

Cultivating Consciousness: A Qualitative Inquiry with Teachers into Educative Gardens and
their Impact on Youths' Relationship with Food and the Local Environment

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Cultivating Consciousness: A Qualitative Inquiry into Educative Gardens and their Impact on
Youths' Relationship with Food and the Local Environment

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Abstract

Educational gardens can provide youth with opportunities to connect with their environment in ways that increase food literacy, promote shifts in consciousness and encourage youth to see themselves as part of the food system and not just passive consumers. These benefits have been studied and documented across the globe for over a century (Berbes-Blazquez, 2012; Nowatschin et. al., 2017; Earl and Thomas, 2021; Harper et. Al. 2017; Lam et. al. 2019). This study aimed to take a qualitative approach to understand what impacts garden-based activities have on youths' relationship with food and with the local environment. To investigate this question, I conducted a series of interviews with three participants who have extensive experience and insights on garden-based pedagogy. All three research partners have years of experience working with youth in school food gardens (SFGs) and/or shaping policies that support the integration of garden-based pedagogy in schools. The results of these interviews revealed that educational activities with youth in garden settings encouraged students to become active, conscientious participants in their own food environment and foster a deeper understanding of their local environment. Further research is necessary in order to determine what specific types of garden-based activities were most impactful on students' relationships with local food systems and the environment.

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Chapter 1: Introduction

For as far back as I can remember, my life has been connected to food. As a child growing up in Richmond, B.C., I have many distinct memories that revolve around food. When I was still in diapers, my mother would occupy my mischievous hands by getting me to arrange and plate the breakfasts we would eat together. I would carefully arrange the cucumber slices and tomatoes in one section of the plate, place the hard-boiled egg on its “throne” and scoop cottage cheese into a neat mound, being careful to avoid any of the foods touching. My mother called it a meal fit for a king and I remember feeling like royalty when I would share these golden mornings with my mother.

A few years later while I was still just a toddler, one late spring, my father enlisted my help planting strawberries along the back fence in our yard. Once we carefully buried the seedlings, I remember checking on them almost daily as they slowly reached for the sun and grew up the leaning lattice my father placed there to help them grow. Once the sunshine had ripened these little gems, I hungrily plucked them and popped them into my mouth, experiencing the joy of growing (or at least helping grow) food for the very first time.

By the time I was 16 and ready to get my first job, I gravitated towards restaurants and found myself working as a dishwasher and prep cook at a few small restaurants in town over the summers and on weekends. I was always entranced by the challenge and excitement that came with working at a restaurant and found myself working at over a dozen over the course of the next decade. As I moved about from Vancouver to Victoria, Victoria to Melbourne, and eventually back to Victoria, one constant in my life was my connection to food. Yet, although I spent hundreds of hours working directly with food, it wasn't until I turned a critical eye towards

it, while working on my undergrad in professional writing, that I grew more curious about our food systems, sources and our underlying relationships with food.

I began with an investigative piece for UVic's student paper, the Martlet, writing a feature article on a trending new term in the coffee world: fair trade (Vizer, 2003 p. 4). As I researched the topic and discovered all the layers that this one food product revealed, I was immediately enthralled by the complexity of the topic. From there, I continued cooking and writing about food, eventually working for publications in Victoria and Vancouver (Eat Magazine, Cityfood and Food Vancouver). Since then, I haven't stopped cooking, writing about or being curious about food: it has become a part of who I am.

As my career path diverged from the food industry and led me to teaching, I still couldn't give up my passion or desire to be involved with food. Almost immediately after joining the ranks of the School District 61 teachers-on-call list, I started taking courses through UBC with the goal of becoming a certified Foods' teacher. These courses allowed me to dig deeper into the academic field that lay beneath the surface-level interactions that characterized most of my experiences so far. I began learning about issues of food justice, security and sovereignty, exploring animal welfare and getting informed about the environmental impacts of the food systems that provide the food that sustains us. The more I learned, the more I wanted to learn and the more I wanted to get involved.

In the spring of 2019, I was fortunate enough to attend the *Farm to School Conference* with a few other teachers from my school who had revived the school garden at Reynolds High School in 2015. Hundreds of teachers, politicians, academics, farmers, writers, nutritionists, principals, etc. gathered in a huge conference room at the Victoria Convention Centre to discuss

the necessity of reconnecting our students to our food systems through school gardens (among other programs). I was particularly moved by keynote speaker Michael Ableman, an organic farmer that had successfully started a farming program called *Sole Food Street Farms* in Vancouver: a program that helped individuals managing poverty and addiction to learn farming techniques and gain employment.

The conference was catered and each dish was carefully labeled with the name and location of the farm where it was grown. I remember sitting by myself eating a salad thinking about the students at my school digging, planting, watering, weeding and harvesting at our little school garden. I thought about the quiet kids who seemed lost in their imaginations while they plunged their hands into the soil and plucked weeds. I thought about the rambunctious students who seemed unusually calm and centered after an hour planting tomato plants and pushing around a wheelbarrow of compost. I thought about the wide smiles and excitement that animated the students as they tasted and shared what the garden had to offer. I also thought about myself and the deep satisfaction of seeing the transformative effect of devoting time, effort and care to growing food.

I left the conference filled with hope and energy to dig in and be a part of this growing movement of people investing their time reconnecting with where their food comes from. Finally, I felt like there was an answer to the unnerving sight of seeing students marching towards the fast-food options in the local shopping plaza. Finally, I could be a part of a growing movement of people that want to create more direct relationships with our food sources. Finally, I saw a path.

When I reflected upon why I was so determined to add teaching about food to my practice, I realized that much of it stemmed from a growing sense of fear about where our food systems were heading. I feared that we have become so disconnected from our food systems that we will destroy them before it is too late. I realized that I was no longer willing to stand idly by while I watched people idling in the drive-thru lane waiting for a fabricated burger that contains ingredients from all around the planet to arrive in a hot bag. Ignorance is no longer an excuse for me now that I have looked behind the curtain of where our food comes from. A sense of responsibility has taken hold of me and a phrase that I read from Vandana Shiva about the law of return kept ringing in my mind: “between generations, with each generation... leaving a legacy of seed, soil, knowledge, and culture for generations to come” (Shiva, 2016 p. 10). I felt ready to join this benevolent militia and take part in this sacred legacy. It is my hope that by sharing the physical experience of getting a little dirt in our fingernails that we can heal our relationship with the land and create a place in our hearts for the nurturing that the coming years will require.

Food Environment

As we venture into a future filled with environmental uncertainty, one area that has the potential to make a positive impact in our world is changing our relationship with food. Our relationship with food has become fractured, resulting in environmental degradation, nutritional bankruptcy and a disconnection from where our food comes from and how it affects us (Parekh, 2020). This state of disconnection and deficit can be a daunting realization for those willing to acknowledge it. However, beyond acknowledging the precarious environmental state that we as a species have found ourselves in and the disconnection that pervades our relationship to our food systems, the

underlying question remains: How can we improve our relationship to our food systems and environment?

To begin restoring our connection to our food sources, we must first accept our agency and responsibility. In the words of American farmer and author Joel Salatin: “The average person is still under the aberrant delusion that food should be somebody else's responsibility until I'm ready to eat it (2012, p. 3).” As a citizen who is no longer ready to live under this “aberrant delusion,” I feel the need to become an active part of repairing this disconnection. As an educator I hope to find ways of bridging the distance between students and their natural surroundings. As a global citizen, I hope to support change in our interactions, understandings and connections to our local food systems so we can see ourselves as a part of this vital network.

I believe studying this connection is essential for our efforts to live sustainably and increase food security. According to a 2017 report by the Committee on World Food Security, food security is achieved “when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life” (Global Strategic Framework for Food Security & Nutrition, 2017, p. 7). The issue of food security is relevant both internationally and here in Canada. Based on data from Statistics Canada’s 2017-2018 Canadian Health Survey, 1 in 8 households are food insecure (Parekh, 2020). This research aims to address these issues of food insecurity through active interactions with our local food systems. A 2017 article by Powell and Wittman titled “Farm to School in British Columbia: Mobilizing Food Literacy for Food Sovereignty” focuses on the provincial school system and the potential that school-based, garden programs offer. This article echoes the call from the Farm to School movement and its goals of “bringing healthy, local food into schools,” offering “hand-on experiential learning opportunities” and “fostering

school and community connectedness” (Powell & Wittman, 2017, p. 201). I hope to contribute to the growth of these ideals through the school garden at my home school of Reynolds Secondary.

In the years before the pandemic and this past school year, Reynolds has been hosting a salad bar that offers a lunch that is locally sourced (as much as possible) and prepared by student volunteers and then offered to staff and students. As the site for a courtyard garden that grows a variety of fruits and vegetables and the location of one of LifeCycles remote garden projects, a large portion of the ingredients of the lunch are grown at Reynolds school. Lifecycles is a non-profit organization that aims to build more resilient food systems by engaging in community-based agricultural projects that seek to empower shareholders, steward the land and connect people with healthy, locally-sourced food (Lifecycles, 2022). Despite frequent federal and provincial government statements that promote programs like the Salad Bar at Reynolds, the creation and implementation of these programs often relies on locally driven initiatives. (Powell & Wittman, 2017). Although more tangible support from the federal and provincial governments is necessary, school gardens offer an opportunity to plant the seeds for larger scale changes. According to Powell and Wittman, school gardens have “emerged as the most popular type of initiative implemented...supporting the goal of bringing healthy, local food into schools” (2017). In addition, a school district representative from Vancouver who was part of the focus group for Powell and Whitman’s study also sees “farm to school initiatives, such as school gardens” as a path to “build momentum for eventual structural changes that could provide a framework for expanding local food procurement” (Powell & Wittman, 2017, p. 201). In a food landscape that is often dominated by factory farming, chain restaurants and ultra-processed foods, offering a way for students to connect to their local food systems could be a path towards creating more

conscious and conscientious consumers. In the words of scientist and activist David Suzuki (2016), <https://david Suzuki.org/story/food-security-is-important-for-humans-and-other-animals/>

We produce more than enough to feed all people on the planet. Surely, it's one of the fundamental challenges of our time to focus our considerable intelligence on altering our consumption and harvesting patterns so that all who share this small blue Earth — two-legged, four-legged, winged and finned — can enjoy food security.

As someone who has been actively involved in the food industry since my first job as a dishwasher, I feel compelled to be a part of changing the system and accepting this “fundamental challenge.” As an educator, I've been searching for a way to connect my passion for food with my teaching practice and I've chosen the school garden as the context for my next step as a teacher.

I intend my master's research to allow me to be an active participant in projects that examine how integrating school garden activities can affect how students understand and interact with food. This will involve seeking out and participating in garden-based educational projects and initiatives, applying garden-based pedagogy in my classes and journaling on my experiences and attending conferences and lectures on the topic and continued research in the field of SFG (school food gardens). In the research I have already conducted on this topic, school gardens have been associated with improved school performance and mental health (Lam et. al. 2019), greater connections within the classroom and to the surrounding community (Harper et al., 2017; Lam et. al., 2019; Wang, 2008) and increased awareness of food landscapes and connected environmental issues (Berbes-Blazquez, 2012). I aim to contribute to the growing field of

research on this topic and hopefully help empower and mobilize students to authentically connect with their local food systems and environment.

My master's research focused on these three questions:

How can educators inspire students to be curious about (and care) where their food comes from?

How will having the experience of growing food from seed to plate change the way students/people understand and interact with food?

How can changing our relationship with food help change our environment?

Chapter 2: Literature Review

Historical Roots

My research on how educational activities in school gardens impact youths' relationships to food and the local environment has led me to explore multiple fields of study. Beginning with an investigation of the history of garden-based learning, I sought to survey the different ebbs and flows that community and school gardens have experienced over the past few hundred years. Although community gardens and school gardens are not synonymous, the integration of these gardens are aimed at serving the public and reflect the values of the era in a way that makes them relevant for this study. This overview provided a foundation for my research and allowed me to identify further paths to explore in my research (Subramaniam, 2002; Walter, 2013; Nowatschin et. al., 2017). Lexi Earl and Pat Thomas summarized the historical arc of food gardens in their 2021 publication *Why Garden in Schools*.

Originally focused primarily on urban and social reform, poverty relief and the construction of model citizens, and later on serving national war efforts, community gardens have evolved in recent times, first as a grassroots movement for community organising and empowerment, and then as a pillar of urban greening policies and a critical stream in the urban food movement (524).

By examining the various roles that community gardens have played in the past, I aimed to arrive at a greater understanding of how community gardens developed, how societal and historical trends shaped their place in society and how school food gardens (SFGs) have become such a trending part of contemporary education.

Lexi Earl and Pat Thomas' publication *Why Garden in Schools?* (2021) highlights the utilitarian function of community gardens since their inception. Beginning in the late 19th century, community gardens grew in popularity. One important figure in this growth in North America was Henry Lincoln Clapp, who was sent to Europe by the Massachusetts Horticultural Society to study school gardens (Subramanian, 2002 p. 3). Shortly after his return, the first school garden in America was established. During the same era, Van Evrie Kilpatrick, director of the School Garden Association wrote that "School gardens should be maintained by the city, the city owes it to the children whom it has deprived of breathing spots through want of foresight (p.3)." In a sense, school gardens in America were originally aimed at providing urban youth with opportunities to connect to the natural world.

In the following decades, the popularity of school gardens in North America grew and "by 1918 every state in America and every province in Canada had at least one school garden" (Subramanian, 2002 p.3 as cited in Sealy, 2001). Garden-based education spread across the continent and in 1916, over one million students grew food to support the war effort (Subramanian, 2002). The surge in garden-based education waned during the interwar period (1919-1936) era, however, they experienced a brief and dramatic resurgence during WWII and "by 1944, a staggering 20 million Victory Gardens were producing 40% of all fresh produce consumed in the USA (Walter, Pierre, 2013 p. 525)." In short, the spread of garden-based education in North America began at the end of the 19th century and aimed to provide urban youth with opportunities to engage with nature; by the first half of the 20th century, SFGs function shifted towards mobilizing youth in producing food to support the war efforts.

In the post war era, the economic boom saw the popularity of community gardens diminish until the social movements of the '60s and '70s, when the movement was once again

reborn (Earl and Thomas, 2021). By the late '70s and '80s, gardens became a “vibrant part of urban movements for community development, ecological revitalisation, human health, food security and social justice” (Earl and Thomas, 2021 p.525). These measures were aimed at “community empowerment and development as a key to urban revitalization.” Despite the fact that the school-garden movement became less popular in the '80s, the '90s brought back a resurgence and SFGs have since “grown rapidly in both number and scope as part of our contemporary food movement” (Walter, 2013 p. 526). The “contemporary food movement” that we are in the midst of has led to a rise in research on the benefits of SFGs and their place within educational systems as we aim to shape citizens that are more connected to the natural world and able to navigate the challenges of environmental changes, food scarcity and growing economic disparity (Earl and Thomas, 2021).

Two important figures involved in the early development of garden-based pedagogy were John Heinrich Pestalozzi (1746-1827) and Friedrich Froebel (1782-1852). Swiss educational theorist Johann Heinrich Pestalozzi contributed his vision of an education that found a “balance between three elements, hands, heart and head” (Subramaniam, 2002. p.2). This notion aligns with my own pedagogical approach as a foods’ teacher that seeks to offer hands-on opportunities to interact with food and food systems, pathways to connect to food in an intimate and personal way (through gardening, exploring cultural food knowledge, examining meat consumption from an animal-based perspective, etc.) and providing students with foundational knowledge on food, nutrition, and cooking techniques. This view of SFGs also reflects my research partner Aaren Topley’s thoughts on the value of providing youth with opportunities to learn in an educative garden space. German educational scholar and theorist Friedrich Froebel, who was a student of

Pestalozzi's, expanded on his mentor's ideas by emphasizing experience-based learning that makes room for the creative energies of the child (Subramaniam, 2002).

