

**Beyond “An Apple A Day”:
Advancing Education for Critical Food Literacy
in Ontario’s School System**

by

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A Major Paper

submitted to the Faculty of Environmental Studies

in partial fulfillment of the requirements for the degree of Master in Environmental Studies

York University, Toronto, Ontario, Canada

November 29th, 2018

Abstract

Food is in many ways a connective tissue of the human experience. Over the course of the last century, changes to both local and global food systems has “distanced” eaters from the sources and impacts of the food we eat and the political and ecological systems it is a part of.

The agro-industrial food system has produced a wide range of crises, including impacts to the degradation of land, soil, species and water and climate, human health, culture, farmer livelihoods, food and agroecological knowledges, and citizenship. Many scholars have written about food and environmental crises as being reflections of a “crisis in education”. Numerous forms of food education, prolific in recent years, have emerged as a response to the idea that populations require more knowledge in order to “better” engage with the increasingly complex nature of food and food systems. Food education is understood as a conduit for increasing “food literacy”, which in turn is assumed to be part of the “solution” to problems caused by the industrial food system. However, expressions of food education ranging from corporate food marketing of ‘healthy’ and ‘ethical’ foods, public health campaigns which teach the individual to eat ‘better’, to not-for-profit programming focused on food justice and active engagement carry disparate drivers and goals, shaped by the discourses most relevant to their locations. This has contributed to an international phenomenon where normative statements are made, largely in siloed environments (Martin, 2018), about what it means to be “food literate”.

The discipline of social determinants of health has illuminated how people’s choices, behaviours, attitudes and pathways to positive health outcomes are constrained and shaped by structural and institutional factors which aren’t equitably distributed among human populations. It follows that food literacy frameworks should move beyond education which “treats” the

individual, towards education which “treats” the very structural roots that make food literacy necessary.

As food literacy becomes a more prominent feature of Ontario policy and subsequently shapes school-based learning, it’s important that we ask, What *kind* of food literacy do we want Ontario students to graduate with? The kind that reinforces existing crises?, Or, the kind that presents the possibility for change?

The main goals of this paper are to build upon and contribute to the literature which engages with the intersection of food, environmental education, and critical literacy, to broaden popular conceptualizations of food literacy by bringing to the fore frameworks which address the root causes of food system dysfunction, to present possibilities for a food education practice that relocates the discursive space for determining “what counts as food literacy” (Kimura, 2010, p.466), and to consider how these things can respond to the increasing calls for food education to be advanced in Ontario schools.

Drawing upon existing literature, education policy review, as well as qualitative data obtained through interviews with 12 people who work as teachers, formal and non-formal facilitators, and academic researchers from public schools, external organizations and universities, predominantly based in Ontario, this paper will explore the processes that would allow for critical food literacy to become an integral component of Ontario’s public education system. This goal of this paper is not to provide fixed solutions, but rather to help develop our collective understandings of what it means to nourish ourselves, our world, and each other.

Table of Contents

Abstract

Acknowledgements

Foreword

Chapter One: Backgrounder to Food System Crises	1
Introduction to the Major Research Paper.....	1
Terminology.....	4
Organization of Major Paper.....	4
An Introduction to Food Systems Change.....	6
Industrial Agriculture: A Backgrounder.....	8
Industrial Agriculture: Impacts to Human Health.....	12
Civic Engagement as a Response to the Problems of the Industrial Food System.....	14
Chapter Two: Food Education & the Food Literacy Approach	16
Introduction.....	16
Problematizing Food Education.....	17
Food Literacy as a Subset of Food Education.....	17
Individualist Food Literacy Frameworks.....	18
Why The Individualist Food Literacy Approach is so Pervasive.....	20
Critical Food Literacy.....	22
Chapter Three: Theoretical Frameworks	29
The Role of Knowledge in Advancing Education for Critical Food Literacy.....	29
Critical Food Studies.....	31
Critical Food Pedagogy and Food Literacy.....	33
Social Determinants of Health and Critical Food Literacy.....	36
Conclusion.....	38
Chapter Four: Research Design, Methods and Methodology	39
Research Question.....	39
Methods of Inquiry.....	39
Establishing the Key Sites for Investigation.....	40
Interview Questions.....	41
Participant Selection.....	42
Ethics.....	42
Interview Preparation.....	43
Interview Reflection, Transcription and Data Analysis.....	43

Data Analysis Findings.....	44
Efficiency-Substitution-Redesign (ESR) Analytical Framework.....	45
Chapter Five: Findings Part One - An Ontario Education Policy Review:	
Apertures of Opportunity for Critical Food Literacy in Ontario Schools.....	46
Introduction.....	46
A Food Policy for Canada.....	48
Ontario’s Education System and Critical Food Literacy.....	49
Food Champions.....	50
Opportunities for Eating as Critical Food Pedagogy in Ontario Schools.....	51
Opportunities for Gardens as Critical Food Pedagogy in Ontario schools.....	53
Opportunities for Critical Food Literacy as a Component of Environmental Education Policy.....	56
Opportunities to Weave Critical Food Pedagogy Across Curriculum in Ontario Schools.....	59
Critical Literacy in Ontario Schools.....	60
Citizenship Education as a Conduit for Critical Food Literacy.....	64
Chapter Six: Findings Part Two: Conclusions and Discussion from Twelve Qualitative Interviews.....	67
Introduction.....	67
Site for Change A: Teacher Education	68
Site for Change B: Curriculum.....	77
Site for Change C: School Infrastructure and Culture.....	79
Site for Change D: Evaluation.....	81
Site for Change E: External Organizations.....	83
Site for Change F: School Boards.....	85
Site for Change G: The Ministry of Education.....	87
Chapter Seven: ESR Recommendations.....	89
Sites for Change A/B: Staged Recommendations Related to Teacher Education.....	90
Site for Change C: Staged Recommendations Related to School Infrastructure & Culture..	102
Site for Change D: Staged Recommendations Related to Evaluation.....	104
Site for Change E: Staged Recommendations Related to External Organizations.....	107
Site for Change F: Staged Recommendations Related to School Boards.....	109
Site for Change G: Staged Recommendations Related to the Ministry of Education.....	111
Concluding Remarks.....	114

