruit in their everyday lives. That being said, further research exploring the "echo effects" (Mayer-Smith & Peterat, 2015, p. 20) of children's experiences at the ILLP needs to be conducted in the future to corroborate my assumption.

6.2 Implications

The findings of my study contribute to the body of knowledge regarding garden-based learning. In what follows I present some implications and recommendations of my study that pertain to the practice, theory and research of garden-based learning.

6.2.1 Practice of Garden-Based Learning

My study with ILLP student alumni allowed me to extend Groendal's (2012) study and assert that students' positive views of their relationships with their FFs have endured over time. The implications of the previous outcome are important for the ILLP and can inform and enhance the design of the ILLP curriculum, and support and inform the program's day-to-day activities at the ILLP. Children's recollections about their Farm Friends (non-parental adults) were full of descriptions of who their Farm Friends were, names, professions, physical characteristics, stories that Farm Friends shared with children and knowledge they imparted were among alumni's memories. Student alumni participating in this yearlong study develop a strong bond with the program's non-parental adult volunteers. This suggests volunteer recruitment for the ILLP might benefit from highlighting how significant the volunteers' role is, emphasising the

emotional bond children make with them. Also it would be important to reinforce the importance of the quality of the relationship in children's construction of practice-linked identities. It would also be central to stress the importance of FFs being present during all eleven visits to the ILLP.

One of the main implications for garden-based learning practice is the prevalence of adult agendas that dominate garden-based learning design and practice. In my study, student alumni's voices claimed that they would like to participate in the decisions about the activities conducted in the ILLP. Specifically, with respect to the cooking activities, they want to have input about what they are given to eat, and what they cook in this garden-based program. When designing activities in a garden-based program for children, providing opportunities for co-designing of activities would be an important and interesting area to explore. This is not only because it is good pedagogical practice to respect children's worldviews and to implement their voices, but also because, as Lundy (2007) reminds us, "respecting children's views is not just a model of good pedagogical practice (or policy making) but a legally binding obligation" (p.930).

I found only one study that engages with this aspect of the practice of garden-based learning, in which "children's culture became a rich source of 'everyday conversation' in the garden spaces" (Cutter-Mackenzie, p. 133, 2009). Cutter-Mackenzie's study (2009) investigates a culturally focused food gardening program that takes into account a variety of aspects of the practice of GBL. The program was connected to the core curriculum and designed specifically for underserved, multicultural children, whose first language was not English. The results of this study are encouraging in many ways for garden educators. Cutter-Mackenzie (2009) points out that children have a stronger sense of participation when involved in the program, not only as recipients of it. When children are involved in co-designing, there are repercussions including deeper connections with themselves and with their social and cultural realities. The author

emphasizes that the garden-based experience provided a real-life opportunity to improve English and contributed to students' connection to the environment and their "sense of agency in protecting the environment" (Cutter-Mackenzie, 2009).

6.2.2 Theory of Garden-Based Learning

While I applaud the rich learning environment that food gardens are for children, I have come to question the intention of the ILLP to not be prescriptive. (ILLP's curriculum does not aim to teach what children should or should not eat.) Are we being prescriptive (unwittingly) regarding what food is good to eat while decrying other types of food and thereby establishing a hidden curriculum? In what follows I elaborated in this idea. The ILLP has a curriculum that is rooted in experiential education as well as in a sociocultural understanding of learning. During the interviews conducted for this study, students demonstrated an understanding of why and for whom the ILLP program had been developed. This was expressed by students through phrases such as "I am not that type of person," which referred to not liking the outdoors or certain activities that take place in the ILLP and not seeing the experiences as relevant to them. These expressions were voiced mostly by the older students who had participated in this study. It was during my reflection process that I came to understand that these expressions might emerge as a result of the hidden curriculum. I began to think about the kinds of ideas that the garden space communicates to children. What is the hidden curriculum that students are able to pick up on from their participation in a garden-based program?