Another important thinker that my research led me to was Maria Montessori (1870-1952). Montessori believed that allowing youth to experience a relationship with nature through the growing and nurturing of plants, was a powerful way to unlock a deep and vital connection to the natural world. "When he [the student] knows that the life of the plants that have been sown depends upon his care in watering them...without which the little plant dries up...the child becomes vigilant, as one who is beginning to feel a mission in life" (Subramaniam, 2002 p. 2). Understanding how to support these relationships and provide experiences that bring my students into contact with discovering their own "mission[s] in life" was an idea that interested me and connected with my own pedagogical goals. Further, Montessori's view on the value of experiential learning validated some observations that I had made while observing youth discovering themselves in the garden.

Louise Green was another early proponent of school gardening that lived during the same era as Montessori. She helped define educational gardens as "any garden where children are taught to care for flowers, or vegetables...by one who can...instill in the children a love for outdoor work and such knowledge of natural forces and their laws as shall develop character and efficiency" (Green, 1910 p. 1). Green saw gardens as having cross-curricular potential and used the analogy of school gardens being like "a bank in that it may be drawn upon for values of different kinds and to meet different needs" (Green, 1910 p.1). This view on the value and potential of SFGs points towards further integration into the current pedagogical models.

The versatility and potential of SFGs for providing different learning outcomes and supporting mental health has been well-documented (Blair, 2009; Lam, Romses and Renwick,

2019; Nedovic & Morrissey, 2011), however, my inquiry was aimed at exploring how experiences in SFGs impact youths' relationship with food and therefore, my research centered around this topic.

The need to revamp our food systems, lessen the load on the environment and create more food security has provided me with the motivation and direction for changing our relationship with food; many food theorists see the growing of food as an opportunity to create this positive change for future generations amidst these global challenges.

American farmer and food activist Michael Pollan believes that the “food movement helps to create social and ecological spaces for the construction of democratic civil society” (Walter, 2013 p.525). Beyond that, Pollan contends that “the food movement is also about community, identity, pleasure, and, most notably, about carving out a new social and economic space removed from the influence of big corporations on the one side and government on the other” (Walter, 2013 p. 525). Through this lens, the food movement, and SFGs in particular provide a pathway for addressing concerns about the environment and food security in a way that enhances participation and agency and counters the daunting influence of the corporate, profit-driven industries that have contributed to many of the issues that we currently face.

Like Pollan, fellow food activist Janet Flamang finds SFGs as a powerful site for supporting the changes and initiating the conversations that are necessary if we aim to create a more equitable, sustainable future. “The bonds of civil society are reinforced in a variety of garden settings: community, urban, youth, school, and jail. Like (dinner) tables, gardens are great levelers. They require cooperative effort, produce a tangible common good, and provide familiar topics of conversation” (Walter, 2013 p. 526 cited from Flamang 2009). Pollan and Flamang are not alone in their belief that educative gardens offer an opportunity to make real progress on

environmental, social and political issues. Though these issues encompass many of humanities' greatest challenges (climate change, food scarcity, water management, economic disparity), the simple act of growing food, and doing so in a collaborative and equitable way, can be a powerful vehicle for advancement and positive progress.

Charles Levkoe, Canada Research Chair in Equitable and Sustainable Food Systems, affirms these ideas and emphasizes the impact that mobilizing around food can have. He believes that “food justice movements are a valuable site for countering the identity of the person only as a consumer and as a place for learning active democratic citizenship” (Walter, 2013 p.526). In a contemporary context where engaging with global issues seems daunting and politics have become increasingly divisive, food has the potential to become a great leveler. “Food offers a unique opportunity for learning because it has the power to galvanize people from diverse backgrounds and opinions... food justice activism has the ability to increase the confidence, political efficacy, knowledge, and skills of those involved” (Walter, 2013 p.526). When seen through the lens of the Ministry of Education’s Core Competencies of educating citizens to communicate openly and effectively, think critically, and strive for personal and social outcomes, food becomes a suitable entry point for developing youth to respond to the dynamic, modern landscape

<https://curriculum.gov.bc.ca/sites/curriculum.gov.bc.ca/files/pdf/competencies/core-competencies-with-definitions.pdf>). As an educator, these outcomes offer a pathway and site to tackle these broader issues in a way that values the individual and their contributions while operating in an equitable, conscious, and agentic way.

By examining the historical foundations and movements of SFGs, I came into closer contact with the reasoning and motivations for their existence. Through this process, I became

more aware of my own motives within this field of knowledge. These motivations stem from my desire to address the current environmental challenges, instill knowledge and a sense of care for the natural world within my classrooms and provide youth with opportunities to actively become agents of positive change. Beyond this, I aim to stimulate conversations and experiences that engage students and allow them to feel as though they are part of the natural world and not above or outside it. As ambitious as these goals are, my research has allowed me to see that they align with many theorists, educators and food activists that came before me and that SFGs have and will continue to have immense potential in these areas.

While much of the impetus behind my research is based on the perceived benefits of SFGs, the initial reason that I decided to pursue this topic for my master's degree was a strong feeling of disconnection from our food sources that I observed in my experiences as a cook, a teacher and a consumer. These diverse roles and responsibilities allowed me to see more directly the connections (or lack of) to our food sources and the scarcity of knowledge surrounding local food sources.

The growing divide between consumers and food sources that initially inspired my inquiry and the overall disconnection from nature and food sources that I observed is a phenomenon that many researchers have identified in youth (Cullen et. al, 2015; Orr, 1991; Nowatschin et. al. 2017; Earl and Thomas, 2021). Understanding this state of disconnection and seeing it through the lens of various researchers connected to my own experiences and observations, not only as a researcher but as a teacher as well. This “disconnection” between youth and their food sources and environment is a phenomenon that I, as well as many researchers of this topic have identified as problematic and became a logical entry point to pursue in my research. This “problematic” relationship stems from the notion that we are disconnected from nature and our food sources and this has led to a variety of negative outcomes that relate to youths’ understanding of and choices surrounding food.

Victoria-based food researcher Tracy Cullen and her colleagues confirmed this state of disconnection in their research. In a 2015 study, they concluded that “there are gaps in Canadians’ knowledge and skills surrounding food, particularly a thorough understanding of how they are connected to the food they consume” (Cullen et. al. 2015 p.140). This deficit in knowledge and connection to food sources was echoed in the interviews I conducted with my research partners and I witnessed it first hand in my experiences with youth in my work at Reynolds Secondary.

The fading knowledge and lack of connection to local food systems has been a phenomenon that has been observed and studied for decades. As the industrialization of our food production and our reliance increased, our relationships with local food producers decreased which has resulted in the detached state we are experiencing today (Salatin, 2011). Environmental researcher David Orr observed this trend back in the early ‘90s. According to Orr, “the sharp decline in the number of farms and the shift toward industrial farming has had serious consequences for society’s ecological intelligence” (Orr, 1991, p. 268). This has resulted in a lack of opportunity for interaction with our food systems which has “meant that the direct learning experiences that they used to offer- such as experiencing the relationship between our food and soil, rainfall, animals, biological diversity, and natural cycles– have also been lost (Orr, 1991 cited in Nowatschin et. al. 2017, p.103).” In many ways, the industrialization of our food systems has resulted in a state of disconnection from our food systems and the loss of connection points to the local environment.

The need for reconnection as an antidote for waning ties to our food sources was supported in my research (Bissonnette and Contento 2001; Carlsson and Williams 2008). Numerous educational researchers contend that changing our relationship with our food systems can help steer the direction of our food systems in positive directions. One notable path towards stimulating these changes is people’s food choices. The onus to propel our food systems into more sustainable practices cannot be driven by top-down changes but “citizens also need to alter their food choices to make them more ecologically conscious in order to encourage a sustainable food supply” (Bissonnette and Contento, 2001 p. 72). In light of this insight, one important place

for providing space to nurture these changes are the school systems. “Connecting students to local food is a way to counter students’ limited awareness of food systems and to increase their understanding of how their actions relate to those systems” (Harmon and Maretzki 2006 as cited in Nowatschin et. al. 2017 p.107). In short, the disconnected state between food sources and production and younger generations was identified and supported in my interviews, which aligned with many of the findings in the articles I read. Further, SFGs were presented as a possible site for re-establishing this severed connection.

My review of literature on this topic has supported the notion that providing youth with opportunities to connect with SFGs has been shown to nurture a connection to food systems and the local environment. Nowatschin et. al.’s research concluded that “our key informants support the idea that SFGs are prime sites for making the connection between agriculture and food” (Nowatschin et. al. 2017, p. 112). My research partners also prized SFGs for their ability to invite participants (youth in particular) into a relationship with their local foodscapes. In our discussions, my research partners spoke of varying indicators of the loss of connection and knowledge about local food systems and championed SFGs as a way of counteracting this detached state. These insights will be shared in the “Findings” section.

Earl and Thomas et. al.’s extensive exploration on the topic *Why Garden in Schools* (2021) elicited data from participants in the UK and drew upon previous research on school gardens they conducted in Australia and South Africa. They argue that “it’s essential that children know where their food comes from, and how to source it within a natural environment (Earl & Thomas, 2021 p.81).” Furthermore, Earl and Thomas see learning these vital skills and re-establishing the connection to our food sources as a response to the loss of knowledge and skills and the pervasive detachment from where food actually comes from. Youth need to “know about foraging skills that have been lost to us for generations. Food doesn’t come out of a microwave or a tin, you go out and collect it, you gather it. It’s seasonal” (Earl and Thomas, 2021 p.81). Earl and Thomas also observed a growing distance between food producers and consumers on a societal level and see linking “ordinary people” to producers as one antidote to this growing divide (Earl and Thomas, 2021 p.67). To summarize, researchers have shown that

allowing youth to connect with their food systems by working in the garden provides an entry point for understanding and (re)connecting with it.

Another seminal figure in the discussion around SFGs is American chef and author Alice Waters. Waters' influence on the American food scene began in the '70s and since then she has elevated the discussion surrounding food and promoted the concept of farm-to-table in her books and activism. She speaks of the impact that gardening can have on youth in a very similar way to my research partner Aaren Topley, who works to promote SFGs at the provincial level (BC). Waters sees school gardens as "a way of making sure that children grow up feeling the soil with their own fingers, harvesting its bounty...and watching their own hands make the kind of beautiful, inexpensive food that can nourish the body and spirit (Waters, 2008 p.40 cited in Earl & Thomas, 2021 p.67.)." This eloquent (and romantic) view of the potential of SFGs and the impacts they can have on youth was a common thread in my research and in my own observations as a teacher.

The state of disconnection between youth and our food sources became particularly evident to me as a teacher when I questioned my Foods' classes about seasonal foods, the ingredients found in foods that they eat regularly and by observing the regularity that youth frequent the fast food restaurants surrounding Reynolds Secondary School. The belief that humanity has become distanced from nature is not a new concept and discussion on this phenomenon was prevalent in my research.

One pertinent concept was the term "nature deficit disorder" (Earl and Thomas, 2021). Nature deficit disorder is a non-medical term coined by Richard Louv and refers to "modern children's lack of interaction with the outdoor world;" Louv asserts that "children suffer from their lack of contact with the natural world, and this negatively affects their behaviour and well-being" (Earl and Thomas, 2021 p.96).

This concept was also discussed by Stephen R. Kellert, an environmental researcher and former professor at Yale. Kellert wrote of the growing disconnect from nature and described the “contemporary erosion of direct and spontaneous contact with relatively undisturbed nature, especially among urban and suburban children” (Kellert, 2002 p.120). While considering SFGs examples of “relatively undisturbed nature” may be considered a leap, the growing disconnection and direct contact that he prescribed connects to my findings as well as the insights that my research partners offered.

One explanation for this growing state of disconnection that my research has offered is the increased industrialization of agriculture. Orr (1991) argues that contemporary society’s declining knowledge of the land is due to this increase in industrialization and has resulted in the loss of direct nature-experience through farms. Nowatschin builds upon Orr’s ideas and contends that “the on-going loss of small farms has meant that the direct learning experiences that they used to offer – such as experiencing the relationship between our food and soil, rainfall, animals, biological diversity, and natural cycles – have been lost” (Nowatschin et. al., 2017 p.11). Over three decades after this research was published, my research partners echoed Orr’s observations on the disconnect between food-sources and pointed towards SFGs as a site for providing these “direct learning experiences.”

Many researchers have investigated possible solutions to this identified problem of disconnection from nature and our food sources and providing youth with opportunities to rekindle this relationship in SFGs is supported by the research and interviews I conducted. In addition, the drive to provide these opportunities for youth was supported by many shareholders, including teachers, chefs and researchers. In Earl and Thomas’ research, they elicited feedback from participating members in the research community and found strong support for these

experiential learning opportunities (in SFGs). One (unnamed) school manager from the City Food site in their research believes “it’s important that all children regardless of their backgrounds, get the opportunity to play on grass and eat and understand where food comes from” (Earl and Thomas, 2021 p.67). Another participant, Mrs. Perry, the deputy head teacher, explained the aim of their philosophy surrounding SFGs:

For children to understand food and to appreciate food and you know, to value food. And, really just to explore food more than just, it’s something to shovel in your mouth and don’t think much about it. I’d like to encourage the children, as they grow up, to actually cook from scratch and things like that rather than rely on processed foods (Earl and Thomas, 2021 p. 86).

After concluding their research on SFGs in two distinctly different schools in the UK, one urban and one more rural, Earl and Thomas found that “above all, exposure to plants and animals taught children about care for the natural world...spending time outdoors allowed children to learn about seasonal change, and the ways animals reacted to these differences” (Earl and Thomas, 2021 p. 84). Essentially, Earl and Thomas’ research’s most compelling finding was that experiences in SFGs invited youth into a relationship of care with the natural world.

In sum, one important phenomenon that my research and interviews identified was the loss/erosion of our relationships with our food systems and the natural world. The concept of “nature deficit-disorder” also directly related to youth’s experiences (the subject of my study) and problematized this relationship, or lack of. One solution that was prominent in my research and shared by my research partners was providing opportunities for youth to interact with the natural world in SFGs, which were shown to bring youth into closer contact with nature and their

sources of food. These experiences demonstrated the potential to stimulate and strengthen the bonds between youth and the surrounding natural world in positive ways that impacted their connection to it.

Growing Food Literacy

Another important branch of my research revolved around the concept of food literacy.

Throughout my research, this nascent term was defined, referenced, and studied in relation to school food gardens (SFGs) and provided relevant educational outcomes that directly connected to my investigation of youth and their relationships to food and the local environment. Tracy Cullen and her colleagues underwent a scope of current (2016) definitions and concepts related to food literacy and their analysis resulted in the following definition:

Food literacy is the ability of an individual to understand food in a way that they develop a positive relationship with it, including food skills and practices across the lifespan in order to navigate, engage, and participate within a complex food system. It's the ability to make decisions to support the achievement of personal health and a sustainable food system considering environmental, social, economic, cultural, and political components (Cullen et. al. p.4).

An underlying premise that Cullen's study embodies is the need to increase food literacy with the goals of contributing to "the achievement of personal health and a sustainable food system (Cullen et. al. 2016 p.4)." Although the term "food literacy" was not a prevalent phrase in the interviews I conducted with my research partners, its presence in my inquiry and relevance to my practice as a Foods' teacher made it difficult to ignore. In concert with my research findings, the concept of food literacy was vital for being able to conceptualize and discuss the impacts that

experiences in SFGs had on the youth. Throughout my interviews, each participant shared personal stories and experiences that supported the finding that SFGs helped instill “positive relationship[s]” with their local food systems and environment. In addition, my participants drew attention to the impacts that participating in the growing of food contributed to youths’ ability to “make decisions to support... sustainable food system[s]” while considering “environmental” factors.