Bibliography	115
Appendix 1: Semi Structured Interview Questions	126
Appendix 2: Summary of Participant Characteristics	130
Appendix 3: a) Infographic for school system actors: Education for Critical Food Literacy ..	133
b) Infographic for school system actors: Conceptual Framework for Change...	134
Appendix 4: Wever (2015) Benchmarks for food literacy	135

Land Acknowledgement

“Acknowledgement of Indigenous Peoples and Traditional Territories - York University acknowledges its presence on the traditional territory of many Indigenous Nations. The area known as Tkaronto has been care taken by the Anishinabek Nation, the Haudenosaunee Confederacy, the Wendat, and the Métis. It is now home to many Indigenous peoples. We acknowledge the current treaty holders and the Mississaugas of the New Credit First Nation. This territory is subject of the Dish With One Spoon Wampum Belt Covenant, an agreement to peaceably share and care for the Great Lakes region.” <http://campuslife.yorku.ca/>

Acknowledgements

My MES experience has indeed been a transformative one that I will carry with me throughout my lifetime. There are so many people who have supported and encouraged me throughout this time, which began with the loss of my dear dad, Simon Cowe, in the first term. To begin I must acknowledge my dad for his influence upon my curious, critical, rhizomatic brain and for engaging me in the garden and the wilds of England. The depth of love and respect I have for the natural world, for food and the wider systems food is a part has been enormously shaped by our lifelong adventures together, and alongside the care and education of my dear mum too. This major paper is dedicated to the memory of my dad and my beautiful and inimitable Grandmother ‘G’, whose love, wisdom and friendship has also significantly shaped my relationship to food, conviviality, family and so much more.

Thank you to my extraordinary family: mum, John, D, Bernadette, Emma, Andre, Simone, Carol and John, Kevan, Nancy, Lucas and Zoe. You have each cheered me on from day one, and loved, fed and inspired me along this journey. Thank you to my darling, Callan. Your slow-cooked feasts, sturdiness, care, kindness, humour, love, and talent for editing and deep questioning is a large part of what got me to the finish line. Thank you Emma, John and Phil for your insights, time and energy in my final editing phase. Thank you to my dear, wonderful friends, most especially Sasha, Ronit, Lauren and Jazmine who have provided unending support over the last three years.

Rod MacRae, your balance of kindness, wit, patience and wisdom has been a true blessing throughout my MES experience. You are a remarkable supervisor on so many levels. I owe much of what I’m carrying forth into my future work to you.

Lastly, I am extremely grateful and indebted to all those who have participated in my research and offered time and unique insight to this paper.

Foreword

This major paper came to be through a curiosity and concern about the transformative capacity of environmental education. My learning in the Master of Environmental Studies (MES) program at York University began with a desire to better understand the mechanics of how environmental education fosters ecological consciousness as well as its potential for facilitating socio-environmental change.

The MES program has allowed me to commit significant investigative energy towards unpacking an idea that has been developed through my life, work, and study experiences. This is the notion that educational pedagogies - the theories and practices that represent the “how” and “what” of education - are instrumental building blocks of human development. Coming into the MES program, I had experienced and observed that certain education pedagogies, such as those employed in alternative education and nature-based education, appear to produce characteristics in learners that have a bearing upon pro-social and/or pro-environmental attitudes and behaviour. If this is true, then it follows that these pedagogies contain ingredients which may facilitate socio-environmental change. Another impetus for undertaking the program was a concern that currently, the pedagogies we encounter at public school do not effectively model and foster critical thinking and engagement which can allow one to “move toward a frame of reference that is more inclusive, discriminating, self-reflective, and integrative of experience” (Mezirow, 1997, p.5).

Having attended and thrived at an alternative high school in Toronto, I developed a good sense in my teen years of the value of education that is participatory, critical, creative, flexible and inclusive of all student voices and their socio-economic and cultural realities. I remember feeling trusted, respected and valued for my voice and perspective, far more than I did in mainstream schooling. My memories of mainstream school aren't all negative, but they are characterized by teacher - student lecturing, less emphasis upon small group activities, pressurized and competitive environments, and the memorization of knowledge for testing.

The development of my interests in environmental and food-focused subjects were afforded to me by a joyous, privileged upbringing by two supportive, inquisitive, nature-loving, critical thinking hearts and minds - my parents. It also helped that I grew up in a house, next to mixed woodlands in a village close to numerous wild places including the North Yorkshire Moors and the North Sea, with a one-acre food forest garden as my daily stomping ground. My environmental interests were further developed later in life through working at summer camps, volunteering at ecological agricultural farms in Canada and France, an Undergraduate degree in anthropology and music, a college certificate in plant biology and ecology, working as a conservation coordinator for the Royal Society for the Protection of Birds (U.K.) and becoming more active in food-based social movements in the U.K. and Canada.

More recently, the focus of my interests began to sharpen around the intersection of the environment and food education. This was supported through four years of part-time work experience as a non-formal instructor and mentor working in naturalist/nature connection programming with the p.i.n.e project, where responsible foraging and harvesting, bringing food to cook over fires and in steam pits, sharing food, gaining practical skills in relation to working with wood, basketry, safe water filtration, and learning about the food systems of wild animals were integral components of programming engagement. At the same time I worked as a lunch club coach with a food catering business called Real Food for Real Kids (rfrk), serving healthy

lunches in schools and incorporating education where possible over the hurried school lunch meal time period. The focus of my interests were also informed through a one-year volunteer instructor position with a garden, kitchen and community food-based program called Greenest City, in Parkdale, Toronto.

Throughout this time I grew more curious about the theoretical underpinnings which might explain the shifts in behaviour and attitudes that I frequently observed through nature and food-focused programming. I observed shifts not just in youth program participants but also in parents, peers, teachers and community members of all ages. I gleaned the first sketches of patterns between education and ecological consciousness through participant proclamations of increased curiosity, and care and concern for “nature”. For instance, with p.i.n.e., I witnessed a growing resilience, comfortability, and pride in kids, and by extension their families, stemming from the experience of being outside in all seasons and all weather. Through p.i.n.e., rfrk, and Greenest City I heard many reports from youth and their families of participation being correlated with increased health, wellbeing, open-mindedness and resiliency.