To understand learning garden spaces from a curricular perspective, we need to study and analyze the social and cultural values embedded in these educational programs, in terms of "what knowledge—and whose knowledge—is of most worth?" (Lindauer, 2006). School gardens and garden-based programs are designed by people with particular world views, understandings of

learning, and so on. The garden could serve as a metaphor for curriculum because like “curriculum, the garden is a primarily social construct that reflects the intent of the maker and the prevailing cultural ideologies of the time” (as cited in Baptist, 2002, p. 20).

Curriculum theory has recognized that curriculum is what students have the opportunity to learn while in school (McCutcheon, 2002). This conceptualization highlights that it is not only the intended curriculum that students learn at school. Likewise, in garden-based programs the curriculum is not restricted to the intended or explicit one. The actors and the complexities and dynamics of the place, render the curriculum a “live” entity that expands beyond the limits of the explicit curriculum where the hidden and null curricula are part of that lived experience. The hidden curriculum is what students learn that was not planned as a specific aim by the curriculum developers. The null curriculum concept refers to what has been omitted “absent, left out, and overlooked, how curriculum is conceptualized, created and enacted” (Boostrom, 2010, p.614). These notions of incidental learning or undirected experiences had been discussed by John Dewey and Franklin Bobbitt (and others) decades earlier (Boostrom, 2010). However, it was in the 1980s that new perspectives on curriculum studies, critical theory and reconceptualism, contributed to the conceptualisation of the hidden curriculum as an explanatory mechanism for the reproduction of social inequality. Then, “the hidden curriculum came to be seen as a hidden agenda, a set of deliberate practices with intentional, and largely detrimental, outcomes” (Boostrom, 2010, p.614).

The recognition of the null and hidden curriculum in all teaching practices, is important because curriculum and pedagogy matter, and they make a difference in students’ learning and their experiences For example, when teachers or curriculum developers do not include curriculum content related to Native Americans, students are actually learning something about

Native Americans through the absence of the content in the curriculum. Moreover, students from other racial and ethnic backgrounds miss opportunities to deepen their knowledge about that particular group (Native Americans).

With respect to the ILLP, the hidden curriculum can be gauged in the interpretations that student alumni of the ILLP made about their experiences, in which they question what knowledge—and whose knowledge are present. This was apparent when alumni referred to not being asked what they liked to eat, or what to plant. This is a hidden or implicit curriculum that provides insight into children's experiences and how they read and experience a space on their own terms. It is hidden in the sense that it is not included in the statements of expected learning outcomes of the ILLP, and may not even have been perceived by the designers of the ILLP as an intended outcome of the children's experience.

In the case of the ILLP's null curriculum, questions such as: 'What are the omissions?', should be asked as an exercise to revisit the ILLP intended curriculum. How can we participate from a curricular perspective to bring these (omissions) conversations to the table? Although answering this question is not an aim of this dissertation, I think it is important to pay attention to the hidden and null curricula to understand its implications in students' construction of practice-linked identities in the ILLP. I conclude this section with a quote from Baptist (2002) that captures the main ideas explored here:

Gardens, like curriculum, can be rigorously planned, plucked and nurtured, leaving as little as possible to happenstance; alternatively, they can be wild, left completely to nature. The garden and curriculum invite participation through physical movement, intellectual engagement and creative imagination. At their

best, each can awaken the senses, provide delight, evoke love; at their worst, each provokes hatred, prejudice and tenor. (p.20)

6.2.3 Implications and Suggestions for Garden-Based Learning Research

In this section of this final chapter I discuss the suggestions for future research emerging from my study. Specifically, I point out areas of research that could be explored at the ILLP.

My study's data was student alumni and parent's recollections of their past experiences at the ILLP. Participant's vivid memories provided me with the means to inquire into my research questions. Participants' recollections also shed light on future areas for research within the ILLP and in garden education settings. In what follows I present issues that are worthy of further research.

First, this study indicates the need to explore the role of children in co-designing garden-based education activities. Children in my study spoke about wanting to participate in the design of food activities. Other authors (Cutter-Mackenzie, 2009; Green, 2014; Lekies, Eames-Sheavly, Wong, & Ceccarini, 2006; Wake, 2007a, 2007b, 2008) have pointed out the prevalence of adults' agendas leading garden-education experiences for children. This tendency has prevented children from participating in the design of their learning activities in the learning gardens. My study in conjunction with the authors mentioned previously, makes the case for further research on this issue.