Other notable areas of growth that Cullen et. al. observed include growth in efficacy surrounding gardening, cooking, food choices and the ability to connect socially. Cullen and her colleagues found “strong evidence of positive change in children’s attitudes, knowledge, skills and confidence in both gardening and cooking” (2016 p. 42). These observed shifts included “significant changes in kitchen lifestyle behaviours, positive changes in students’ attitudes to healthy food choices [and] positive impact on students’ social behaviour and skills” (43). My research partners Patrick Galey and Sarah Rhude both shared stories that illustrated some of these outcomes in our interviews. These stories will be expanded upon in my “Findings” section.

Further, in an effort to understand and examine how activities in the school garden impact youths’ relationships with food and the local environment, I explored research that focused on how these activities affected youths’ outlook or consciousness, particularly in relation to food and the local environment. Exploring this path of literature allowed me to examine, assess and contrast other researchers’ findings with my own with the hopes that this would allow me to understand my subject of inquiry in a deeper way.

Cultivating Shifts in Consciousness

Since exploring the impacts experiences in SFGs could have on youths' relationship with food and the environment was the topic of my inquiry, examining research that explored the ways that these experiences could affect the consciousness or awareness of youth was pertinent. While studying the impacts that activities in SFGs have on youths' relationships with food and the local environment may be challenging to measure and quantify, this topic has been previously investigated in academia and my research partners offered many related insights, stories, and examples. Impacts that have been observed vary, but notably include the potential for participants to have revelatory shifts in the way they view the production and growing of food, along with their individual food choices. These outcomes were documented in Pierre Walter's 2012 article on the topic of gardens as pedagogical sites. "In some instances, this experience comes as a sensory and culinary epiphany, and may then lead to further examinations of diet, corporate food production, human health and the culture of eating and growing local food" (Walter, 2012 p. 530). Since these outcomes were one of the more compelling and supported insights from my research, I connected with previous research that focused on this topic and found supporting findings in other recent studies (Cullen et. al. 2015; Earl and Thomas, 2021; Nowatschin et. al., 2017).

The notion that participating in educational experiences in SFGs has the potential to shift youths' consciousness has already established a strong footing in previous research. Walter's research examined this premise in 2012 and offered this finding:

The experience of seeing where food comes from, of expanding an understanding of the immense variety of edible and flowering plant species available to eat, of learning how

plants develop and grow and are eaten, may also be a revelation to community gardeners – an ‘environmental act’ which raises environmental consciousness towards a more eco-centric worldview (p. 530)

Walter’s findings were founded in Habermas’ theories on how society can defend itself from the dominant forces of the economy and state. Habermas saw grass-roots social movements as a way to counteract these forces and “help defend the lifeworld (civil society) against incursions of the system (the state and the economy)” (Walter, 2013. 528). By mobilizing in these ways (including educational activities in SFGs), people are able to reject the pressure to become uncritical consumers; “they reject society’s normative subjectivities and re-create more ethical ones” (Walter, 2013. 528). The potential of SFGs to stimulate “more ethical” realities that are driven by bottom-up, socially and environmentally aware citizens was identified and supported in my interviews. My partners emphasized the idea that participating in learning in SFGs could elicit raised awareness and rises in critical thinking.

Not only did experiences in gardens promote critical thinking and self-reflection on food-related topics, but they provided participants with opportunities to develop practical farming skills and most notably, allowed people to “shift from seeing the environment as an object or a place to a view characterized by the interconnectedness of human and environment” (Walter, 2013. 530). Cullen’s research also documented the importance of connecting to food environments in a relational way: “For an individual or population to be food literate and to fully engage in their food systems an ecological approach is necessary; one cannot be separated from their environmental or social context” (Cullen et. al. 2015 p.144). The shift from seeing oneself

as part of the environment as opposed to outside or above it was one of the more important themes of my study and was discussed and supported in my interviews as well.

The view that humans are connected to and a part of the natural world is rooted in an Indigenous world view that has been foundational to First Nations Peoples since time immemorial (Hatala et. al. 2020). Walter (2013) discusses this connection, sharing that “this form of holistic, place-based healing has been particularly important in community garden initiatives involving First-Nations communities where a strong connection to the land, traditional foods and lifeways is vital to healing, health, cultural celebration, decolonizing practices and self-identity” (p. 530).

Further research that examined the efficacy of these experiences from a non-indigenous lens also supported these findings and confirmed the potential that SFGs have for affecting youths’ outlook. Nowatschin et. al.’s 2017 study found that “student engagement in a stewardship relationship with other living organisms... teaches not only the science of life but also the interconnected nature of the web of life” (Nowatschin et. al. 2017, 103). Nowatschin also contends that, on a more basic level, “Knowing how food is grown and where it comes from can be an important step toward how individuals value food” (Nowatschin et. al. 2017, p.104). Both these findings suggest that activities in SFGs have the potential to affect youth in ways that impact their worldview and connection to food sources. These relational outcomes have been well-documented in previous research and are summarized in Pierre Walter’s 2013 work.

Through the experience of gardening in this community, participants not only learn new agricultural and ecological skills and knowledge, but also begin to shift from seeing the environment as an object or a place to a view characterized by the interconnectedness of

humans and environment (p. 530 as cited from Mayer-Smith, Bartosh and Peterat 2007, 82).

In short, the idea that providing opportunities for youth to participate in educational activities in SFGs has the potential to promote changes in awareness and consciousness was supported in the research I conducted and confirmed many of the insights that my partners shared. In particular, the ability to inspire youth to see themselves as part of the natural world, rather than above it, was one particularly important insight since it aligned so directly with the data I collected in my interviews and my own realizations while working in SFGs. Thorp and Townsend (2001), who conducted an ethnographic study of a school garden, reaffirm this significant finding:

Gardening changes the status of food for all involved. When one gardens, food can no longer be viewed as a mere commodity for consumption; we are brought into the ritual of communal goodness that is found at the intersection of people and plants. Food that we grow with our own hands becomes a portal for personal transformation (11).

As someone who has experienced this “personal transformation” after working at the Reynolds school garden and at my own home garden and witnessed the profound impact that these experiences can have on youth after working in SFGs, my findings were tethered to previous research that showed the same impacts on youth.

Theoretical Framework

Two concepts that were central to the methodological decisions and research design of my thesis are the constructivist view of knowledge creation and Indigenous epistemology. Constructivists

view of “truth” contends that “any agreement regarding what is valid knowledge – arises from the relationship between members of some stake-holding community” (Lincoln, Lynham & Guba, 2018, p. 237). While generalizing about Indigenous ways of knowing can be problematic, Kovach (2018) notes Indigenous scholars echo and extend these positions on knowledge and hold the view that “knowledge arises from interconnectivity and interdependency... is animate and fluid [and that it] arises from a multiplicity of sources” (Kovach, 2018, p. 218). Therefore, this research was aimed at gathering data from multiple shareholders and supporting the exchange and interaction between the ideas and themes revealed during the research.

This view of knowledge creation led to sharing quotes from other participants (anonymously) in order to provide opportunities for each research partner to contribute to the collaborative process. The aim of this iterative cycle was undertaken in order to ensure accuracy, provide opportunities for themes to emerge and develop and to stimulate a richer dialogue between the shared insights and experiences that developed through the process. One benefit of this approach is it “enables researchers to better understand meaning-making processes used by individuals and groups” (Sparkes & Smith, 2014, p. 132). Since the interviews were conducted informally, each interview cycle allowed the research partners the opportunity to reflect, revise or elaborate on topics and also stimulate new directions through the exposure to other participants’ quotes. This element of “unfinalisability” (Sparkes & Smith, 2014, p. 133) was intentionally enacted to allow the data to continue unfolding and evolving throughout the process.

Chapter 3: Methodology and Methods

The purpose of this study was to seek a deeper understanding of how garden-based educational activities impact youths' relationship with food and the local environment. The results of this study will be used to inform teaching practices, develop new curricula and contribute to the growing field of literature surrounding garden-based pedagogy. The research will be conducted using a narrative inquiry approach with the goal of understanding SFGs through the related experiences of my research partners. By accessing the varied voices and perspectives of the experts I have chosen to interview, I hope to arrive at a holistic understanding of my subject and its surrounding context (Johnson & Christensen, 2020). Further, by providing opportunities for open-ended questioning, in-depth interviews and follow-up sessions involving shared collaborative analysis, I aim to represent the richness of my participants' experiences and viewpoints as accurately as possible.

Methodology

I chose to apply narrative inquiry as a methodology for this research as it allowed access to why participants value educational gardens, the stories that inform these beliefs and the performances of the stories themselves. Narrative theorists Lieblich, Tuval-Mashiach, and Zilber (1998) argue that “We know or discover ourselves, and reveal ourselves to others, through the stories we tell” and the inclusion of storying in the interviewing process stems from this premise. Since narrative inquiries “takes stories and/or storytelling as its primary source of data and examine the content, structure, performance, or context of the story...” (Sparkes & Smith, 2014, p. 131), including this data allowed participants to engage with the topic in a way that values the directions and experiences they deem relevant, as opposed to limiting the discussions to more

delineated directions. Allowing my participants to have agency within the interview process enabled me to take into account the performance and directions of their storying process; this provided participants with an opportunity to “express[ed] their ideas, feelings, opinions and attitudes” (Sparkes & Smith, 2014, p. 84), while simultaneously supporting the notion that “meaning is created through narrative...[and that] we are relational beings, and narratives and meanings are achieved within relationships” (Sparkes & Smith, 2014, p.46). To summarize, I chose to apply narrative inquiry methodology in my qualitative inquiry into garden-based pedagogy because it offered a way to value and include my participants’ knowledge and experiences in my work, while creating space for me to embed myself in the studied context.

Methods

This study applied a qualitative research approach involving a series of open-ended, semi-structured interviews with identified shareholders. Since the concepts of food literacy and food justice are foundational to the goals of my research and my perspective as a teacher and researcher, participants were given basic definitions of the concepts prior to signing on to the project. Food justice was defined by Krista Harper et. al. (2017) as “a concept that takes a social justice perspective on access, quality and environmental factors related to food production, education and consumption” (Harper et. al., 2017). Tracy Cullen et. al. (2015) defined food literacy as a “concept that involves developing an understanding of food through lenses of nutrition, production and social justice” (Cullen et. al., 2015). My research partners were carefully chosen for their experiences working with youth in SFGs and/or shaping policies that support the use of garden-based programming. Beyond their individual expertise and work experiences, I sought to find distinct voices that could offer different insights to my research.

Patrick Galey was selected because of his extensive experience working with youth in a variety of environments. He was also the only partner that was currently working directly with youth in SFGs. Sarah Rhude was chosen for her extensive knowledge of land-based learning, Indigenous approaches to learning and experience developing a variety of garden-based initiatives throughout the region. Aaren Topley was invited to participate for his work developing and supporting various garden-based educational initiatives in the province and because this master's thesis focused on school garden assets in School District 61. Interviews were conducted in an open-ended, informal way with no time-limits or parameters. Participants were free to explore and share their experiences and insights throughout the process and each participant was interviewed at least twice. Although interviews were conducted informally, the following questions were shared with participants prior to the interviews as a way of introducing the topics and the framework for the inquiry:

Could you describe the impact that having hands-on experiences in gardens has on youth, in particular their relationship with food and the local environment?

What experiences have you had that could relate to this topic?

Do you believe garden-based educative experiences can have a positive impact on students' relationship with food and the local environment? Explain.

Have you observed any changes in youth while participating in garden-based programming? If so, how would you describe those changes in relation to food and the local environment?

To reflect my theoretical and methodological positions, I engaged in a series of semi-structured interviews with my research partners. Since the interviews were semi-structured and the research partners had many lived experiences to share, the process often included storying in

ways that illustrated, supported, or connected to the topics being discussed. This research sought to create space for the narrative process to unfold authentically and allow themes to develop collaboratively from the interviews.

The decision to apply a semi-structured, conversational interview approach stemmed from the view that my research partners are experts on the topic of garden-based activities and youth, therefore their expertise/experiences are best accessed through a more open-ended process. These dynamic discussions provided more room for participants to voice “their own thoughts and feelings... [allowing them to] reveal much more about the meanings they attach to their experiences, thereby providing the interviewer with deeper knowledge than can be gleaned from a structured interview” (Sparkes & Smith, 2014, p. 84). Further, since this semi-structured interview process was conducted with multiple research partners, I had access to a richer and broader understanding of the topic than I could arrive at on my own.

One aspect of the research process that was intended to contribute to the authenticity and emic validity of the data was to share selected quotes from previous interviews with participants (Johnson and Christensen, 2020). The choice to engage in member-checking was aimed at strengthening the trustworthiness and authenticity of the research process. Johnson and Christensen (2020) contend that the process of sharing developing interpretations and findings allows research partners to verify insights and arrive at a “deeper understanding from the members’ perspective” (283). This process was also useful as it allowed me to identify inaccuracies with participants and provide opportunities for clarification and/or elaboration. According to Sparkes and Smith (2014), member-checking “seeks to establish that the multiple realities that he or she presents are recognisable to the participants who provided them and that

they agree it is an accurate interpretation of events” (190). While this process comes with challenges/limitations, such as the illusion of possessing “truth,” the “claim to authority,” the overvaluing of “experiential utterances” (Sparkes & Smith, 2014, p. 191) and the challenge of participants putting on “a good face” (Johnson & Christensen, 2020, p.285) , I aimed to create “opportunities for reflexive elaboration and an enhanced understanding of how research findings are actually co-constructed” (Sparkes & Smith, 2014, p. 191).

Further, in order to enact the theoretical positions held by constructivist and Indigenous epistemologies, I applied Lou Harvey’s framework for going “beyond member-checking” and creating transparent, responsive dialogues within the research design and methods. “Member-checking is the process of ‘taking ideas back to research partners for their confirmation...[and/or] to gather material to elaborate your categories’ (Harvey, 2015 p. 26). Taking the extra step of allowing research partners to respond to their own ideas is seen by Lincoln and Guba as “the most crucial technique for establishing credibility (1985 p. 314).” Harvey enacts this practice of member-checking and extends it to include participants in the analysis process as well.

Harvey (2015) sees all language as relational and this assertion helped guide and support the dialogue between my research partners. Like Harvey, I sought to go beyond “member-checking” and apply a “research design that would acknowledge [my participants] as holistic, relational and agentic” (Harvey, 2015 p. 25). Despite the limitations imposed by the global pandemic (no direct physical contact with participants or group meetings), my research design attempted to recreate a discussion between research partners. While this process was significantly limited by the lack of direct interactions and the subjectivity of the quotes I

selected, the goal was to support a “polyphonic meaning-making process” (Harvey, 2015 p. 25) that allowed the research community to participate in the analysis, thus offering a more complete understanding of the subject of my inquiry.

The creation of a “shared event,” (Harvey, 2015, p.35) allowed participants the opportunity to be agentive and valued throughout the research process. According to Harvey, this “dynamic co-construction” offered a “collaborative, more ethical alternative to member-checking” (Harvey, 2015, p. 35) and allowed me to conduct my inquiry in a way that was accountable and representative of my research community.

In addition, the research design was purposefully created to enact a process that was accountable to the research community and done in a “good way” (Ball and Janyst, 2008, p.48). According to Ball and Janyst (2008), research that is conducted with relationships and dialogue at the center that is “open to emergent opportunities [and the] needs and concerns” of the community are “the backbone for ongoing negotiation of ethical practice in partnership research” (Ball and Janyst, 2008, p. 48). With the goal of creating research that is accountable to my research community, the interview process was sensitive and responsive to the directions, modes and feelings of the participants so that research was carried out “through a consultive process and carried out respectfully” (Ball and Janyst, 2008, p. 42). The impetus behind this decision was to address previous historical research relationships that were extractive (Kovach, 2018) and to ensure that power is “shifted to the communities that are partners in research and the focal point for data collection” (Ball and Janyst, 2008, p. 48).