Overall, the shifts in behavior, attitudes and actions that I observed held in common that they were animated through non-formal education that was sustained, immersive, participatory, inclusive, critical and playful, relating to food, nature and community. Recognizing not all children and youth are afforded such opportunities, I began thinking about public school education as a site where such learning could be more equitably accessed.

The MES program offered me an “alternative” pocket through which to undertake graduate studies. I designed my Plan of Study (POS), the guiding framework of the MES program, to orient my learning towards building an understanding of my area of concentration: the transformative capacity of environmental education. I chose as my four components: 1) Transformative / Critical Environmental Education, 2) Food Studies, 3) Environmental Ethics and Philosophy and 4) Cultural Studies.

Several questions guided my learning experience: a) “What educational approaches, subjects and characteristics allow students to gain comprehension across a diversity of perspectives?” b) “What pedagogies are designed to facilitate social and environmental awareness?” and c) “Where do these intersect?” I also explored the idea of education as political vs. apolitical, as this concept is strongly affiliated with teaching approaches that are designed to support socio-environmental change.

As the program progressed, I identified the seams that I was most drawn to as being those which connect youth and critical food-based education. The versatility and multidimensionality of food as a subject is something I have been passionate about since my youth. However, I only had anecdotal evidence to draw upon related to how food education has potential to connect to behavioural change. I looked to the field of food studies to learn more about the myriad ways that food can be used as a lens through which to understand the world. My learning was deepened through engagement with critical literacy, food literacy vs. critical food literacy, and critical food pedagogy. These concepts and theories gave me new language and perspectives for envisioning the possibilities for food education.

Through academic literature, grey literature and MES graduate work, I confirmed what I came into the program suspecting: there is much momentum behind, and possibilities for, the advancement of food and environmental-based education in Ontario’s public school system. I decided to focus my research here and to build upon the recent work of Ontario-based scholars such as Jennifer Sumner (2008, 2013), Cassie Wever (2015), Sarah Goldstein (2014) and Alicia

Martin (2018). Each of these scholars have investigated various aspects of food literacy and explored the value of, and possibilities for framing it through a more critical orientation.

After developing a better understanding of the drivers for food education and its many expressions and orientations, the most valuable thing I've learned is that critical literacy should lie at the heart of food education. As Jennifer Sumner argues, the educational aims of food literacy should not "[obscure] the crises that plague the global food system [or restrict] the potential for food system transformation" (Sumner, 2016, abstract). I have also come to know more intimately the many complex contradictions that exist between neoliberal values and environmental sustainability and socio-economic equity.

Drawing upon a variety of methods, I looked across the landscape of Ontario's public school system for apertures of opportunity where critical food literacy could fit. The findings of this investigation were then drawn upon to make recommendations about several key "sites for change" and suggested processes which hold the potential to facilitate more long-term change.

This major paper research relates to the components and learning objectives outlined in my POS. Most specifically, it relates to the following learning objectives: 1.1 Gain a general knowledge of the history and the evolution of the theory of Environmental Education; 1.2 Gain a general understanding of how EE relates to three specific fields of practice: food literacy, popular education and place-based environmental education; 1.3 Further develop my understanding of environmental issues related to the food system and consider how these can be addressed in environmental education curriculum and programming; 2.1 Gain a basic understanding of the history and theory of critical food pedagogy and explore how methods and practices are understood to foster ecological consciousness; 2.2 Develop an understanding of the history of the industrialized food system; 2.3 Gain a general understanding of the social determinants of health (SDoH) and begin to imagine how food literacy can support learning that has the potential to intervene with SDoH; 3.1 Develop a basic understanding of the field of environmental ethics and how it relates to Environmental Education.

This major paper is a preliminary offering, a living document which I hope may present some possibilities for future researchers, food champions, teachers and school system workers to build upon.

Chapter One: Backgrounder to Food System Crises

Introduction to the Major Paper

Food is in many ways a connective tissue of the human experience; it is a daily necessity and a central component of most cultures. Since the end of WWII, food and agriculture underwent a period of profound change as the rise of the industrial food system created a significant rift between eaters and their food sources, contributing to innumerable socio-environmental crises in the process. This disconnection is attributed to a food system which conceals both the processes and the socio-environmental impacts involved in the food-cycle from the view of eaters, who have over time “learn[ed] to see themselves as consumers” (Wever, 2015, p.31).

The unique role of food as both a catalyst for, and a product of, global transitions and change has been increasingly valued as a means for understanding the world. Many scholars have written about food and environmental crises as being reflections of a “crisis in education” (Orr, 2005, p.x; Goldstein, 2014; Wever, 2015; Sumner, 2008 & 2013; Yamashita & Robinson, 2016; Kimura, 2011; Martin, 2018). Numerous forms of food education, prolific in recent years, have emerged as a response to the idea that populations require more knowledge in order to “better” engage with the increasingly complex nature of food and food systems. Food education is understood as a conduit for increasing “food literacy”, which in turn is assumed to be part of the “solution” to problems caused by the industrial food system (Wever, 2015). One educational approach is to facilitate learning which reveals the hidden relationships and tensions between the dominant agri-food system and social and environmental issues. This can support a more nuanced, structural understanding of the food system, from which deeper reflection, behavioural change and ultimately system change may flow. However, expressions of food education carry

disparate drivers and goals, shaped by the discourses most relevant to their locations. This has contributed to an international phenomenon where normative statements are made, largely in siloed environments (Martin, 2018), about what it means to be “food literate”. Such statements are adopted and enacted by a wide variety of pedagogues, e.g. school teachers, public health representatives, agricultural departments, private food companies, not-for-profits, etc., who aren’t accountable to any kind shared understanding of what a food “literate” person should ideally know and have the ability to do.