Specifically, I suggest that it would be valuable to investigate how ILLP might involve children in co-design activities with children. In this co-designing arrangement, ILLP teachers would have a central role facilitating the conversations between the classroom activities and field-based activities.

Second, the ways in which social identities (i. e. race, gender, and class, socioeconomic status) interact with and inform the construction of practice-based identities has not been explored in GBL research. Therefore, this is an area that needs research, given that students' social identities influence not only what they learn but how they learn together (Esmonde, et al., 2009). My study did not focus on gender; however an interesting area for future research in the ILLP is how the gender of FFs influences children's perceptions of GBL. Children in Vancouver schools are socially and culturally diverse. This contrasts with the more homogeneous composition of the ILLP's volunteers and staff (most of whom are Caucasian and female). During interviews children illustrated their perception of the homogenous composition of the adults participating in the ILLP. Children suggested that it would be important to have Farm Friends who speak languages other than English, and for UBC Farm signs to be written in multiple languages so those who cannot read English feel welcome to the space. Also, children suggested that bringing seeds from home could provide diversity in the food gardens. This provides food for thought and illustrates that "gardens are not mute, like other spaces created by people, gardens say something about people who construct and use them" (Li, Hodgetts, & Ho, 2010).

Third, the literature review and the findings of my study highlight that it would be important to inquire into the food discourses underpinning GBL. Today's food garden movement is closely connected to nutrition education, which, driven by the so called "obesity crisis," teaches young people what to eat. In the opinion of Guthman (2014), this approach has been unreflective and uncritical of the politics of knowledge in nutrition science and practice. If food gardens at school grounds are here to stay, we should embark on critical conversations regarding

what we are teaching at food gardens. The new field of “Critical Nutrition” (Guthman, 2014) provides a different and promising platform to inquire into food issues and GBL.

Fourth, there is the need for future research to look at special education and inclusivity in GBL practices. During the years I worked in the ILLP, I witnessed how GBL is inclusive and provides success for all students. I worked with some gifted children and some with special needs. Three participants of my study were children with special needs, autism, and dyslexia. One parent pointed out that the ILLP was supportive for children who are “outside-the-box” learners like her child, who did not success in the traditional classroom. Another parent mentioned the social part of the program made a great difference in her daughter’s social skills. Although parents’ voices shed some light on why the space that the ILLP garden program was a good place for their children, targeted research is needed to understand the possibilities and challenges that GBL offers children with special needs.

Fifth, inquiry into identity construction in educational contexts through sociocultural understandings of learning is a vibrant field that is growing and offers opportunities for research in this area. Polman’s (2010) concept of the zone of proximal identity development (ZPID) in apprenticeship learning is an emergent theoretical notion that needs to be explored and that has potential implications for GBL discourses. Polman (2010) defines

the zone of proximal identity development as the distance between the actual identity development level as determined by an individuals’ past positioning (self-positioning) and the level of potential identity development as determined through mutual negotiation of positioning and stance during actions associated with an identity, under adult guidance or in collaboration with peers. (p134)

This notion of ZPID could help garden educators. Polman (2010) explains that in the same way that teachers seek to investigate student's prior knowledge in order to facilitate scaffolding of learning, "they should consider the prior trajectories of identification of their students and aim to work in their zones of proximal identity development" (p.150).

Six, the use of a sociocultural understanding of learning has guided my study. This approach has proved to be valuable to analyze practice-linked identities construction in student alumni of the ILLP. However this approach has focussed on children's relations with humans and has not paid attention to the influence of the more-than-human world in the development of the child and in the re/construction of children identities. It would be important to inquiry into this from a sociocultural approach of learning that considers children's relations with other the more-than -human world as part of the complex world of children.

Finally, emerging from my study is the need to look more closely at the use of focus group interviews with children, as a research method. There is limited literature on focus groups as a research method with children, despite its use in the field of education being widespread. Focus groups offer many possibilities; however, few studies have critically examined the use of focus groups when conducting research with children. Cyr's (2015) study on the use of focus groups as a data collection method with adults is a good starting point that needs to be considered when researching this issue and when planning to use this research method.