According to Kovach, the historical relationship between researchers and Indigenous participants has often been carried out in a way that took knowledge out of Indigenous communities without providing any returns and deprived Indigenous participants of “voice and involvement” (Kovach, 2018, p. 215). Kovach contends that choosing a methodology is a “political act” (Kovach, 2018, p. 215) and the principles of Indigenous research align most closely with my own political beliefs. While not all the research partners had Indigenous ancestry, the root of these methodological decisions was enacting the “ethical principles of inclusion, reciprocity and relevance” that are foundational to Indigenous research (Ball and Janyst, 2008, p. 48). Furthermore, the concept of relationality and accountability were central to this research design. Margaret Kovach sees “relationality [as] a set of values; [and] relationship [as] the action” (Kovach, 2018, p. 223) and this research was designed to act upon these principles.

Role/Stance of Researcher

Since qualitative research is interested in understanding “lived experience” and exploring the “richness” provided by the participants (Sparkes & Smith, 2014, p. 7-9), I have chosen to examine my topic in a way that brings me into close contact with my participants and creates space for their knowledge and perspectives. Within this relationship, I have taken on the role of a “passionate participant” (Sparkes & Smith, 2014, p. 10) as opposed to a “disinterested scientist” (Sparkes & Smith, 2014, p. 10) since this approach reflects my own views on garden-based pedagogy, my view of knowledge as socially constructed and because this position allowed me to explore the topic in its natural setting (Sparkes & Smith, 2014). Occupying this role as a researcher involves taking a “relational” approach that sees “social reality as humanly

constructed and shaped in ways that make it fluid and multi-faceted” (Sparkes & Smith, 2014, p. 11). My goal in this research is to openly represent the rich contributions made by my research partners and contribute my own experiences and analysis on the effects that garden-based pedagogy has on youths’ relationships to food and the local environment.

Research Design

This inquiry involved engaging three research partners in a series (2-3) of open-ended, semi-structured interviews. Throughout the interview process, research partners were directly involved in steering the direction of discussions and the sharing of their personal narratives. This semi-structured approach allowed participants to offer their knowledge and perspectives on the topics without being encumbered or limited by my own perspectives, directions and aims as a researcher. Further, no time constraints or restrictions were placed upon research partners during the interview process.

In addition to the open-ended structure of the interview process, research partners and I made time and space to engage in reflections on previous interviews and the ideas that sprouted from them. This process of member-checking was facilitated by reading back quotes from previous interviews to allow room for adjustments, clarifications, elaboration, etc. Towards the conclusion of the series of interviews, quotes from other research partners were shared (anonymously) with research partners to allow space for the ideas to cross-pollinate, grow or contradict.

Each participant was interviewed two to three times for between 30-75 minutes. Due to the covid-19 crisis, restrictions required that all interviews were conducted through the UVic

Zoom application. All interviews were recorded and then transcribed within 48 hours. During the transcription process, initial analysis was conducted in order to eliminate redundancies and draw out quotes and concepts that could be incorporated into subsequent interviews. This initial stage of analysis provided an opportunity to highlight relevant excerpts, identify points that needed clarification and provide space for new directions within the data.

The final stage of the interview process included reading quotes from other participants (anonymously) in order to check for accuracy, co-construct emergent themes and findings and create more richness in the data (Sparkes and Smith, 2014).

Recruitment, Participants and Data Collection

Participants in this study were selected for their expertise and experience with garden-based pedagogy and the desire to represent a diversity of voices. All participants had a minimum of five years' experience directly working with youth in school gardens, developing policy in support of garden programming or both. Participants were contacted either directly through email or through an introductory email facilitated by a colleague. Once participants expressed interest in participating in the study, a document with an overview, commitments and contextual information was shared with the participants. Along with this document, a consent form that was approved by the UVic Ethics Board was shared and signed by all participants prior to the commencement of the interviews.

Patrick Gale is a trained chef and foods teacher (in a local district) with a background in Environmental Sciences. He has worked with youth across Canada in a variety of positions that are directly related to farming, garden-based pedagogy and land-based education. In 2009,

Patrick worked with the Kidsafe Project, a project that incorporated garden-based pedagogy and allowed participants to explore topics of food security and literacy through garden-based activities. Another example of Patrick's experience with garden-based teaching is a program in Inuvik that Patrick led in 2013. The project contended with arctic climates and desert-conditions and successfully planted thousands of plants in greenhouses alongside students. Over the course of four seasons, Patrick grew dozens of crops that were integrated into the school lunch program and documented the process. Patrick has been teaching Food Studies, Sustainability and Science in the Sooke district since 2016 and is currently working on his master's degree involving land-based pedagogy.

Sarah Rhude is a Mi'kmaw educator, who lives and works in Lekwungen territory and has a wealth of experience working in classrooms and at the district level as an Indigenous Art and Culture Facilitator. Sarah has extensive experience supporting the development and implementation of local Indigenous plant gardens, and a multitude of art and land-based initiatives that are rooted in Indigenous ways of knowing and being. "Developing relationships with and learning (with permission) from and with the land, plants, animals, water, and people, and working with traditional materials ... has made me a strong Indigenous woman and advocate and continues to provide healing for me." Sarah's ongoing work is informed, supported and accountable to Indigenous Ways of Being and Knowing, her relationships with the local Indigenous community and is grounded by her connection to the natural environment.

Aaren Topley has an extensive background in the activation, implementation and creation of policy surrounding garden-based pedagogy. Beginning in the Greater Victoria area, Aaren conducted a mixed-methods inquiry titled "Sprouting School Gardens: Assessing the

Development and Sustainable Use of School Gardens in Victoria" for his master's degree focusing on local, garden-based assets and the factors that influence the implementation of school-based garden programming. He helped create the Victoria High School Farm, worked with Farm to School BC, consults with urban farms and farmers' markets and was also a member of the Urban Food Council. Aaren has also worked alongside Esquimalt and Songhees elders and knowledge keepers to help create the Harvest4Knowledge project that involved creating Indigenous plant gardens and revitalizing Indigenous languages. In collaboration with the City of Victoria, Aaren also helped found the Get Growing Victoria project to support youth and community garden initiatives. Currently, Aaren is working for the Public Health Association as the Provincial Manager with Can You Dig It, developing and supporting food systems policy for the Province of British Columbia.

Data Collection

Data collection was conducted by recording all the interviews on Zoom and then transcribing the discussions on Youtube. After each session, I reviewed the recorded conversations within 48 hours of the interview. After listening to the interviews, I transcribed the discussions and went over the material to eliminate any extraneous sounds and utterances, for example: "ah, um, em." After 'cleaning up' the interviews, I reviewed the documents for reoccurring themes and began selecting quotes from each emergent theme and organizing them under the developing subtopics. This process was repeated 2-3 times for each interview so that I could arrive at a deep understanding of the content of our discussions.

Chapter 4: Findings: Grounding My Research in My Participants' Experiences

This qualitative inquiry was designed to access the knowledge of three research partners that have extensive experience with educational food gardens. Through a series of semi-structured interviews, and open-ended storying, I aimed to arrive at a greater understanding of the role and impact that educative gardens have on youth, particularly their relationship with food and the local environment. This research was aimed at providing me with a deeper understanding of the role and potential of garden-based pedagogy and to inform the future development of curricula, program development and potentially more directed research inquiries.

Upon conducting a narrative analysis of the data, performances and connections between the participants' insights, I have found three branches of data that relate to my investigation. The first grouping that emerged through my analysis was that the majority of youth are disconnected from their local environment and food sources. This finding was discussed by all three of my research partners and was an observation that I made in my classes as well. The second grouping that was evident from my interviews and analysis was that learning experiences in gardens allowed youth a connection point to their local environment. This "connection point" was discussed extensively by all three of my participants and the frequency and importance that my participants gave this insight indicated its significance. My own (limited) experiences as a Foods teacher that integrated garden-based teachings corroborates this finding as well.

The third finding that my analysis revealed from my data was that actively engaging with gardens by composting, weeding, planting, harvesting, etc. had the potential to promote shifts in consciousness within youth, changing their awareness of local food systems, and allowing them to discover and see themselves as part of the natural world. This shift in consciousness was seen as a response or departure from a sense of disconnection between youth

and the natural world that was observed by all my participants. While each of my research partners offered many different perspectives and insights on the topic of pedagogical gardens, these three groupings were interwoven within the data and offered the most compelling findings.

By sharing my interpretations and analysis and grouping my findings around these categories, I hope to impart to readers some of the knowledge that was shared with me by my research partners. The first section, “Youth, the Environment and Local Food Systems: A State of Disconnection” examines the current status of youth and their relationship (or lack of) with their local food systems and environment. Since all three research partners expressed a concern for the lack of understanding and connection to their environment and local sources of food, this section describes the detached way that youth currently relate to food and their local environment.

The second section, “Connecting to the Local Environment: Growing Roots” represents the way that garden-based learning offers an entry point and/or strengthens the way youth relate to the local landscape. Through the experiences, stories and insights of my participants, I was able to see how actively engaging with the land by weeding, planting, harvesting, etc. connected youth to their environment and allowed them to be grounded by those experiences. This “grounding” process put youth in closer contact with the native plants and animals, changing seasons and the ways that past generations and Indigenous Peoples interacted with the local environment and food landscape. As these connections grow, youth are able to reconnect to their local environment.

The third section titled “Garden-based Learning: Shifting Consciousness in Youth” gathered insights from my research partners on the potential ways that educational experiences in gardens impact youths’ consciousness. By taking the stories and observations of my research

partners, along with my own observations and reflections as a foods teacher that integrates garden-based pedagogy, I was able to see how spending time in educative gardens was capable of promoting shifts in consciousness in youth. These shifts in consciousness or awareness were described by all three of my research partners and centered around changing the way youth saw themselves as passive consumers and seeing themselves as part of, rather than above, their living environment and community.

Each of my participants is deeply connected to the local environment and dedicated to activating youth through activities in gardens. The connection to place discussed in my interviews not only relates to the youth involved in these activities but extends to my research partners as well.

Patrick Gale, currently a master's student and teacher in the Sooke School District, has initiated numerous garden initiatives across the country and has chosen to continue exploring the impact(s) of place-based learning in his research. Aaren Topley has worked extensively in the Greater Victoria Area conducting research on and supporting garden-based resources and programs before taking on a provincial role that promotes these programs on a macro level. Sarah Rhude has initiated numerous garden projects in the Greater Victoria Area. These projects focused on language revival, land-based education and Indigenous ways of knowing and being. Sarah continues to enact her connection to land at her home in Victoria and through her medicinal plant-based business. Accessing the stories, insights and observations of my partners, provided me with detailed examples and descriptions that allowed me to see how garden-based education can impact youth and their relationship to food and the local environment.

After listening and documenting the stories and storying that my research partners shared, I selected, interpreted and analysed the data and found that the physical and intimate experience

of engaging with the land allowed youth to see, feel and understand the local environment in novel ways that encouraged and nourished their relationship to it.

Youth, the Environment and Local Food Systems: A State of Disconnection

One of the motivating factors for conducting this research on garden-based education was in response to a state of disconnection that I observed between youth and their local food systems and environment. I saw the frequency with which youth chose to eat fast-food, their reliance on processed products and the almost religious dedication that many of them had to franchise restaurant chains as symptoms of this current state. I became curious about why youth were so detached from the local foodscapes that they didn't see the abundant sources of food that Vancouver Island offers. I took note of the piles of plastic wrap and packaging that remained on the lunch tables after the bell rang and watched sadly as much of the free produce that was delivered to the school on a monthly basis rotted away. I wondered why, at a school that has a courtyard garden at its center and a bountiful garden teeming with fresh produce, the Salad Bar hardly had any student customers? In order to examine this state of disconnection, I interviewed my research partners on their experiences and found that they also observed this fractured relationship between youth and their local food systems and environment.

Patrick Galey's upbringing instilled a strong connection to his local food systems and a deep respect for the environment. Even as a child, he remembers designing and creating a menu for his own imaginary restaurant and actively participating in food production. He says: "I've always been passionate about food, and I became passionate about the environment through my family's experiences, my own experiences volunteering, being an activist in high school and

learning from marine biologists, eco foresters, First Nations, etc.” Growing up on a small, family-run hobby farm in Ottawa that tapped their own maple trees, attended livestock auctions and participated in the seasonal growing and harvesting of crops, nurtured his connection to his environment from a young age. “I remember working with other people, actually doing stuff and seeing how it all worked in context,” he says. These early experiences sparked a desire to want to start volunteering working with youth and food and learning how to cook professionally.

After graduating from high-school and getting his Red Seal chef certificate, Patrick worked with youth in Katimavik, cooked at the Arctic Games and prepared food at a soup kitchen in Yellowknife. From there, he spent time teaching and cooking in Sweden where he was inspired by their healthy meal programs, progressive teacher training and the connections they had to their local community. After returning to Canada, Patrick moved to Inuvik and taught culinary arts for five years. While in Inuvik, Patrick worked with students and started a garden, a subsidized meal program and worked to integrate place-based learning that encouraged students to connect to their local food environment and share their knowledge and culture.

Years later, Patrick now integrates garden-based activities into his science and foods classes at Edward Milne High School in Sooke in a way that he hopes inspires youth to connect to their environment by growing, cooking, and sharing food. He has already seen numerous examples of the positive impact that working in the garden can have and he continues to share his knowledge and passion with new students every new school year. Patrick is visibly energized by his ongoing work and is nourished by “watching other people learn things that I’m excited about, or I think they might not have otherwise experienced or seen before.” As someone who has grown up closely connected to his environment and food sources, with opportunities to work

and learn collaboratively from a variety of knowledge-keepers, Patrick is intent on passing down his knowledge and experience to his students. “I want to share [these] experiences with my students.”

One important motivating factor for Patrick is responding to a growing sense of disconnection from our local environment and where our food comes from. As someone who has worked with youth in a variety of roles and settings across the country, this observation is informed by nearly two decades of practice. “There is a huge disconnection”, he says.

In Patrick’s view, the current way we grow, distribute, and buy food has created a state of disconnection that permeates much of youths’ relationship with the natural world. “We used to have stronger connections to food that way” he says, also noting “there’s a resurgence around that.” Patrick hopes his work as a teacher that integrates garden-based teaching can contribute to this “resurgence.”

In Patrick’s view, before our food systems became industrialized, we were inextricably connected to the changing seasons, the locally grown plants and animals and ways to survive within those contexts. “One hundred years ago people would have known all these things,” Patrick says, referring to the way past generations had a deeper understanding of, reliance on, and connection to the local environment. In the past people knew what plants and animals were local, what foods the changing seasons would bring and how to work with the land.

The “past” that Patrick talks about refers to generations before the industrialization and globalization of our food systems. Skills like seed saving, an understanding and awareness of the seasonality of locally grown food and “basic skills around preservation” are examples of ways

that past generations were more in tune with their food systems and environment. Patrick's experiences working with youth in a variety of locations for nearly two decades has allowed him to see this loss of skills from the past. He describes the deficit as a lack of "connection between all of the considerations and soft-skills around producing food." He believes that youth are detached from "being able to use [their] senses to assess soil and water needs" and using what is grown and abundant, as opposed to the year-round bounty that the grocery store offers.

Another aspect of this disconnection is youths' resistance to certain foods that often they have only tasted from a grocery store. Patrick sees this displacement of grocery-sourced food as opposed to farm-sourced food as another example of youths' detachment from what is locally grown and available. He comments:

Some students will say that they don't like certain things but, if you've only ever eaten a grocery store tomato that has traveled 3000 kms, it wasn't really ripe. The contrast between what you can harvest from your greenhouse or school garden and what you can get at a grocery store is a whole other different experience. They use the same word for what it is, but it is a whole other different experience. They are worlds apart.

Patrick's upbringing and early connections to the environment and food networks inspired him to want to share his knowledge and experience. As a chef, environmentalist, and teacher, sharing this knowledge is a vital response to a state of disconnection that pervades many youths' relationships to food systems and the local environment. This state of discord is seen in the lack of awareness surrounding soil, water needs, and seed saving and extends to food preservation and youths' resistance to foods that many have only ever tasted from a grocery

store. This state of disconnection is one that Patrick hopes to counteract through the integration of garden-based teaching methods into his food and science classes.