The trend in food education being taught using a “food literacy” framework has become a cause for concern. Many scholars have recognized the food literacy approach to be a “deficiency framework” (Kimura, 2011, p.465) which is proximally defined, narrow in scope, and apolitical (Kimura, 2011; Sumner, 2013; Swan and Flowers, 2015; Leahy and Pike, 2015, Yamashita & Robinson, 2016). Food literacy approaches are also critiqued for lacking acknowledgement of issues related to race, class and gender (Flowers and Swan, 2015) and normatively focusing on functional learning at the level of the individual (Goldstein, 2014; Wever, 2015; Martin, 2018). An important, related body of research which can help to explain why food literacy frameworks focused on the individual are problematic is the field of Social Determinants of Health (SDoH). Interdisciplinary research within this field has revealed new ways of understanding relationships between socio-economic inequity and health inequity. Social determinants are dynamic factors such as housing, income, early childhood development, Indigenous status, access to quality education, and food security. Today, in Western nations, Global, national and regional policy agendas acknowledge to different degrees that people’s choices, behaviours, attitudes and pathways to positive health outcomes are constrained and shaped by structural and institutional

factors which aren't equitably distributed among human populations. Political ideology and public policy that perceives health outcomes as the sole responsibility of the individual are widely considered as no longer acceptable, though they persist. Considering the breadth and depth of ongoing research and policy informed by SDoH research, it follows that food literacy frameworks should move beyond education which "treats" the individual, towards education which "treats" the very structural roots that make food literacy necessary. However, shifts towards SDoH becoming embedded in public policy are incremental and constrained by many complex factors, particularly the ideology of individualism. In this way, Canada is experiencing cognitive dissonance at the government-level in terms of accounting for SDoH in policy (Mikkonen & Raphael, 2010), and certainly in terms of it being embedded in practices on the ground.

As the calls for increasing public education through food literacy programming grow louder, it is problematic that there is a lack of agreement in what the scope and goals of such programming ought to be. As food literacy becomes a more prominent feature of Ontario policy and subsequently shapes school-based learning, it's important that we ask, "What *kind* of food literacy do we want Ontario students to graduate with?"

This major paper is in part a response to the problems associated with the many currently contested forms of food literacy and looks to address the calls for a more critical version of food literacy. As will be discussed, a critical framework for food literacy ideally accounts for the 'compounded' learning potential (Martin, 2018), multiple domains of knowledge (Goldstein, 2014; Wever, 2015; Sumner, 2013) and the numerous "regimes of value" (Appadurai, 1986, p.4) that food can address. The main goals of this paper are to build upon and contribute to the

literature which engages with the intersection of food, environmental education (EE), and critical literacy, to broaden popular conceptualizations of food literacy by bringing to the fore frameworks which address the root causes of food system dysfunction, to present possibilities for a food education practice that relocates the discursive space for determining “what counts as food literacy” (Kimura, 2010, p.466), and to consider how these things can respond to the increasing calls for food education to be advanced in Ontario schools. These efforts will be held together by the underlying research question, “What are the processes that would allow for critical food literacy to become an integral component of Ontario’s public education system?”

Terminology

Terminology and language are always evolving to reflect a changing world. An argument could be made that because the food literacy framework approach has been deemed insufficient in its educational aims by critics, entirely new terminology is required. However, the concept of “literacy” has strong historical, philosophical and ideological links and relevance to education systems world-wide. In order to advocate for and create incremental change within a system, it is an asset to propose change by speaking the language of said system. Rather than discard the concept, adult educator and critical food pedagogy scholar Jennifer Sumner invites a reimagining of the scope and critical engagement of food literacy, through exploring its potential for being “*rehabilitated to [...] unleash the practice of the possible[...]*” (2013, p.84).

Organization of Major Paper

This major paper will begin by presenting a conceptual analysis of some of the social and environmental implications of the industrial food system, as well as several strategies that have emerged to counter these implications. Following this, the concepts of food education and the food literacy approach will be unpacked and problematized, and the work of several scholars

who have proposed more comprehensive and critical food literacy frameworks will be highlighted. The theoretical frameworks which underpin this study will then be introduced, followed by an explanation of the methods and methodology used to develop this major paper research. Next, Part One of the findings section will present an analysis of the Ontario school system context and review a selection of policy documents and Ministry initiatives to consider Ontario's capacity to support and advance food education, environmental education and critical literacy. Part Two consists of a presentation of the findings from twelve qualitative interviews with Ontario teachers¹, food and EE scholars, and food-focused external organizational representatives. This section will culminate by illuminating seven long-term (redesign) goals which present potential processes which could allow for critical food literacy to become an integral component of Ontario's public education system. Following this, detailed recommendations will be made to take the reader through staged transitions towards the redesign goals using an Efficiency-Substitution-Redesign (ESR) Framework. This framework is by no means exhaustive; due to the limitations of the Master of Environmental Studies (MES) program seven 'sites for change' within the Ontario school system will be considered. This section is designed to be interacted with digitally, including embedded links to resources, curriculum guides, primers for educators and more detailed discussions of the recommendations, intended to guide the process of advancing critical food literacy education in Ontario schools forwards beyond the scope of this major paper. Some of the resources embedded were written by the author, some by other scholars, organizations, or institutional representatives.

¹ One external organizational interviewee is based in Quebec

An Introduction to Food Systems Change

Harriet Friedmann writes “(f)ood systems change is at once a social movement and a set of practical activities to transform the food sector of the economy” (Friedmann, 2012, p.25). The impetus for food system change can be said, broadly, to have originated in the lived experiences, social and political movements, and academic research which point to the fact that a great many social, economic, cultural, ecological and democratic contradictions have been caused by the dominant industrial agricultural model.

This largely market-driven model traces its origins to the Green Revolution of the 1950s and 1960s, which marked the transformation of agricultural productivity through technological advancements driven by the goal of “ensur(ing) that increases in agricultural productivity would match population growth and the dietary transition facilitated by rising incomes” (UN, 2014, p.5). Foundational to this system, which is still very much with us today, is the logic of free-market capitalism, but this foundation is being challenged by calls for a focus on food as a human right. In 2014, the UN’s Report of the Special Rapporteur on the right to food, defined this as:

“...the right of every individual, alone or in community with others, to have physical and economic access at all times to sufficient, adequate and culturally acceptable food that is produced and consumed sustainably, preserving access to food for future generations.” (2014, p.3)

The concept of food sovereignty has also become a key driver for food system change regionally, nationally and internationally. Food Secure Canada defines food sovereignty as:

"...the right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems." (“What is Food Sovereignty”, 2018).