6.3. Final Remarks

I conclude this chapter with some final thoughts about GBL. As a researcher and garden educator involved in the field of GBL in Canada over the past seven years, I have read the recent literature on GBL published in the Western world, mostly in English. Some GBL reviews of research conducted during this period (for example, Blake, 2009; Ozer, 2007; Williams, &

Dixon, 2013) point out the “necessity” for stricter analysis and more quantitative studies, with research conducted by people who are less enthusiastic (to reduce potential bias in GBL research). These same reviews call for researchers to focus more on academic outcomes that validate the case for gardens at school grounds. I disagree.

I think the field of GBL needs more people conducting research that is inspired by passion and knowledge of the practice of GBL and with interest in the theory behind the practice. This will keep the school garden movement and garden-based programs alive. If researchers, teachers, and advocates of GBL, are interested in transcending the current trend in garden-based learning, they need to remember that gardens at schools are not new. Gardens in school grounds have a history in educational agendas, and if we look at the history of school gardens we will see that failure has preceded them vanishing from school grounds. Thus, it would be important to promote a historical vision of GBL that invites reflection on the past agendas of GBL and learning from those experiences.

I envision the field of GBL rooted in interdisciplinary research and practice. This will foster diverse pedagogical practices and theories that can support and establish GBL as a robust educational and research field. There is the need to elevate conversations about GBL “to become more theoretically sophisticated”, in order to expose its complexities and transcend its add-on position in the school curriculum. Furthermore, the “light green discourses” (Jorgensen, 2011), in our societies in which unreflective and uncritical visions towards ecological problems prevails, has trivialized important fields such as sustainability or food security impacting GBL practices.

GBL is an interdisciplinary field; this can be seen in the small GBL body of literature. As illustrated in Chapter Two, people conducting research on GBL are interested in diverse areas that learning gardens afford. What is needed is to facilitate the communication among

researchers and extra-academic partners to advance GBL and create a foundation for citizens to engage in more complex ways of thinking about learning, food and sustainability, in a very complex and uncertain world.

Finally, undertaking this research study has been an invaluable learning experience. I have had the opportunity to learn and grow in outdoor gardens classrooms for seven years and that has been a privilege. I would like more students, teachers and volunteers to have similar learning experiences, beyond the constraints of the classroom. I hope that my study contributes to the field of GBL research and practice, and promotes reflection about the possibilities and challenges of this outdoor classroom.

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Appendix I: Interview Protocols

Children's questions and prompts

1. In which grade did you participate in the ILLP?
2. Can you remember the name of your teacher that brought you to the ILLP at the UBC Farm?

Questions about pictures and/or drawings

1. If I ask you to draw or to take a photo that represents or reminds you of the experience at the farm, what will that look like?
2. Why did you take that picture? Why did you draw that? Why that comes to your mind?