Aaren Topley has dedicated much of his working life to initiating and animating garden activities throughout the Capital Region and now across the province. Going back generations, Aaren has a background in farming, although his own upbringing was mostly spent in urban settings. Aaren's initial connection to food came at a young age when he remembers always being hungry. His family even claims that his first word was "pâté."

His initial interest in working with food and food production stems from his own experiences as a university student and seeing how his mother used a dramatic diet change to cope with multiple sclerosis. Seeing the impact a change of diet had on his mother's struggles (she is now in remission) inspired him to change his own diet to deal with the challenges of university and attention-deficit hyperactivity disorder. Once he changed his diet, he found himself feeling healthier and more able to focus. "I really focused on exercise and diet and there was a noticeable difference in my ability to focus at the university level. That had a big impact on my ability to do the work I'm doing," he says. The other element that inspired him is his love of cooking. "Cooking got me excited. I love cooking and that piece was my gateway into this work." As his interest in cooking grew, he realized how important the sources of ingredients could be. "Food that's from a farm tastes different," he says.

Once Aaren dug deeper into the world of cooking, he saw how food connects to so many issues that interested him and inspired him to pursue this field. "Seeing that value and seeing what growing food is able to bring," continues to sustain his interest in working with food production and allowed him to take his skills and interests from Victoria-based projects to his

role with the province-wide organization Can You Dig It. Can You Dig It is a B.C. focused organization that aims to support “inclusive and welcoming food-growing gardens” that contribute to local communities. Past projects include supporting the Urban Farm Lands projects in Kamloops, Victoria and Vancouver, conducting surveys about food access in the province and helping the City of Victoria implement its compost and leaf mulch distribution project.

<https://cydi.ca/#:~:text=Can%20You%20Dig%20It%20supports,the%20betterment%20of%20the%20community>. accessed March 1, 2023

Like Patrick, Aaren has also researched school gardens extensively and devoted himself to promoting them. He also sees the need to support these projects with the hope that growing this relationship can reconnect us to our food systems and environment. Aaren echoes the idea that much of the need for these initiatives is the result of a sense of disconnection. “Sometimes we're so removed from some of the things that are so important around us. Part of that is growing food,” he says. “As a society we are disconnected from where our food comes from.”

One indication of this disconnect from our food systems is a result of being cut off from the knowledge of past generations. “I think about how before you would inherit the farm from your parents or grandparents, and generations before that too,” he says. In Aaren’s experience, that flow of knowledge from one generation to the next has been disrupted and is a cause for concern. “That’s hundreds of years of knowledge that has accrued that [would] get passed along to you. It’s this ancestral piece. That connection to ancestry and the knowledge of that history isn’t getting passed down and is being lost,” he says.

This “ancestral piece” refers to the way that past generations interacted more directly with their food systems and environments, for example: planting, harvesting, and preserving. On

a personal level, the “ancestral piece” stems from Aaren’s familial roots and his desire to connect to his own past while promoting a future that he’d like to see. “I have farming within my family history and it’s like this makes me feel closer not just to them but also to my future of feeling more food secure.” Aaren talks about the lost knowledge that past generations had about growing food and understanding the environment and feels like as a society, we are cut off from that lineage of knowledge being transferred to younger people. “We just don’t know it [anymore]. My great grandparents were the farmers,” yet those skills were not passed along through their grandparents or parents. There are “many generations disconnected,” he says.

Since one of the primary goals of BCs education system is to connect to First Peoples’ Principles of Learning and to embed this learning into the classroom, the call to reconnect to the land and take on these generational responsibilities becomes fundamental to supporting these shifts. The first principle is that “Learning ultimately supports the well-being of the self, the family, the community, the land, the spirits , and the ancestors” (<https://www.fnesc.ca/wp/wp-content/uploads/2015/09/PUB-LFP-POSTER-Principles-of-Learning-First-Peoples-poster-11x17.pdf>). With this principle in mind, it is clear that being connected to our environment is one path towards enacting First Peoples’ pedagogy into the classroom. In addition, since “learning involves generational roles and responsibilities” (<https://www.fnesc.ca/wp/wp-content/uploads/2015/09/PUB-LFP-POSTER-Principles-of-Learning-First-Peoples-poster-11x17.pdf>), finding a way to answer the call and take on these responsibilities, like Aaren has, is another way to enact this learning and reflect these principles.

The “disconnected” state between our coming generations and our local environments and food systems are one important factor that contributes to the detachment we as a society are

experiencing in relation to our food systems and environment. One story that Aaren shared with me that illustrates this distanced relationship comes from a recent Victoria-wide initiative called Get Growing. During the pandemic, the city of Victoria decided to try stimulating the growth of local food by distributing seeds and saplings to locals. The hope was that the abundance of food that people grew could support those struggling with food security and lead to a more robust food network in the future. Unfortunately, according to Aaren, the hope that the city would be nourished by the thousands of plants that they gave out was a bit too optimistic. “Many of these people [were] growing food for their first time,” he said. The reality is that “Many will be successful, and many will not be successful.” Sadly, it turned out that “many people did not have a successful garden that year.” Aaren believes that this struggle to grow food with very little experience is an indication of the disconnection we experience from our food sources and the knowledge needed to actually grow food successfully. Aaren admits that future projects will need to contend with this knowledge deficit and work to build more familiarity and efficacy with growing food if they aim to succeed. This is a struggle that Aaren sees in society, but also struggles with himself.

As someone who dreams of having his own house one day, and loves figs, Aaren has been nurturing a fig sapling for the past few years. Each year he struggles to keep it alive due to his busy work schedule and lack of gardening expertise. However, the challenges he has faced growing this fig tree are a reminder of just how difficult it can be to become a grower without the supporting knowledge or experience. Though the fig tree is still alive, Aaren has yet to learn how to help it thrive on his deck. He says, “If I had the basic skills to begin with, this would be a lot easier.”

In short, although Aaren does not work directly with youth in his roles promoting garden-based initiatives, he sees a state of disconnection in our society when it comes to our food sources and environment. He has experienced this disconnection personally, as it relates to his own family history of farming, his self-professed lack of a “green thumb” and on a larger scale when he encountered a city-wide deficit of gardening skills in the recent Get Growing initiative. This state of detachment from our sources of food and environment is obvious when we compare the lack of knowledge and skills current generations have when compared with past generations. For Aaren, our relationship with food becomes an important opportunity to address this issue and reconnect with the knowledge and relationships of the past. “We eat three times a day so connecting to the land brings back that ancestral piece,” he says. Another important insight that Aaren raises is that being disconnected from our food sources keeps us dependent on the globalized, industrial system. When people are detached from where their food comes from, they become or continue to be reliant on this system. “This benefits the industrial food system to keep us ignorant and further and further disconnected from [our] food,” he says. To summarize, restoring the connection to our food sources motivates Aaren to continue his work as he hopes to reconnect to his own familial farming history, help society restore our relationships with our food sources and counteract the industrial food systems that keeps us disconnected.

My third research partner Sarah Rhude, is an Indigenous Canadian woman who is inextricably linked to the environment, sees the natural world as part of her extended family and has worked as an educator for over a decade. Sarah is also deeply concerned by the lack of connection that many youth have to their local environment. She sees this state of detachment as a result of the exploitative, capitalist system that dominates our relationship with the natural

world and that has replaced the more holistic relationship that existed before colonialism. This sense of disconnection is evident in the way many youths see their food sources and how they see themselves within this system.

As someone who values the tradition of storytelling, much of what Sarah shared with me was done so through stories. One story that Sarah shared with me was about her son learning about sweetgrass in science class. The story provides an example of the disconnected way that information is presented to students in a contemporary science class:

He showed me how basically the whole [lesson] was just going in a book and reading about the plants and dissecting each of the chemical compounds in the plant in order to understand the plant. This was so foreign from my worldview that the way [he] was going to develop a relationship with the plant was to read about it in a book down to its molecular level in a way that is just simply extractive, like this is what it can do for us as opposed to it being a plant in the garden that you have a relationship with that is a give and take; like it helps you, you help it. I talked about that with him and at one point he said something like ‘oh yeah sweet grass is a good insect repellent’ and I said what do you mean? He said, ‘Well it has this compound in it that also is in this other Indigenous plant.’ This was cool information, but I said, sweetgrass is one of the most sacred medicines in our culture. In our origin story, the nephew character who is so prominent [and] represents young people comes from the sweetgrass. It's actually a relative of ours.

This personal narrative shows both literally and symbolically just how pervasive the colonial view of the natural world has become and how this has led youth to a sense of disconnection from it. Sarah believes that this perspective is so dominant that it literally displaces culture and connection with an extractive capitalist value system that reduces plants to their elements and what function they serve for humans. Sarah said: “It was so interesting to me to see the clash in world views between what the system sees as learning about plants and having a relationship with plants and how that works in students’ minds.” The “clash in worldviews” evident in this story highlights the need for our education system to acknowledge and make space for Indigenous approaches. This connects to the learning principle that “Learning recognizes the role of Indigenous knowledge” and demonstrates how our current system of education can benefit from providing opportunities for youth to see the natural world through a different lens (Chrona, 2014).

Another story that speaks to this connection (and disconnection) with the local environment came forth in our second interview.

The other day I was walking with my niece, who is Indigenous, and we were walking through this forest path and there were salmonberries and I said, eat some salmonberries. And she said ‘I’m not just gonna eat those salmonberries. I’m not gonna eat that. It’s dirty. What if someone peed on it?’ So [I asked], you’ll eat a sprayed berry from some grocery store, but not from here?

As this story illustrates, the state of disconnection from our food system has become so pervasive that natural food sources can be characterized as “dirty” and unsuitable for

consumption. As an Indigenous person whose culture is so connected to the natural world, this story represents just how disconnected youth have become from our food sources and environment. In Sarah's view, finding ways to reconnect youth to the natural world is essential to restoring the relationships to our surroundings so that future generations can appreciate the bounty that grows in our local landscape and not see it as "dirty" because it doesn't come in a plastic package. "Industrialization has turned us into this place where it feels unnatural." From Sarah's perspective, the environment that youth are being raised in has distorted what is "natural" in harmful ways.

According to Sarah, this detached view of the environment and viewing the natural world as a source of raw materials that we can extract for our own needs, is a major reason why youth are so disconnected from their surroundings and food sources. Further, Sarah asserts that the notion that the environment is subservient to humans comes from a colonialist mentality of extraction and exploitation that she actively works to undo. She aims to bring students into an awareness that this is not the only way of relating to the local landscape and that seeing the world through a more holistic lens is also a viable viewpoint. She feels that it is important to "bring awareness to the fact that there are other ways of knowing and being before capitalism." Importantly, presenting this alternative perspective also ties into the process of decolonization, which is an important part of Sarah's goals as an educator.

After teaching three Junior Foods courses this past year and half and integrating garden-based learning activities into my curriculum, I too saw how disconnected many of my students were to the local environment and food systems. This detachment was evident in the discussions we had surrounding food sources and local/introduced plants, introductory lessons in the garden and my written observations of students' behaviour in the garden.

Early on in both the courses that I taught, I introduced the concept of seasonality and initiated a brainstorm and discussion on locally-grown foods and seasonality. In both classes, I noticed a significant deficit in knowledge and understanding of what actually grows in this region and during which season. Students were unable to name any fruits or vegetables that were native to the areas, beyond one group that mentioned blackberries. The same group was shocked to hear that the blackberry that they know and encounter most often is actually the invasive Himalayan species and not the Indigenous trailing blackberry. Neither class could successfully identify any winter crops or name any autumnal produce other than a group that mentioned apples and pumpkins. Students did successfully identify blueberries and strawberries as fruits that grow locally in the summer.

Despite the fact that students in both classes were actually able to identify some examples of crops that grow in the region and during which seasons, none of the students could differentiate between which plants were introduced and which were native. These limited responses were the result of giving the classes of 24-25 students 10-15 minutes to discuss and generate ideas in groups of three to five. Although both classes could provide limited examples of locally grown produce, the scarcity of knowledge, lack of certainty on their answers and complete paucity regarding local vs. introduced plant species reflected their state of disconnection from the local food landscape and environment.

Another example of this state of disconnection came when my classes went out into the garden for a tour and a lesson on composting. As the garden educator led us through the courtyard garden, they attempted to elicit responses and activate the classes' existing knowledge of what was growing around them and what they knew about composting. Although classes do tend to be quiet and reluctant to share their knowledge within a new setting and in a new class,

the scarcity of knowledge on these topics was evident even after two or three visits to the garden and in all my classes.

I saw further evidence of the disconnect that many of my students experienced in relation to their food environment and locality in the reflections that they submitted at the end of the course. These reflections offered dozens of examples of students writing about new connections they made to the environment, the knowledge and understanding they gained about our local food environment and about the function and roles that pollinators, worms, and composting played in our food web.

After reviewing my interviews with research partners and engaging in member-checking as well as revisiting my own journals on the topic of educative gardens and their impact on youths' relationship with food and the local environment, I identified a common theme of disconnection between youth and their local food sources and landscapes. This disconnection was evident and pervasive enough that all three research partners alluded to it and provided examples to support their assertions.

Connecting to the Local Environment: Growing Roots

While my research and experiences revealed that many youths experience varying levels of disconnection to their local food landscape and environment, one compelling finding was that educational activities in the garden provided an entry point for youth to connect to these systems in novel ways. After reviewing, analyzing, and engaging in multiple rounds of member-checking on my findings, all three research partners and my own observations and journaling supported this theme. This section will provide a brief description of each research partners' related

experiences, along with a detailed description of the discussions, examples and stories that connected to the theme that educational experiences in gardens can invite youth to engage with their local food systems and landscape.

As a trained chef and educator that has worked extensively with youth across a variety of contexts, Patrick Gale strongly believes that “education should be rooted in places.” This belief in education that is connected to the local environment has led Patrick to pursue his master’s in land-based pedagogy. The idea that “education should be rooted in places” has grown from his upbringing near Ottawa and his experiences working with youth across the country.

These experiences allowed Patrick to work alongside youth and witness firsthand how working the land, cultivating, and harvesting can spark (or strengthen) the connection between youth and their local environment. Patrick observed this phenomenon while working with youth in a variety of different contexts. He says, “When kids grow [food], they take on ownership; they feel valued because it's not just about their learning and experience: the plants need them. They have to be there to help take care of those living things.” Having the opportunity to experience this reciprocal relationship of “care” is one that invites youth to establish, restore or strengthen their connection to their food systems and environment. Patrick’s experiences working with youth allowed him to see how this sense of connection is nourished by the educational experiences that they have together in the garden.

By providing opportunities for experiential learning in a garden setting, Patrick seeks to provide youth with chances to interact with the local environment, develop a relationship with it and reconnect with ways of being that are more in tune with it. He believes that these

experiences have the potential to revive the connection humans used to have to the local environment and hopefully encourage them to establish an ongoing relationship that supports it.

On a more concrete level, Patrick sees garden-based education as a way of helping youth connect to the seasonality of the local food system. In a food environment where youth are used to having food options that are detached from what grows locally, gardens become a site for reconnecting youth to the seasonal foods that grow around them. Patrick says that garden-based learning allows youth to “experience the weather and seasonality.” He uses the example of year-round strawberries to illustrate this point:

Just because there’s strawberries at the grocery store 12 months of the year doesn’t mean they grow then. There are actually strawberries for four weeks, you know? How do you plan what you're going to eat and how are you going support the local food system unless you experience that through the seasonality and not just watch a video and do a worksheet about it, right?

Patrick uses garden-based education as a way to teach and restore these connections to our local food systems and environment so youth are able to respond and understand what foods can be sourced locally and are available in abundance when in season. He aims to teach students to “see what’s available and see it as bounty and not restriction.” This key distinction challenges youth to be creative and “make the most of what [the local food system] provides.” He feels that challenging youth to respond to available produce and use their ingenuity to make food is an important skill and one that not only brings students back into a responsive relationship with their environment, but also allows them to experience foods while they are at their most

flavourful and nutritious state. “If you have too much at your fingertips and you can do whatever you want, you are not forced to be innovative and make something delicious,” he says. He believes that the skill of being able to work with the produce that is locally available is one that brings youth into a relationship with the local and allows them to be more connected to the food landscape that they inhabit.