Given the current capitalist principles which dictate that “[i]t doesn’t matter if the food is fresh organic arugula or a Big Mac, teff from the highlands of Ethiopia, or Cheez-Whiz from Walmart. It doesn’t matter whether you need it or not, whether it is good or bad for you, whether it is locally produced or traveled from afar or whether it was corralled, caged, free range, or led a happy life-if enough people *want* it (and have the money to buy it), someone will turn it into a commodity and sell it” (Holt-Gimenez, 2017, p.10), it is difficult to imagine these ideals coming to fruition. Although many exciting expressions of grassroots, alternative food initiatives and movements are gaining in momentum, there is significant work to be done towards the development of more consolidated and comprehensive approaches to food system change between sectors of society and governance. This includes defining the scope, goals and best practices of food education as a means for facilitating positive socio-environmental change. Contemporary Global policy informed by the United Nations Sustainable Development Goal (SDG) Agenda urges education leaders world-wide to incorporate environmental and sustainability education across public education systems and other governmental sectors. The intersection of food and education is being taken up in academia with more fervour in recent years and there are a growing number of education programs across countries such as Canada, US, UK and Australia that engage youth with food and food systems learning through social and environmental justice lenses. We can see such an example in Ontario with *Acting Today, Shaping Tomorrow: A Policy Framework for Environmental Education in Ontario Schools* (2009). Despite this promising trend, policy statements, food and environmental education, and the food champions behind them are notoriously ad-hoc and lack in long-term viability and structural embeddedness.

The agri-food system story from the end of WWII to present is understood to have produced a consumer and citizen “distancing” (Kneen, 1993) from the sources and impacts of the food we eat and the system it is a part of. Scholars across many disciplines view this distancing effect as a being the catalyst for myriad socio-environmental crises. Expressions of food education, despite being disparate in nature and intention, all attempt to reconnect people to their food. How the industrial food system has caused a disconnection, deskilling and dispossession of control related to food will be explored in this chapter, setting the stage for an analysis in Chapter Two of the different types of education proposed to reskill eaters, citizens and consumers in relation to food. Following this, relevant theoretical frameworks will be introduced, after which the role and capacity of Ontario’s public school system will be considered for its ability to advance an appropriate education framework.

Industrial Agriculture: A Backgrounder

The commodification food, as with most of our natural resources, has historically been touted as the basis of progress and the natural trajectory of human development and freedom. Indeed, industrial agriculture is unparalleled in its capacity to produce, store and distribute food in enormous quantities. Since the 1970s, however, many scholars have written about industrial agriculture as a perilous journey that has brought about the food and social crises we face today. The history of agriculture and its impacts on world systems can be traced back to the “dawn of agriculture”. However, it is the period between the end of WWII and present day that illuminates the story of why food education is now understood as a necessary intervention for human development. The post-WWII efforts to restructure the world economy brought about new theories of development and huge shifts in world power dynamics. This time was characterized by “mechanical, chemical and biotech revolutions” (Albritton, 2012, p.89) which allowed for

capitalism to exert ever-greater control over agriculture. The U.S. used its power to redistribute food through aid programs that strategically played into the Cold War politics of the time (McMichael, 2009). Human development of this era was supported by new theories which highlighted the barriers to economic progress in “underdeveloped” nations. Aspects of such nations including culture, ritual, public opinion, traditional farming practices, transport, production, and communication were viewed as “backwards” and in need of transformation.

Harriet Friedmann (1987) highlighted the central geopolitical role of food following the WWII, by tracking the ways in which the U.S redirected surplus food in the form of food aid. For the U.S., this process secured cold war overseas allegiance and ‘prepared the soil’ for postcolonial states to adopt of a “model of national agro-industrialisation”(2009, p.141). This phase of development, between the 1950s and 1970 is known as the Green Revolution, distinguished by the widespread enactment of the above model in the developing world, necessitating the concentration of land, increased farm size, the separation of crops and livestock, mass-scale monocultural production, the marginalization of peasant farmers, and their movement to urban centres. The industrialization of agriculture was dependent upon intensive inputs, such as pesticides, herbicides, fertilizers, water, factory building materials, hybrid seeds, technologies and petroleum. The sharp rise in external dependency and upon these inputs further transformed geopolitics and the economic stronghold of U.S. hegemony.

The Green Revolution addressed immediate developmental needs, but would have reverberations in years to come. In 1970 the cost of oil quadrupled, catalyzing a “break (in) the economic domination of the world by industrialized nations” (The People’s Food Commission Report, 1980, p.7). In the years 1972 and 1974, low grain harvests caused mass food shortages

and widespread hunger. Post-WWII economic policies were reprimanded for being too simplistic, for increasing the number of people living in poverty and intensifying the gap between rich and poor people and countries (“The 1970s: Era of alternatives”, 2018). As the Land of Milk and Money by the People’s Food Commission proclaimed in 1977, “it is no exaggeration to speak of a crisis in agriculture” (1980, p.7). In 1977, three quarters of Canadians could no longer afford the cost of housing and food prices had increased by 50% over only four years (1980). Canada, alongside other Western nations, was in economic crisis.