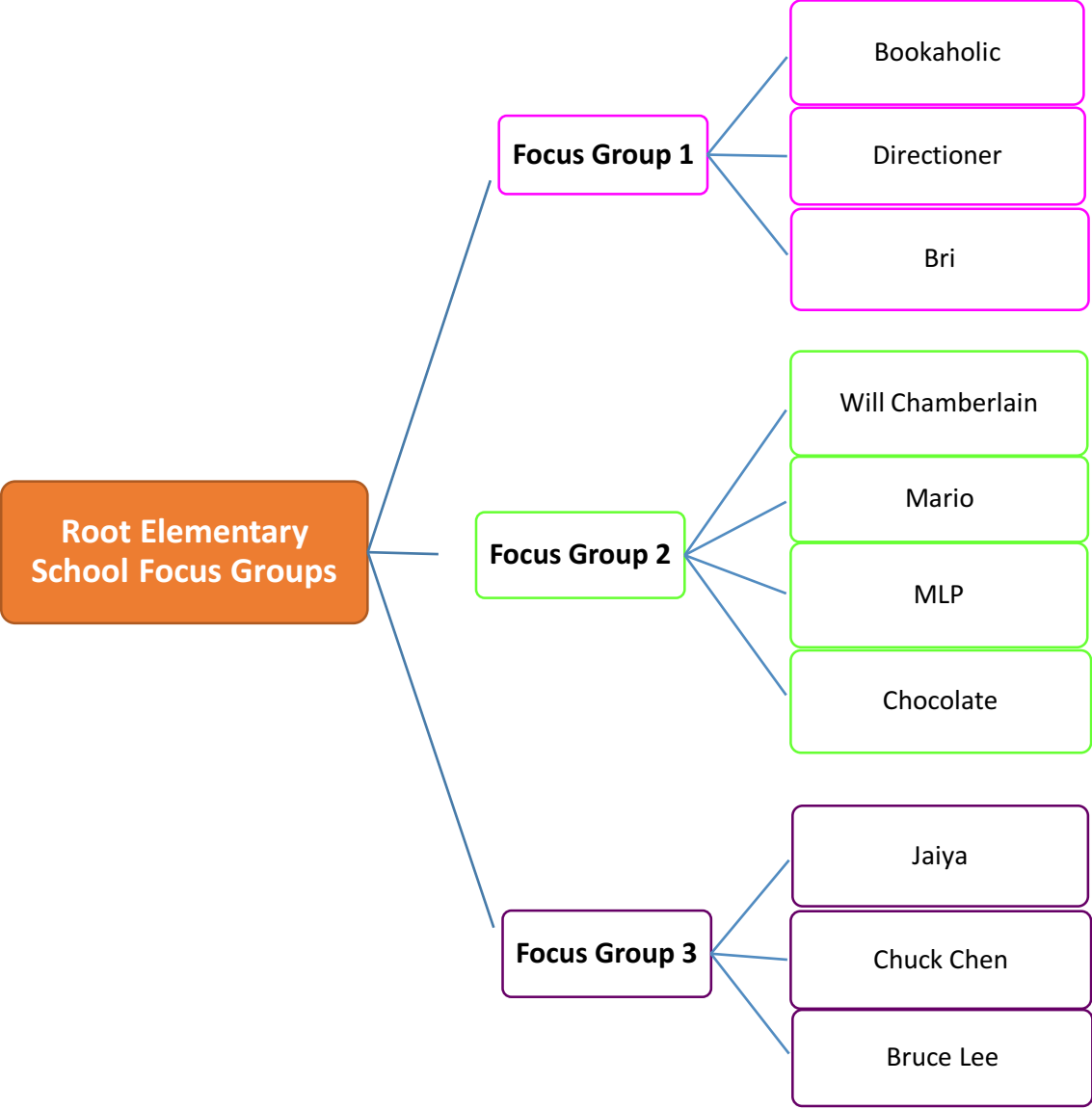
Prompts

1. Could you tell me please what do you remember about your experience at the UBC Farm?
2. What kinds of things do you remember doing?
3. What was it about your visit to the ILLP at the UBC Farm that you enjoyed the most / the least? Why?
4. What is the most useful thing you learned at UBC Farm? Why? Why do you think you remember that?
5. Is there anything that you learned there that you use now? (For example, cooking or gardening or...?)
6. Have you talked to your family or friends about your experience at the ILLP? What kinds of things would you tell them if describing your experiences?
7. After the year that you went to UBC farm, have you had similar experiences?
8. If you could talk to the director of the project, what would you recommend to her to improve the experience for other children?
9. Do you have any questions for me?

Questions and Prompts for Parents

1. In which grade did your child participate in the ILLP?
2. Can you remember the name of the teacher that brought your child to the ILLP at the UBC Farm?
3. What do you think your children learned during their visits to the UBC Farm?
4. What was it about from your child's visit to the UBC Farm that he or she enjoyed the most? Why?
5. Is there anything that your child learned there that she/he uses now? (For example, cooking or gardening or...?)
6. After the year that your child went to UBC farm, have she/he had similar experiences?
7. If you could talk to the director of the project, what would you recommend to her to improve the experience for other children? Why?
8. What do you think was the impact of this experience on you and your child?
9. Do you have any questions for me?

Appendix II: Focus Group Interviews Composition at Root Elementary School



Appendix III: Focus Group Interviews Composition at Seed Elementary School