Patrick’s current role teaching foods and science courses at Edward Milne in Sooke allows him to instill this connection by hosting edible tours, planting Indigenous gardens and working with youth showing them how to grow, harvest and prepare locally-grown foods. He is invested in helping youth realize that “food is everywhere,” inspiring them to use what is available and “make [it] delicious” and that “waste a huge sin.” To Patrick, these are vital lessons that bring youth into a closer relationship with the local food network and environment.

To summarize, one of the prominent findings that came from my discussions with Patrick on the topic of garden-based pedagogy was that bringing youth into this outdoor learning space and allowing them to work the land with their own hands provided an entry point for them into creating a relationship to the local foodscape and environment. “There are so many ways that students are not feeling connected to each other, to nature and to their school. These essential garden activities allow them to build a relationship with the local environment.”

Building this relationship through experiential learning, providing opportunities for reflection and enacting a connection to the environment through experiences in SFGs aligns with First Nations pedagogy and another fundamental principle of learning. “Learning is holistic, reflexive, reflective, experiential and relational (focused on connectedness, on reciprocal

relationships, and a sense of place” (<https://www.fnesc.ca/wp/wp-content/uploads/2015/09/PUB-LFP-POSTER-Principles-of-Learning-First-Peoples-poster-11x17.pdf>). When examined through the lens of this learning principle, Patrick’s integration of SFGs into his teaching practice can be seen as both a way to connect youth to their local environments and food systems and a way to enact First Peoples’ pedagogy.

One key motivator for his work was repairing a sense of disconnection that he saw within younger generations and their food sources and environment. Patrick’s experiences as an advocate and pioneer establishing programs across the country were one of his responses to this sense of disconnection and he continues to create, research and develop garden-based approaches in his teaching practice. In his view, these valuable experiences can provide youth an experience that allows them to understand, interact with and support the vital systems required to provide nourishment in the future.

After speaking with Aaren Topley about the impact that garden activities can have on youths’ relationship with food and the local environment, it became clear that he also sees the garden as a potential connection point. In specific, the school garden provides a safe place so “youth can explore with curiosity.” Beyond allowing students to let their own interests guide them, “They learn how to grow food for the first time, and they can make mistakes.” By allowing youth to make these mistakes in a safe environment, they can experience food in a new way that does not involve a grocery store and supports a connection point for the future. After all, making mistakes and learning from them is one of the most elemental forms of education.

To support this connection point, Aaren has invested his time and efforts in bringing opportunities to connect with local landscapes and food systems to local communities. He conducted an extensive inventory of school-garden assets and the networks that support them within the capital region for his master's degree. He has also worked to animate numerous community-based initiatives that supported grass-roots farms, both in school and in the greater community. Aaren has dedicated himself to researching and implementing these garden projects because he strongly believes that having these opportunities result in positive impacts, both for youth and for members of the community.

An important motivation for devoting himself to these initiatives is that in Aaren's view, much of the connection to our local environment and food systems begins with the physical experience of putting our hands in the soil. He also believes that this physical connection extends to our heart and our heads. This echoes what Swiss educational theorist John Heinrich Pestalozzi (1746-1827) "visualized [as] the balance between the three elements, 'hands, heart and head'" (Subramaniam, 2002 p. 2). When you work in the garden, "your hands are getting in the dirt; it's growing food; it's cooking your food — all those things involve your hands. I think a lot of the time school ends up building up your mind and well it is, but it's also building up your hands." Since much of the landscape of education focuses on cultivating the mind, this physical connection may be one that gets overlooked.

Aaren believes the hands are what initiate and strengthen the connection to our natural world and the food landscape. "The hands are that piece that ties the head and the heart together." It is through the experience of getting their hands in the soil and having a sensorial relationship with the land that compels youth to think about and care for their surroundings and how their food is sourced.

Being able to get your hands dirty gives you this really innate sense of being part of something bigger than yourself. Connecting to mother earth, connecting to the plants. If you're cooking food, that whole process is not just one piece, it's these different steps that layer on to each other and build.

Another important part of why Aaren believes that garden-based experiences are valuable for youth is because we will need farmers in the future. Since the vast majority of Canadian youth no longer live in rural settings, raising the next generation of farmers is also on his mind as he looks to the future. “There is something really powerful about having a farm within an urban setting. Kids get the chance to grow food and see if they want to take it up as a profession. We’re building that next generation of farmers within an urban setting.” Providing youth with a reference point to the field of farming offers another positive outcome of garden-based teaching, one that offers another way of connecting youth with their food sources and environment.

While the future of our food systems and accessibility are at the heart of Aaren’s work, he has not overlooked the fact that most youth will not become farmers. Despite this, he sees value in passing on the ability to grow food and connect to our food systems on a personal level. “From a sustainability standpoint, this is really important whether or not they become farmers. Being able to grow your own tomatoes in the summertime every year is a really great skill to have and something that doesn't get passed down a lot.” For Aaren, educative gardens are well-suited to providing youth with opportunities to engage with the local environment and food systems, expose them to how their food is grown and establish a connection point for them to understand and connect to them.

Along with offering a connection point to local food sources and landscapes and exposing youth to farming, having experiences working in gardens has the potential to create greater food security and beyond that food justice as well. This desire to create more food security and justice has driven his academic path along with his work at the local and provincial levels. For Aaren, “It’s all about trying to build these public farms that become part of the public asset for creating equitable food access.”

In my conversations with Aaren, I often made notes on the sense of optimism and passion that animated our talks. Each conversation would build with energy and intensity as they went on and it became clear that the willingness to do the work necessary to carve out a better and more sustainable future for our youth excited Aaren and fueled the work that lay before him. “Let’s get them excited about it; let’s build their knowledge up, build our next generation of farmers so that we can be a food secure province or country.” One step towards achieving these goals of a more knowledgeable and capable population and a food secure future is creating deeper connections to our local food systems. “I think the connection to the land and where their food comes from makes you experience how it is all connected,” he says. Thankfully, Aaren’s research has shown that providing opportunities for these types of experiences is not an unattainable goal; Aaren’s 2019 master’s thesis surveyed 24 schools with garden assets in the school district of Victoria and from a district of 45 schools, this represents substantial existing spaces for this learning to occur (Topley, 2019). The spaces for students to begin their relationships with the local food systems exist and offer strong potential for initiating and supporting these ties. It is with these experiential roots that Aaren hopes youth can become more grounded to their local environment and connected to their sources of food.

Sarah Rhude is deeply connected to the land. By listening to the stories she tells and the way she listens to, speaks and interacts with land, it is abundantly clear that she cares “very deeply about how important the relationship” is between humans and the land. Sarah has seen the spark of this connection in her experiences working with youth in gardens throughout the region and her voice reflects the sense of excitement that she has witnessed working with them in the gardens. “You can see the moment when a connection happens and it’s so amazing,” she says. To Sarah, nurturing these connections is essential, not only for the support that they can offer the flora and fauna that live amongst us, but also for the humans that inhabit it. “All humans thrive from being in relationship with other living things,” she says. Sarah believes that working in the garden provides a chance for youth to experience the give and take relationship that working in the garden involves and invites them to be a part of it. Being in the garden and working with the land allows youth to experience “how you take care of the plant and how the plant takes care of you. That’s the reciprocal relationship. That’s connection.” Creating opportunities for this “connection” and nurturing youth through the process is something that enacts many of the First Peoples’ Principles of Learning and provides a tangible connection point to our land. Since First Peoples’ value a more holistic and relational approach that encourages youth to take responsibility and become stewards of knowledge for coming generations, SFGs offer great potential for promoting these principles of learning (Chrona, 2014).

These relationships and connections are deeply rooted in Indigenous ways of being and knowing and are enacted through the ways that we interact with the land. Sarah has been active in modeling these interactions across the region and she echoes the teachings of John Elliot in our discussions: “In order to be a good visitor in this territory, you need to develop a relationship

with the land, and you need to learn the language of the land.” Learning the language of the land is both a literal and metaphorical teaching. First, on a literal level, learning the language of the peoples that have lived on and cared for the land reflects a sense of recognition that is an essential part of connecting to the local environment. This recognition of the original stewards of the land is rooted in a reciprocal and relational worldview that evokes an intimate and familial sense of connection that is embedded in language.

One example of how the language of the land embodies these principles comes from the teachings of Tom Samson, a Wsanec elder that shared this teaching with Sarah. “There’s no word for food in our language. The word for food is medicine. Whether that be words for plants, foods, animals, etc.” This teaching shares with us that by learning the language and meanings behind the words that describe our natural surroundings, we can not only show recognition to the connection that the local populations have maintained for thousands of years, but also begin to understand the deep relationships that have sustained the local environment since time immemorial.

On a metaphorical level, learning the “language of the land” involves attuning ourselves to the ways that our environment speaks to us and educating ourselves on what was here before colonization. “It’s deeply important for students to know and understand what grows here naturally and what was introduced,” says Sarah. The more aware we become of what grows here naturally, what is invasive, and how we “listen” to the needs of our environment, the more we can align ourselves with it and in turn care for it. Through the act of learning the “languages of the land” youth can come into closer connection with the relational ways of being that existed before colonization and inhabit this sense of care.

To summarize, Sarah believes that finding ways to reconnect youth to the natural world through garden-based activities is vital. This includes teaching the Lekwungen names and language of the plants, land, waters and building a relationship with the Indigenous species of the region. Sarah believes that these experiences can offer a path toward undoing the harm that industrialization has done to our relationship with food and the local environment so that youth can appreciate, support and be supported by our local environment. According to Sarah, this approach to teaching can reach youth in ways that other teaching approaches can't. Our current teaching practices "rarely reach our emotional and spiritual parts," she says. For these reasons, working in the garden provides a valuable connection point that encourages people to be "connected to what's outside of me, what's around me."

As the school year progressed, the insights that my research partners shared with me took on more significance. I began to see the themes that grew out of my interviews in my foods' classes: the majority of students were disconnected from the local food systems and environment, and the garden provided a valuable site for creating this connection.

Indications of this started with me noticing that students began to spend more time in the garden outside of class. I began observing groups of students from my class eating lunch with their friends in the courtyard garden. This physical expression of their growing relationship with the land was often coupled with wanting to share and invite their friends to be in the garden space with them. The courtyard garden became a location for meeting and sharing time and space together while having lunch. As the students spent more time in the garden, I would notice them exploring the garden itself and becoming more in tune with what was growing in it, sharing weather reports with me when they came into class and asking what future plans were in place for the garden. While many students did not readily talk about the connection that the garden

helped nurture, the curiosity, awareness, and concern for the garden's future were all evidence of a relationship of care.

Another example of these burgeoning relationships was the increased number of questions about the “inhabitants” of the garden. During the introductory lessons in the garden, students were often reluctant to offer questions and seemed uncomfortable and fidgety in this new space. However, as the classes became familiar with the garden, they began asking questions about it. Examples of these questions include: What plants grow well together? Why are certain plants in the green house while others are not? What kinds of dishes would these herbs go well with? These questions reflected a sense of curiosity, care and connection that did not seem evident at the start of the semester. In some cases, students continued asking about the garden even after the semester was over. When examined through the lens of what constitutes a relationship, it became apparent that asking about the garden reflected their developing connections.

To summarize, after reviewing the data I collected in my interviews with my research partners and by documenting and reflecting upon my experiences teaching, I began to see how the branches of my research findings intertwined. The insights Patrick provided on using the garden to teach about seasonality, restoring bygone skills and stimulating curiosity became apparent in my classes. The effect of using the hands as an entry point to the head and the heart that Aaren spoke was noticeable when I reflected upon my experiences teaching Foods courses. I began seeing the growing sense of care that I spoke about with Sarah in my students as well. The increase in desire to be in the courtyard garden during lunches, the questions about it and the weather updates all provided me with evidence of the ways that students were connecting to the garden.

Since conducting my research on educative gardens, concluding my interviews and integrating garden-based activities into my foods' courses, I have also gained a new and deeper understanding of why these sites are such a valuable resource. Each participant brought a different perspective on why these experiences are important and have value in bringing current and future generations into a state of connection with our environment and food systems. When woven together, the vines of each research partner's data, along with my own experiences as a teacher and my research have strengthened my belief that the school garden is an asset for initiating a connection within youth to our local environment and food systems.

Through the discussions with my research partners and by documenting and examining my own experiences as a foods teacher new to integrating garden-based pedagogy, I experienced the disconnect that I read about in scholarly articles, discussed in my interviews and witnessed in my classes. Many of my students seemed to lack a basic understanding of our local food systems and environment and very few of them possessed the knowledge and skills that previous generations had when it came to interacting with the food system and being able to maximize and preserve its produce. Through my research and experiences, it also became apparent that working with youth in educational gardens had the potential to encourage connections to the natural world that can help undo the disconnection that many youths experience in relation to their food sources and the local environment. Working in the garden did not only invite youth into relationships with the natural world, but in many of the youth observed became catalysts for deeper shifts in awareness. These changes in youth regarding their outlook and place in the natural world were the most compelling of my findings and will be discussed in the next section.

Garden-based Learning: Shifting Consciousness in Youth

A third finding that developed from my discussions with all three research partners was that working with youth in the garden can initiate shifts in their consciousness. Consciousness is defined by the Oxford dictionary as “the state of being able to use your senses and mental powers to understand what is happening” (“Consciousness”) and it is the potential that educative gardens, used with innovative educators, have in creating this heightened awareness that my research has revealed. By connecting to the land through the physical act of gardening, my participants observed growing awareness in the youth they worked with. This growth included a newfound sense of curiosity and wonder towards the environment, an appreciation for the hard work that goes into growing food and in some cases a complete metamorphosis in youths’ relationships with the natural world.

As someone who has initiated garden projects with youth across the country, Patrick Galey has seen the impact working the land can have. One immediate insight that Patrick offered was that working in the garden and growing food alongside youth awakened a sense of curiosity. Gardens are a place where students can partake in a “sensory experience” that allows them to experience the classroom in a new, more engaging environment. According to Patrick, this sense of wonder can be lost in the classroom experience, particularly with secondary students. He sees the garden as a site for “reminding and remembering that curiosity and discovery are a big part of learning,” something that can be lost “as they move through their education.” According to Patrick, this change is noticeable in the faces of the students and the excitement they exude when encountering new foods, experiencing new flavours or making new realizations. Patrick shared a story that illustrates this finding:

We grew corn last year that wasn't yellow. We were growing a lot of heritage, organic varieties and there were carrots of different colors, striped tomatoes and everything we grew was not your typical grocery store produce. They're taking pictures and putting it on Instagram and being like what the heck is this crazy purple potato?!

In our discussions, Patrick radiates a similar excitement to his students when talking about the way gardens can spark a sense of wonder and change the educational dynamic too. “They’re noticing different things; they’re sharing them out; they’re teaching me things; they’re making discoveries.” According to Patrick, working “alongside” his students “temporarily dissolves the educational hierarchy” and creates a context for the “co-construction of knowledge.” As youth and teachers work together in the garden, the separation between them dissipates allowing for a more dynamic and equitable education experience, one that is enlivened by a sense of discovery.

In addition to changing their relationship with teachers and their classmates, Patrick has also observed the way that working in the garden can transform youths’ relationship with food and with their environment. Instead of seeing themselves as outside (or above) of the food web, youth are able to see themselves as a part of it. “They just start to notice more about how they’re not just passive consumers of food and they have an active role,” he says. For Patrick, the garden allows students to “actively collaborate” in ways that encourage students to see their food sources, learning environment and their place within the food web anew.