In the late 1970s, policy reform in the U.K. and U.S. allowed for greater international corporate capital mobility through trade liberalization. This set the stage for a new era of globalization, known as neoliberalization. Policy shifts liberalized trade by lowering taxes for corporations and high income individuals and rewrote regulatory mechanisms for labour and environmental protections (Swank, 2002). This encouragement of capital mobility has been correlated with parallel changes to the social welfare paradigm (Holt Gimenez, 2017; Swank, 2002). As Swank noted in his extensively cited 2002 thesis *Global Capital, Political Institutions, and Policy Change in Developed Welfare States*, economic analysts of all stripes “have all argued that the ability of international firms and financial institutions to shift assets across national borders forces incumbent governments (regardless of ideology or constituency) to reduce social welfare expenditures and to make social policy more market-conforming” (Swank, 2002, p2). The FAO Panel of Eminent Experts on Ethics in Food and Agriculture (2000) has stated that “serious imbalances in power from the concentration of economic power in the hands of a limited few. This huge disparity is negatively affecting funding for development. Resources are moving towards powerful private interests and away from public institutions” (FAO, 2000). The

industrial food system and its influence on agri-food policy has created many new rifts related to food access, connections to land, agro-ecological knowledge, food skills knowledge, and human health. Most notably, it has further exacerbated the rifts between soil fertility and capital exploitation, and human wellbeing and the socio-environmental costs of an increasingly corporate food system (Clausen et al., 2015,p.28).

As the agrifood sector has become increasingly controlled and dictated by private interests such as supermarkets, eaters have encountered an ever-more complex and “depersonalized” food system (Roberts, 2013). Wendell Berry famously proclaimed that “eating is an agricultural act. Eating ends the annual drama of the food economy that begins with planting and birth. Most eaters, however, are no longer aware that this is true. They think of food as an agricultural product, perhaps, but they do not think of themselves as participants in agriculture. They think of themselves as "consumers." If they think beyond that, they recognize that they are passive consumers” (1990, p.145)

As mentioned, Brewster Kneen’s concept of consumer “distancing” (1993) from our food sources animates this disconnection, deskilling and dispossession of control over how food is grown, produced, processed, distributed, marketed, accessed, prepared, stored and wasted. The corporatization of the food system has further exacerbated the outsourcing of knowledge, skills, time and energy related to food and food preparation to food companies. Despite such a system being touted as efficient and diversified enough to support everyone, the food “distancing” effect has come at huge costs, especially to people who are low-income, and poses a threat to the future of sustainable agriculture. Such costs are often externalized, meaning they are incurred in production but paid for by third parties. Externalized costs include diet-related disease and obesity, consumer and citizen deskilling and disempowerment, and the obscured labour conditions and environmental degradation associated with agri-food processes.

Industrial Agriculture: Impacts to Human Health

The Post-WWII era brought a newly reorganized food system, social reforms, family reorganization (due to women remaining in the workforce), and an economic boom. The new food policies and agri-food subsidies introduced post-war were designed to support farmers in increasing their grain and livestock production in order to meet the nutritional requirements of populations (Freidmann, 2012). This resulted in an enormous excess of grain which could be fed to livestock, increasing the availability and affordability of meat (2012). The mass-production of subsidized grains such as corn, wheat and soy also created by-products such as high fructose corn syrup which alongside “low cost, convenience, [and a] taste dominated by fat, sodium and sugar” (Dejardins et al., 2012, p. 10) has become a trademark of processed food. As Friedmann proclaims, “The subsidy regime to increase availability of grains and meats succeeded too well: nutrient poor products now saturate the food environments” (2012, p.23). These new products were marketed to the burgeoning middle class as a means for outsourcing energy and time related to food preparation by supermarkets who “have replaced mothers and grandmothers as a source on what to eat” (Freidmann, 2012, p 23). Jaffe and Gertler (2002) discuss the allure of processed and packaged food, which distanced eaters from the “inescapably organic” nature of food, providing a “welcome relief from the drudgery and psychological pain that went with preparing food from scratch” (p.155). Referring to data from the National Food Institute, Jaffe and Gertler discuss the reality of an increasingly complexity food consumer landscape:

“In 1999, the average American supermarket contained 49,225 products – more than three times the number in 1980, but just a fraction of the over one million items on the market. In the same year, the food industry introduced 9,664 entirely new products, and 16,544 new flavors, colors, or varieties of products already on supermarket shelves” (2002, p.155).

These changes have entirely transformed our global food systems, instigating shifts in food behaviours, food access and consumerism. This in turn has served to further fuel the

industrial food complex, exacerbating environmental degradation through the intensive chemical, water, energy and oil inputs required for production, harvesting, processing, packaging, distribution and waste management of food. These costs don't include the myriad external costs associated with health, lifestyle, loss of food knowledge and skills, labour injustices, the loss of farmers and agroecological knowledge, loss of seed diversity, and the decrease in civic pathways for engagement with the food system.

Research shows that we are living through an obesity epidemic. We now know that “(d)ietary risk factors are some of the most important contributors to mortality in Canada” (Public Health Ontario, 2017, p.3). This epidemic is understood to be tied to the external costs associated with the modernized global food system. Furthermore, such dietary transitions have further exacerbated outcomes related to social determinants of health as people experience socio-economic barriers to accessing healthy, nutritious, culturally appropriate foods. Locally, nine percent of Canadians, representing 1.1 million households or 2.7 million Canadians, currently live with food insecurity (Mikkonen, J., & Raphael, D., 2010). For families with children, 5.2% of the population is food insecure (2010). In Ontario there are serious issues related to child-level obesity. One in every three children are considered an unhealthy weight (Ministry of Ontario, 2013). While obesity is correlated with many interrelated social and biological factors such as physiology, mental health, sleep, genes, and lack of physical activity (2013), it is particularly tied to food.

The Ontario Government's Healthy Kids Strategy (2013) drew upon literature and data from parents, youth and a wide variety of education stakeholder groups across sectors to highlight several of the most common issues related to healthy food intake. These were found to

be a lack of time for food preparation and greater reliance on fast food, the prohibitive cost of healthy food, issues of accessibility of healthy food in low-income neighbourhoods, food marketing, and food knowledge (2013). The Healthy Kids Panel has proclaimed that “if nothing is done, the current generation of children in Ontario will be the first that has a lower quality of life than their parents. They will develop chronic illnesses much younger and be more affected as they age” (2013, p.7).

Civic Engagement as a Response to the Problems of the Industrial Food System

Problems related to food crises, such as those discussed above, have necessitated a parallel shift in food knowledge systems and how these are produced, distributed and consumed. Since the food crisis of the 1970s, a shift towards lateral learning and people-centred educational methodology has become a key strategy for the success of many alternative food system initiatives, food social movements, and more humanitarian approaches to development. A people-centred approach was also adopted as a feature of the Ministry of Ontario’s public consultations which guided the environmental education (EE) policy development (Bondar, 2007). It is also increasingly present in Ministry expectations related to EE student leadership and engagement, student-led action-oriented EE, and curriculum which is reflective of students (Ontario Ministry of Education, 2014). Since this major paper is concerned with the possibilities for advancing a critical food literacy framework in Ontario schools as a means for supporting food system change, several instances of movements which utilize education as tool for increasing civic engagement and food systems change will be discussed below.

The multitude of grassroots organizations that have emerged over the last three decades, though diverse in their approaches and aims, are united by a perceived need for food system change. In Canada, civic intervention with the dominant food system as a way to respond to

crises related to food is a common feature of food movements (Kneen, 2012). Food sovereignty, as a framework and a means for change (Kneen, 2012) has popularized the idea that “people [should be] able to control the decisions which shape the food system in their own interests and the interests of the larger communities (including the natural world) to which they are connected” (Kneen, 2012, p.2). Food sovereignty lies at the heart of many food movements and their education initiatives today, and is especially visible at regional levels through a resurgence of farm-to-table movements and education about local food systems.

Public education has a key role to play in addressing the complex socio-environmental issues associated with food systems, including alternative food systems. Global policy that urges education leaders world-wide to incorporate environmental and sustainability education across public education systems and other governmental sectors has emerged as a central approach. Ontario’s EE policy, which this paper will argue is a prime locus for embedding critical food literacy in our education system, states that “Schools have a vital role to play in preparing our young people to take their place as informed, engaged, and empowered citizens who will be pivotal in shaping the future of our communities, our province, our country, and our global environment” (Ontario, 2007, p.1). The Dietitians of Canada state that “when systemic and comprehensive approaches place equal value on the ecological, social, educational, and economic aspects of the dominant food system in Canada, many of its unintended harms—food insecurity and environmental degradation—will be addressed. Schools can play a particularly important role within such a systemic, comprehensive approach. They reach the majority of children and youth who are captive audiences ripe for learning in multiple settings and engaged in multiple activities” (Carlsson, L. & Williams, 2008, p.405). It is therefore evident that issues

related to food and environmental crisis have also necessitated a shift in the perceived need for food and environmental education to become more integral features of public school education. What's more, these forms of education are directed towards learners effecting and "shaping our future" (Ontario, 2007).

Another strategy understood to be key for addressing the problems associated with industrial agriculture is that of coordinating efforts across sectors (MacRae and Winson, 2016). Food scholars, food policy analysts and social movement leaders have increasingly advocated that food system change requires less fragmented, more joined-up efforts across society in order to see real change related to the many socio-environmental issues that are associated with industrial agriculture. As the non-governmental, Canada-wide food and farming alliance Food Secure Canada acknowledges, we must be attuned to "policy incoherence" which can compromise the ability of a national food policy to lead to actual positive, sustainable food system change (Food Secure Canada, 2018).

Having laid some foundations which explain why the food system is perceived to be in crisis, the following chapter consists of an analysis of several food education frameworks which take different approaches to reconnecting eaters, consumers and citizens to food, and the food system.

Chapter Two: Food Education & the Food Literacy Approach

Introduction

This major paper is concerned with the food literacy approach to food education, a focus chosen because this approach is already well established as both a concept and practice within the Canadian public health landscape, increasingly influential across Canadian policy, and in turn shaping public education practices and standards. Further, the food literacy approach as an

educational “trend” in Ontario schools is seen as an increasingly important requirement for positive outcomes related to health and wellbeing, especially as a means for addressing upwards trends in child and youth obesity. The decision to focus on food literacy was also inspired by scholarship positing the necessity of the development of a more critically-oriented food literacy framework, one which extends beyond simple health literacy, if food literacy is to address the problems stemming from the dominant food system.

Problematizing Food Education

In recent years, there has been growing concern that the locations of power which influence and define the scope of intended food education outcomes are subject to the same market logic characteristic of the industrial food system (Kimura, 2011; Sumner, 2013; Wever, 2015; Martin, 2018; Yamashita & Robinson, 2016). Some have expressed concern that this results in the prioritization of certain forms of knowledge over others, ultimately reinforcing the problems of the industrial food system and limiting the ability to facilitate a critical and structural comprehension of the food system, which is viewed as a prerequisite for social change (Kimura, 2011; Yamashita & Robinson, 2016; Sumner, 2013, Wever, 2015; Goldstein, 2014; Martin, 2018; Cullen et al., 2015). It is argued that in order to address the root cause of problems related to not just the dominant food system, but alternative food systems as well, a new kind of education is required (Holloway et al., 2007; Yamashita & Robinson, 2016).

Food Literacy as a Subset of food Education

Food literacy is still a burgeoning concept and although it has gathered increased scholarly attention, there are many different conceptualizations of what it means to be food literate. In considering the intersection of food and education, there is extensive literature, research, and theory spanning many disciplines which illuminates the multi-dimensionality of

food as a feature of the human experience. In designing a framework for food literacy, the question of “What gets taken up in curricula and why?” is important to keep close (Swan and Flowers, 2012, p.152).

Individualist Food Literacy Frameworks

Rocco Palumbo (2016) traced the origins of the term “food literacy” back to the early 90s when Jeanne Jones (1994) used it to refer to the knowledge necessary for healthy eating through functional learning. Palumbo recounts that food literacy crossed into the domain of health literacy in 2001 when Kathryn Kolasa, et al. reconceptualized food literacy as “the capacity of an individual to obtain, interpret and understand basic food and nutrition information and services and the competence to use that information and services in ways that are health-enhancing” (2001, p.77). This definition represents an early trend in the literature of conceptualizing food literacy as an individual responsibility, a problematic emphasis that fails to address the root causes of food system ailments and does not include teachings which open up avenues for action (Goldstein, 2014, Sumner, 2013a, Wever, 2015).