Along with shifting the way students and teachers see each other in the classroom and how students see themselves within the food web, Patrick sees examples of how working in the garden has opened up new connections and paths within the school and beyond. “In an

immediate, quantifiable sense, kids are writing short, reflective journals” on how they’ve been impacted by working in the garden. “They are coming up with connections” and finding ways to take this knowledge and apply it to their own lives.

An example of this comes from a student who took the experiences and knowledge he gained in the garden and used them as an opportunity to connect with and support his grandparents’ garden. The grandparents didn’t have a “lot of contact and didn’t get out much because of covid,” but before the pandemic they “always had a great garden.” The grandparents were having trouble “managing their own garden” so the student started “regularly volunteering” so they could be “outdoors together.” Not only was the student supporting their grandparents through gardening, but he was also connecting (or reconnecting) to the tradition of knowledge getting passed down from generation to generation. This example demonstrates the potential shifts in consciousness that learning in the garden can have; in this case, an introduction to gardening allowed the student to discover a new connection to their grandparents, while simultaneously strengthening their connection to their food systems and environment.

Another compelling example of the potential that activities in the garden hold comes from a student that was so inspired by his experiences in the garden that he started up a program that grew food for the foods’ classes and cafeteria and distributed food directly to members of the school community. One unique part of this was that it was entirely student driven. “He had some knowledge...enjoyed being engaged in the garden, we talked about issues in communities [in class]” and now “he can actually execute [his ideas] and have a positive impact that goes way beyond a bake sale,” Patrick said. In addition to contributing to the cafeteria and foods’ classes, the student grew produce in the school garden and made it

available to students and families in need, without any stigma or requirements. This student not only began thinking about “community, food, justice and food security,” but was also “putting healthy food back into the system.”

In our last interview, we agreed that this student’s response to their work in the garden embodied the types of changes that genuine activism is capable of stimulating within its participants. When you see a student “working in the garden, providing food for other students, sharing it, that’s social connection,” Patrick says.

When examined from this social lens, this student exemplifies the potential that garden-based education has in raising youths’ awareness of their surrounding food networks and stimulating a shift in consciousness. In this case, the realizations the student had after working in the garden allowed them to see potential opportunities to positively impact their community.

Despite these compelling examples of how working in the garden can awaken new ways of thinking and seeing themselves, these impacts are not universal to all youth. “It’s not a golden ticket for every kid,” says Patrick. Many students do not experience a shift in consciousness or awareness after working in the garden. However, despite the fact that not all students reflect a noticeable change after working in the garden, the process itself can initiate a reflective cycle that continues long after the experiences in the garden are over. This requires the individual to take responsibility for their own growth, “They [must] take it upon themselves,” Patrick says. The garden encourages youth to consider: “What can I possibly do? How can I make a difference?” In some cases, students are stirred into action and realize: “I am making a difference. What will I do next?” This process of reflection is an important part of Patrick’s teaching approach and involves providing opportunities for students to write about and discuss the impacts that working in the garden has had. Patrick says, “It’s recursive” and

can lead to ongoing cycles of thinking, acting, and reflecting. “They see a tangible result that benefits other people from their learning, experience and efforts.” This potential to reach students and lead them towards making these cycles of discovery and changes within themselves is a powerful and positive outcome.

Aaren Topley also sees the potential school gardens have when it comes to increasing awareness and consciousness about food and the local environment. He sees gardens as a place to impact students’ relationship with food, increase food literacy and encourage them to engage in reflection about where they fit within the food systems. Beyond that, Aaren sees gardens as a place to expand youths’ awareness of their local food web, farmers and the hard work that goes into growing food.

According to Aaren, when students have the opportunity to learn in the garden, they are led to ask themselves: “How am I supporting the practices that I want to see within the world? How do these practices reflect my own beliefs and values?” By asking themselves these difficult questions, youth become attuned to the networks, environments and people that put food on their plates.

This introspection is what drives the shifts in consciousness and allows youth to see the world, particularly their food systems and local environment, in a new light. Aaren believes that these questions can result in raised awareness surrounding food justice, sovereignty and literacy. These are important outcomes for youth on a personal and social level. “[Food literacy is] important for their own knowledge of being functional adults in society and being able to have determination of their own health and navigating the food system.” According to Aaren, having the experience of actively working in a garden can support these new outlooks and expand the way youth understand the food landscape and their place within it.

Another positive aspect that Aaren sees resulting from youths' work in gardens is an increase in appreciation for the farmers that grow their food and an opportunity to see if farming could be a possible career path. Aaren believes this recognition can change the way youth experience food and even where and what they see themselves doing in the future. Providing experiences working in gardens can also show students that farming is a viable career, that it is not outdated or obsolete; unless we stop eating, we will still need farmers. "There's this movement in western society to see growing food as an inferior career path. No one thinks of [farming] as a career path." In addition, toiling in the garden brings youth into contact with the effort required to grow food. Until they have the experience of actually farming, "people just don't know how much work goes into it. If you start to really appreciate that, I think you're less likely to waste food," he says. In short, Aaren believes that by providing youth with the opportunity to grow food and experience it first-hand, they can not only appreciate the hard work it takes to grow food (and hopefully waste less of it), but also explore whether farming could be a suitable career path.

As someone who has worked with numerous communities on food and farming-related issues, another important aspect that these sites offer is that they allow youth to understand and see food from a community lens. Aaren believes that seeing the bigger picture of how food systems operate and actively participating in them is a powerful way to strengthen this network.

From a food sovereignty standpoint, if they have the knowledge of why it is important to support local food or support local farmers, support people and the community coming together, that's going to have an impact on our movement, because they're going to be putting more of their time and their resources into actually supporting their community.

When I speak to Aaren, I feel the importance of sharing this experience with youth. His tone, body language and the brightness in his eyes speak to his belief and determination to grow these networks so that more youth can participate and become part of our food systems. Aaren sees that incorporating garden-based learning offers a way to engage students' entire bodies, strengthen their connection to their community and broaden the lens that they use to see the world.

I see it in three different ways. It's connecting with food, through your hands, through your mind and through your heart. Your hands are getting in the dirt; it's growing food, it's cooking your food — all those things involve your hands. Through your mind, that's your decisions around food: When I go to the grocery store, why am I selecting this food or that food? Environmental impacts and all those things relate to your knowledge around it. Then my favourite is: to the heart. That's people coming together, sharing food, and building community. All those different pieces.

On another level, the way that growing, preparing, and sharing food draws together many different elements involves an “intersectionality” that continues to interest Aaren. He believes that since food contains so many different forms of knowledge and draws together so many different groups of society, it has the potential to bring about greater outcomes like decolonization, anti-racism, inclusion, indigenization, and a more holistic type of environmentalism. In many ways, when you look at all the different networks that food embodies, it challenges us to take a deeper look into our environment, our societal values and our own personal beliefs and actions. Aaren sees the great potential that these conversations around

food can draw in and how they can provide a path toward examining and positively impacting our complex world. He asks: “How do we all make sure that everyone is feeling that connection to where their food comes from?” One answer that he has come up with after years of research and work within these systems is to engage youth in growing food.

To summarize, in my ongoing conversations with Aaren Topley, garden-based education was seen as a way to expand youths’ awareness of the hard work that food production involves, increase food literacy and encourage reflection on local food systems and larger issues of food justice. Aaren also believes these activities, realizations and experiences are a way to bring the community together with the common goal of building stronger, more equitable and sustainable food systems. Further, by drawing upon so many different perspectives and interests, food has the ability to become a catalyst for discussions and discoveries that can contribute to greater social change.

In my interviews with Sarah Rhude, we discussed the importance of garden-based education and its ability to initiate a change in youths’ relationship to the natural world. This shift in perspective is rooted in Indigenous perspectives that see humans as part of the natural world and not above it. “One hundred percent I believe these experiences [in the garden] can help shift people’s world view,” Sarah said. “We are showing our appreciation for the land and that we are not at the centre. It deserves and has a right to exist outside of a humancentric viewpoint.” By making contact with the natural world, learning how to support the land and developing a relationship with the environment, youth are invited to see themselves as part of the natural world.

One story that illustrates the way a connection to our natural world can help us change the way we see it comes from a story Sarah shared with me in our final interview. She describes

one approach that involves slowing down, activating our senses, tuning into our surroundings and entering “the bee world.”

When you go out into the garden [with a group of students], and after a few minutes, you go into the bee world, and they see that and you’re able to talk about that and develop that relationship and knowledge with them. If they don’t experience and know this, why are they going to care to keep it and protect it?

As someone who regularly tunes into “the bee world” and finds great joy in seeing the garden from this perspective, this story immediately resonated with me. Since I was undergoing the same shifts in awareness that the classes Sarah talked about were experiencing, I was made aware of how my own consciousness was altered. Entering “the bee world” allowed me to see how alive my own garden was and that the more I was able to see and connect with it, the more I cared about it.

Nowadays, the looming threat of environmental collapse and the insecurity of our food systems make this work even more important. As an Indigenous woman and educator, Sarah believes there is a dire need to change the way we relate to the natural world and to encourage youth to be a part of this change. “Ultimately, I truly believe that Indigenous ways of knowing and being is what can save the planet,” she says. By working with youth in garden settings, sharing the teachings and language she has been entrusted with and helping her students see the world differently, Sarah enacts her beliefs and actively works to support life on this planet. “That’s what we’re trying to do. Shift worldviews a bit so that we can keep everything alive.”

Sarah sees working with youth in gardens as one path to undoing the harm that has been done to the natural world. At the root of this destruction is the capitalist mindset, which has detached us from the very surroundings that sustain us and (hopefully) future generations. For Sarah, garden-based education is one way to restore the connection and counteract that detachment.

It goes back to connection. Because you become more aware of how you are connected to the world around you. How we are ultimately all one and we're all related. And that's at the very core of land-based worldviews. That connection helps us to realize that our actions affect the world around us. When children are exposed to putting their hands in the soil, developing a relationship with plants, seeing how it's done, it ultimately shifts their perspective. This is how we stay alive. Innately, we should have a relationship that's positive with the plants and animals, the land, the water, but capitalism has made it so that we have normalized destructive behaviour.

One last story that Sarah shared with me during our last interview encapsulates the potential that connecting with the natural world holds. This story continues one that Sarah told me about walking through the forest with her niece many years ago. She remembers encountering wild salmonberries and encouraging her niece to have some. Her niece was repulsed by the idea and didn't trust food that wasn't sourced from a grocery store. Nowadays, the same niece is doing a master's degree on Indigenous Food Sovereignty and literally harvesting "salmonberries while researching in the Great Bear Rainforest." In her harvesting practice, her niece now makes sure to show appreciation and reverence for the sustenance that

nature has provided and collect food in “a good way.” This “good way” involves respecting the plants life by showing appreciation, only harvesting what is needed and selectively choosing which plants to harvest from. Sarah attributes much of this change to her niece reconnecting with the natural world through her Indigenous roots. “She was disconnected from her indigeneity. The last few years, she’s been connected with her culture and family.” Now, with this newfound appreciation and connection to her indigeneity and the natural world (which are inseparable), she has “changed that way of being.” Although the act of picking and eating a salmonberry may seem trivial to some, this act is symbolic of a dramatic shift in the way her niece related to the world.

She’s rooted and steeped herself in cultural ways of being and shifted her lens and worldview to see through this perspective. It’s now something she sees as deep medicine. In the past she wouldn’t even touch a berry. When she started connecting with the land, her Indigenous world view and developing a relationship with the plants, she completely changed her relationship with the land.

My discussions with Sarah allowed me to understand that seeing the natural world as a web of life that is layered, intertwined, and worthy of our care and respect is not a modern idea. Indigenous Peoples around the world have lived with this outlook for thousands of years. Amidst the looming uncertainty of worldwide environmental collapse, it is clear (not just to Sarah) that change is needed. Bringing these ideals into the fold and helping youth reconnect to ways of being, knowing and seeing that are more in tune with the natural world is why spending time working in gardens takes on vital importance. “In my mind, it (garden-based education)

catalyzes a perspective shift. A shift in worldview. We can call it environmentalism or whatever we want; ultimately, it's Indigenous World View." As the need for action increases, the motivation to counteract the negative ways humans have impacted the environment increases. For Sarah, one powerful way to initiate these changes is to support a return to the land in hopes that changes in ways we see the living planet will result in changes in the way future generations relate to the natural world.

Beyond the findings that my research partners and I discussed, I was still interested in learning (and seeing) more on how these insights related to my larger goals of teaching youth about food security and justice?

When I introduced the topics of food security and justice to my classes, I realized that these issues did not really strike a chord for many of my students. Discussing issues of food access, availability and production often fell flat within the classroom setting. I realized that many of my students either had never experienced food insecurity or could not understand the underlying factors that caused it. Further, the ones that had experienced food insecurity were reluctant to share their experiences. It wasn't until we worked together in the garden learning about composting, planting garlic for future classes and preparing garden beds that the conversations around these topics took on a sense of realness.

As the semester progressed, our discussions changed and the experiences in the garden provided an experiential reference point to how food is grown and the work that it involves. Students began responding to these discussions in new ways: they talked about how much effort it takes to grow food; complained about the smells and how hard it was to get the dirt out from their fingernails; shared a sense of wonder that our school was growing produce for local restaurants and our food box program; and talked about what their families grew and what they

wanted to grow in their own gardens. Though the experiences working in the courtyard garden were not readily welcomed by all students, and some were even met with resentment, the experiences of physically working in the garden provided many students with an entry point to understanding, being curious about and interacting with our local environment and food system.

Evidence of these connections came in the form of questions, anecdotes, and recipes from home. Students were noticeably more curious about the sources of their food, whether the plants were Indigenous or introduced, and what role various “inhabitants” of the garden played (worms, wasps, woodchips, etc.) Before and after classes, I now had students sharing stories about their own gardens or their grandparents’ gardens and the ways they would feed their soil, organize their crops or preserve their produce. Recipes from old cookbooks were now being shared with me in response to questions like: “What could we do with all these apples?” On many levels, the lessons in the garden added depth to our content, enlivened the class atmosphere and animated different kinds of responses from the class.

Though not all students responded in noticeable ways, the dynamic of the class became more community-like, and discussions became grounded in concrete experiences as opposed to concepts that at first seemed quite abstract to many. These outcomes reinforced the points Aaren raised in our interviews and my foods’ classes were clearly able to understand the work that food production involves and what it would take to achieve greater food security. Like Patrick, I now was able to see examples within my classes of students that were so inspired by working in the garden that they noticeably changed. One student in particular, offered to be my teacher’s assistant next year and joined the Seed the City program over the summer to learn more about growing food. This program offered him a chance to continue his relationship with the school garden over the summer and earn course credits while doing so. I also remembered my

conversations with Sarah as I saw the deep, important connections that working in the garden inspired when I read my students' reflections at the end of the year. Many of them wrote about the many ways that working in the garden, learning about it and contributing to it allowed them to appreciate and see their food sources and environment in a different way.

Chapter 5: Analysis – Bringing the Classroom to Life

Historically, the school garden has been the location for numerous movements in education. These shifts reflected the axiology of the times and as the priorities and goals of education transformed, the literal and metaphorical ground beneath also changed. Comenius saw gardens as grounds for educating youth on moral discipline brought about by hard labour; Rousseau saw the garden as the site for “wild spirits to be tamed”; Spencer viewed the garden as a place to assert dominance and control over nature (Diogo, Rodrigues, Simoes, & Scarso, 2019) as cited in (Earl and Thomas, 2021 p. 125) and more recently Alice Waters championed gardens as an Eden that could “nourish the body and spirit” (Earl and Thomas, 2021 p. 67).

The discourses surrounding gardens and their pedagogical value have experienced ebbs and flows for hundreds of years. Putting one's hands into the soil to cultivate food has been praised for its ability to educate youth, regulate emotion, connect students to their environments and food systems and promote healthier lifestyles (Subramaniam, 2002). School-based gardens have even been enlisted during wartime to feed the country (Subramaniam, 2002). Although the value placed upon garden activities, methods of teaching and the social and environmental milieu have continuously shifted, one consistent pattern is the return to the garden: clearly, there is something about gardens that make them a vital location for learning.

The BC Curriculum includes Social Awareness and Responsibility as one of seven curricular competencies and encourages students to develop an “awareness, understanding, and appreciation of connections among people, including between people and the natural environment” (2019). My research on garden-based teaching and experiences as a foods’ teacher leads me to believe that educative gardens are a valuable site for instilling these competencies of “awareness, understanding and appreciation,” that include the natural environment (2019).

In 2018, the Government of Canada released a report entitled “The Next Generation of Emerging Global Challenges.” One of the challenges identified in the report posits that “to survive and thrive, humankind must find a way to live within the carrying capacity of the planet” (Policy Horizons, 2018). Indian scholar, farmer and activist Vandana Shiva contends that the ways we cultivate and consume food offer a path towards addressing these global challenges and connecting future generations with their local environment in a way that allows humankind to “survive and thrive” (Shiva, 2015). Shiva believes that the practice of ecological agriculture can not only provide healthier, more abundant food but also address environmental issues and support sustainable, future growth (Shiva, 2015). School garden programming has been shown to strengthen students’ connection to and respect for the environment (Sealy, 2001; Subramaniam, 2002; Harper et. al. 2017). Furthermore, compelling evidence shows that garden-programming can positively affect students’ relationships with food (Morris et al., 2000; Powell & Whitman, 2018).

Through my analysis of the research, interviews with experienced garden educators and my own experiences as a new foods teacher interested in integrating the Reynolds’ Garden into my practice, I have found that the garden has the potential to be a transformative educational location, both for my students and myself. While this transformative potential is not uniform, neat or easily apprehendable, it is apparent and noticeable. As I cycle back to my research question of how educational activities in gardens impact youths’ relationship with food and the local environment, my findings indicate that the impacts are identifiable, observable and predominantly positive.

Firstly, educational gardens are a space that allow youth to ‘place’ themselves on many levels. When the garden becomes a classroom, students are challenged to discover where they

see themselves within this setting. They are challenged to ask themselves: What do I already know about gardening and growing food? What languages are the garden speaking and how can I tune in to interpret them? Can I contribute? What role could I see myself playing?

The first question requires that students ground themselves in their pasts. This can involve reflecting upon experiences, recalling the teachings of ancestors, fretting over a deficit of knowledge, etc. While this landscape is undoubtedly uneven, with each person bringing different knowledge and levels of connection to the space, the garden itself stimulates the reflection. The garden asks us to consider what we can share. This grounding in the past was reflected in the interviews with all my research partners. Aaren drew upon the connection to his ancestors' farm; Patrick's inclusion of garden pedagogy sprouted from his early childhood experiences being raised on a farm and his formative experiences as a chef and Sarah's connection to the garden has its roots in her Indigenous worldview and seeing all life as her literal family. In all my research partners, early experiences instilled a connection to and respect for growing food and the garden became a significant site for sharing and enacting the knowledge and connecting to the natural world.

In my foods' classes, each student brings different experiences and knowledge to the classroom. For some, it's a deeply rooted knowledge of how to cultivate, care for and understand the subtle language of the flora and fauna; for others it's a more humbling realization that the only contribution they're able to make is a pair of hands willing to learn. For some, that willingness is not even there. However, even the realization that one is not a willing gardener is illuminating in itself and can stimulate reflection and eventual engagement, especially when given time and space to explore the garden itself.

The second question that the garden invites, involves a conversation in a language that is foreign to some and elemental to others. The steam emanating from a pile of compost, the buzzing traffic of pollinators, the changing colours of leaves, etc. are all sources of information that communicate to those that are tuned in and listen. As an observer, it's readily apparent that these conversations are happening as students trip over each other to share tidbits of knowledge about why worms are important, what native plants bees love and when certain plants are about to bloom. These conversations abound, often without a word from the teacher. The garden and all the life within it have started the conversations, allowed memories to resurface and challenged the students to activate their senses and respond.

The third question invites action on the part of the students and challenges each member of the class to find a way to contribute. For some students this involves picking up a shovel right away and digging in; others, watch and wait until they see a task they are comfortable with and then cautiously join. Some also refuse the call to action at first and disappear back into the digital world or ask to go to the washroom. My experiences have taught me that the garden draws out something different in each student. And though each student brings a different level of willingness, with patience, they all find a way to contribute eventually. It is worth noting that this engagement is often not the result of interventions on my part or the garden educator. Despite my regular invitations, handing out tools and tasks, and trying to lead by example, sustaining student engagement often seemed to be a result of heading the call of the garden and not the educators.

Another aspect that has risen to the surface after reflecting upon my interviews and research is that educational experiences in gardens are vitally important if we value our environment and aim to bring ourselves back into balance with it. Allowing youth to tangibly see, feel, smell and enact a relationship of care and stewardship is a powerful (and effective) way

of bringing people back into connection with the local environment. These experiences are not accessible through a digital recreation or other form of simulacra; they are infinitely complex, nuanced, personal, and real. This complexity is one that reaches out to gardeners in novel ways and teaches them through experience about their own understanding and relationship with the natural world and leads them towards finding a connection to it. This was revealed to me by observing students through a series of garden-based activities and noting how even the most reluctant gardeners found a way to get involved and contribute in their own way. Further, upon reading students' reflections on the learning in the course, I was struck by how many students valued the learning that happened in the garden. Interestingly, many students who openly resisted and wrote about not enjoying working in the garden, still expressed the feeling that the learning was important and will be valuable to them in the future.

As a white settler on this land and one that is entrusted with teaching coming generations, indigenizing the classroom is one of my fundamental challenges and responsibilities. Conducting this research and connecting with my research partners, has helped me see SFGs as an opportunity for bringing more Indigenous viewpoints into the classroom and reflecting the First Peoples' Principles of Learning. The more I reflected on the work that was being done by my research partners and the approach that I am developing in my classrooms, the more I realized the potential that learning with students in the gardens has. By bringing youth outdoors and offering opportunities for connecting to each other, past generations and our natural world I found a path that would allow me to integrate all nine of the principles of learning. Although I realize that "learning patience and time" (Chrona, 2014) and that I also needed to apply this principle to myself, integrating garden-based learning could allow me to indigenize my practice and honour the great responsibility of being an educator.

As a foods teacher, one of my goals is to help and encourage students to understand and connect to their sources of food on a deeper level. To me, this goes beyond learning how to prepare and season food and extends to looking at the sources of food and how they arrived on our plates. In this endeavour, providing educational experiences in the garden has allowed me to animate this connection and activate curiosity in a way that more theory-based approaches could not. This is not to say that theoretical learning does not have its place, but my research shows that providing experiential opportunities to connect with the food system in an active way has deepened and strengthened the learning and extended it into a more personal, relational and intimate way. As a teacher, finding ways to reach students on an emotional level has shown itself to provide a deeper imprint than providing information alone. As someone who is concerned for the future of our planet, it is apparent that providing opportunities for youth to connect to the local environment brings them into a relationship with it. Since relationships are defined by understanding, care and reciprocity, allowing students the opportunity to cultivate this relationship while they are still developing can be a way to restore our connection to the natural world and possibly find our place within it. In terms of the ‘big picture,’ garden education extends beyond the scope of food and becomes an organic entry point for youth to see themselves as part of the natural world.

As a teacher, finding ways to evolve as an educator and be a lifelong learner is a challenge that I readily accept. Although I have been teaching in high schools for over ten years, this past year was my first as a foods teacher. While this lack-of-experience has undoubtedly resulted in many pedagogical blunders, missed opportunities and mistakes, it has also allowed me to see and experience teaching with fresh eyes. Alongside this challenge of teaching a new course and a new set of skills, competencies, etc., I have also brought my students into a new and

unfamiliar setting, both for myself and for many of my students. This physical move from indoors to outdoors and from English teacher to foods teacher has brought about a series of realizations for me. I began with an interest in teaching foods and an intuitive drive to include and discover more about our food systems. With these goals in mind, I eventually arrived at the school garden as the subject of my study and it is the garden itself and the literature, research and knowledge it holds that allowed me not only to bring my students into a closer relationship with their own food systems and environment, but fundamentally changed my own teaching approach at the same time.

As a result of my research and interviews on the history, role and value of garden pedagogy and my experiences with my classes in the garden, I have come into contact with the power of experiential education, the necessity of loosening the grip on my practice and the garden's ability to dissolve the teacher-student hierarchy.

Experiential education is a teaching approach that activates students by allowing them to have purposeful interactions and reflections with the goal of increasing knowledge, skills and providing opportunities to contribute to the community (“What Is Experiential Learning?”). The school garden is a prime example of an opportunity to engage in this type of active learning. Before my work as a foods teacher, my only teachable subject was English. Though English can involve teaching practices that would fall into the realm of “experiential,” I would often inhabit the role of a more typical English teacher – one that treats students as empty vessels that need to be filled with knowledge. By pivoting into the role of a foods teacher and by bringing the experiential learning opportunities and challenges found in the garden, I experienced a transformation in the way I saw myself as a teacher, my relationship with my students and even how I saw teaching itself.

As a teacher, I no longer felt the constant need to be the sole source of my classes' learning. I saw how an experience and a location can challenge, frustrate, inspire and motivate learning in powerful ways. This was true not only for my students but for me as well. As a newcomer to farming and teaching foods, I experienced these challenges and setbacks alongside my classes and was inspired and motivated to respond in ways that allowed me to learn and grow as a teacher. These lessons continue to unfold as my experiences build and invite continued cycles of learning and transformation.

Bringing my classes into the gardens also changed my relationship with my students. In this new environment, I too became a student. Although my role as a teacher and the expectations and authority that it brought came with expectations – both internal and external – I found that interacting and working alongside my students allowed the student-teacher dynamic to fade away. In this living environment, I could loosen my grip and allow the lessons to unfold in a less controlled way. At first this brought a sense of guilt for relinquishing the figurative podium and not steering my class into a constant state of being “on task.” Eventually this feeling of guilt receded, and I became increasingly comfortable allowing the learning to happen more organically. I remembered the works of Ted Aoki and the concept of curriculum-as-planned vs. curriculum-as-lived and saw how the garden was a unique location that invites the curriculum-as-lived to be infused with new, dynamic learning paths that could not have been planned (Aoki, 2012). The shift in me as a teacher was gradual but transformative, nonetheless.

As the school year progressed, I continually allowed more and more slack within my practice and allowed the learning to occur in a more organic way that was less linear and measurable on some levels but more intimate and intrinsically driven in others. Though these lessons may not have the traditional look of a classroom, the reactions, written reflections, and

comments of the students spoke to the deep imprint and indelible lessons that transpired. In the garden my students and I were both learners.

Chapter 6: Conclusion

After undergoing a thorough sweep of the existing literature on educational food gardens and their impacts on youths' relationship with food and the local environment and conducting a series of iterative interviews with my research partners, the potential that educational activities in gardens possess is evident. On a local level, my inquiry has emphasized the importance of developing garden-based programming in schools as a way of connecting (or reconnecting) coming generations to their sources of food and increasing food literacy. Current generations are vastly ill-equipped to address the impacts of rising food costs and growing food scarcity and insecurity.

The global pandemic brought this insecurity to the forefront and brought an awareness of the dire and immediate need to change to us all. Without a revival of knowledge and connection to our local food sources, we are vulnerable and reliant on an industrialized food system that is not environmentally sustainable and does not provide equitable access to healthy, nutritious food.

Utilizing these spaces can also provide an entry point for youth to experience the natural world in a relational way as opposed to a model that is based on extraction, fragmentation and exploitation. Since garden assets are self-sustaining (with the proper care and maintenance), this is not only a potentially transformative context for education, but also a cost effective one.

On a global level, implementing this approach to learning about food has the potential to create grassroots change in the environment by promoting local foods, restoring an appreciation for local, seasonal produce and reviving bygone methods of preserving foods. Every one of these outcomes reduces the environmental footprint of our current systems by reducing the carbon emissions from food transportation, creating oxygen through the growth of more plant life and vegetation and avoiding wastage in our food webs.

Implementing school garden programs is timely and necessary. The existing literature and studies on youths' dietary choices, obesity rates and general lack of knowledge surrounding food systems point towards a dire need to reassess our current approaches and utilize the effective and available resources that we have. One key resource is the existing educational gardens that are located in over half of School District 61's schools. Beyond the existing infrastructure, these programs need to be supported and integrated into foods' programming, as well as other subject areas to increase youths' understanding and connection to the local environment and food systems.

Another important finding that my research has highlighted is the need for more experiential learning opportunities. As a novel environment for learning, SFGs provide an environment that stimulates new awareness and connections to the environment and provides new opportunities for connecting to classmates. These novel environments are also shown to reduce or eliminate the hierarchy between student and teacher and create a more inviting learning context where both teacher and learner can share knowledge and value each other's contributions.

Beyond these benefits, allowing youth to engage with the growing of food presents the opportunity for safe and educational failures. Since it is often through mistakes, frustration and failure that learning happens, providing chances for youth to do so is vitally important. Away from the daunting influence of red pens, the right/wrong dichotomy and formal assessments, SFGs inherently allow for a trial and error cycle that is educative, forgiving and provides natural forms of positive reinforcement. In an educational landscape that is struggling to deal with a mental health crisis, providing more supportive learning approaches and teaching to the diversity of our students, ignoring this potentially transformative opportunity is not an option.

The need to build the networks, develop, and integrate these learning spaces is incumbent and immediate. The historical ebbs and flows or trends in education have taught us that the popularity of “new” pedagogical approaches can fade quickly if not integrated into regular practice. This notion, along with the fact that we have the necessary infrastructure, points towards more proactive and intentional integration of SFGs in future programming. We cannot allow the momentum of this current growth to become overgrown with the invasive weeds of doubt and idleness. The time to pick up the shovels and plunge our hands into the soil alongside our students has arrived.

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Appendix



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Certificate of Approval

PRINCIPAL INVESTIGATOR PRINCIPAL APPLICANT	ETHICS PROTOCOL NUMBER 21-0016
UVIC DEPARTMENT	Expedited review - delegated
Kathy Sanford (Supervisor) Roy Vizer	ORIGINAL APPROVAL DATE APPROVED ON APPROVAL EXPIRY DATE
Master's student Curriculum and Instruction EDCI	20-Apr-2021 20-Apr-2021 19-Apr-2022
PROJECT TITLE Investigating School Gardens Effect on Youth Relationships with Food and the Local Environment RESEARCH TEAM MEMBERS	
Roy Vizer - ,	
DECLARED PROJECT FUNDING None	
DOCUMENTS INCLUDED IN THIS APPROVAL tcps2_core_certificate.pdf - 04-Mar-2021 Vizer Consent FormTHESIS.docx - 15-Mar-2021 Research Questions.docx - 17-Mar-2021 Research Questions.docx - 18-Mar-2021 Participant Letter.docx - 19-Mar-2021	
Consent FormTHESIS.docx - 14-Apr-2021	
CONDITIONS OF APPROVAL	
This Certificate of Approval is valid for the above term provided there is no change in the protocol.	
Modifications	
To make any changes to the approved research procedures in your study, please submit a "Request for Modification" form. You must receive ethics approval before proceeding with your modified protocol.	
Renewals	
Your ethics approval must be current for the period during which you are recruiting participants or collecting data. To renew your protocol, please submit a "Request for Renewal" form before the expiry date on your certificate. You will be sent an emailed reminder prompting you to renew your protocol about six weeks before your expiry date.	
Project Closures	
When you have completed all data collection activities and will have no further contact with participants, please notify the Human Research Ethics Board by submitting a "Notice of Project Completion" form.	
Certification	

This certifies that the UVic Human Research Ethics Board has examined this research protocol and concluded that, in all respects, the proposed research meets the appropriate standards of ethics as outlined by the University of Victoria Research Regulations Involving Human Participants.

Dr. Rachael Scarth Associate VP Research Operations



Certificate Issued On: 20-Apr-2021