To further demonstrate this trend Palumbo found, after analyzing 33 pieces of food literacy literature, that “In spite of the logical connection existing between food literacy and health literacy, several Authors are still inclined to interpret the former in terms of mere functional skills” (p.101) and “most of the scholars have focused their attention on the relationship existing between food literacy and nutrition literacy, where the latter has been generally understood as a personal issue which concerns the individual ability to understand the importance of good and varied nutrition in maintaining health and well-being” (p.102). Similarly, Cullen et. al. (2015) analyzed 22 papers which proposed definitions for food literacy and

discovered that “almost all of the definitions included a nutrition and food skills component, although many did not align food literacy within a social or ecological context” (p.141).

A more recent example of a food literacy framework aimed at supporting individuals to make the “right” choices for their health and wellbeing is contained in The Conference Board of Canada report *What’s to Eat? Improving Food Literacy in Canada* (2013). The report defines food literacy as “an individual’s food-related knowledge, attitudes, and skills” (p.1). While herein it is recognized that food literacy has the potential to impact the environment, as well as to develop an “understanding of how food is produced, processed, distributed, purchased, and wasted, [...and] how to interpret claims made in food marketing and advertising” (p.2), the report also explicitly places responsibility on the individual when it proclaims “there are gaps and deficits in Canadians’ knowledge and skills related to food” (p.1). The report’s conclusion refers to consulted experts who “agreed that food literacy is important in helping Canadians to achieve better food safety and to make healthy food decisions and more sustainable food choices” (p.14), again echoing the idea that individuals’ lack of knowledge is the biggest obstacle between “good” and “bad” choices in relation to food.

The Ontario Public Health Association’s Nutrition Resource Centre Forum: “Unpacking Food Literacy”, held in Toronto, Ontario in November 2018, is a recent example of a conference involving cross-sectoral representation on the issue of food literacy. The conference promised to “bring together health professionals, service providers, educators, learners, researchers, food literacy champions and government decision-makers to showcase innovative programs and initiatives, and to share the latest research, resources and tools *that help consumers make*

healthier food choices” [emphasis added] (Ontario Public Health Association, 2018). Attendees were promised to learn about the definition and components of food literacy, “the latest research and strategies to impact and evaluate behaviour change through food literacy programs, policies and interventions,” as well as “Consumer/community engagement strategies” (2018). Despite some of the conference workshops including much broader definitions for food literacy, the conference was promoted as focusing on the role of “consumers”, and the idea that with more food literacy, people can “make healthier food choices” (Ontario Public Health Association, 2018).

Why The Individualist Food Literacy Approach is so Pervasive

The tendency for food literacy frameworks to focus on cultivating changes at the level of the individual may in part be related to its relationship to health literacy, a component of public health education riddled with disagreements about its intended scope of impact. Social scientist Donald Nutbeam has extensively researched and illuminated the failures of public health campaigns in the 60s and 70s, finding that they were “characterized by their emphasis on the transmission of information, and were based upon a relatively simplistic understanding of the relationship between communication and behaviour change” (2000, p.260). It was also found that such campaigns were “effective only among the most educated and economically advantaged in the community” (p.260). Building upon this well-researched area, it can be argued that food literacy education programs ought to be attuned to the pitfalls of prioritizing knowledge transmission at the individual level, consider approaches of education which are better understood in relation to behavioural change, and be oriented towards to SDoH and social and

environmental justice frameworks. This may ensure that food literacy frameworks are self-reflexive enough to meet to literacy needs of all people.

At the heart of the widely noted dichotomy between narrow and broader food literacy frameworks (Palumbo, 2016; Goldstein, 2014; Sumner, 2013b; Wever, 2015; Martin, 2018), lies the tension between liberal and critical pedagogy. Critical pedagogues argue that liberal forms of teaching and learning, focused as they are on the individual, fail to address the intersectionality of race, class, equity, gender and to teach learners to read across knowledge/power dynamics (Sullivan and Smaller, 2013). As Sullivan and Smaller assert, “there are some liberal educators who...reinforce, rather than challenge, the status quo” (2013, para 2). Michele Schweisfurth (2006) who has conducted work on the topic of *Education for global citizenship: teacher agency and curricular structure in Ontario schools* contends that “most Canadian teachers perceive their role as implementers of government-initiated policies rather than as active agents of social change” (p. 43), and that educators motivated by critical pedagogy operate from the margins of the education profession (2006).

The historical tendency for food literacy frameworks, particularly those designed by actors within the food system, to focus on the level of the individual comes as no surprise as they instantiate a liberal model of pedagogy. Although attention to socio-environmental equity and justice and social determinants are increasingly being accounted for by governmental policy, change in this regard is incremental. The liberal ideal of individualism and autonomy, alongside limited state intervention within capitalist enterprise, are deeply embedded norms, making it a slow and sticky process to shift towards a system which acknowledges and addresses the externalized socio-environmental costs of industry and institutions as they stand today. Beagman

and Chapman (2012) argue that within liberal democracies “there is a strong impetus to believe that individuals exercise free choice in the context of equal opportunity. Thus any inequalities are individualized, seen as the result of individual choices rather than systematic and historically rooted oppressions” (p.140). The liberal model therefore also contains a strong aversion to promoting actions which have potential to cause disruption to the status quo, such as facilitating critical engagement with the food system in order to invite people to expose “flaws” and make propositions for how these can be amended.

It is possible that bringing the tension between liberal and critical pedagogies to the forefront of food pedagogy fora, and insisting on increased focus on the critical, could be part of a “rehabilitation” process for food literacy. Below I outline the ideas of thinkers whose broader conceptions of food literacy constitute promising avenues for the development of just such a critical food pedagogy.

Critical Food Literacy

Scholars have proposed a variety of strategies for orienting food literacy frameworks towards wider, socio-environmental change. One strategy is to better account for intersectionality in food literacy frameworks. Aya Kimura’s critique of food literacy as “a deficiency framework which posits individual knowledge and skills as sole reasons for inappropriate food choices, dietary behaviors, and culinary practices” (2011, p.456) has been widely referenced and engaged with in recent critical food pedagogy scholarship. Her research focuses on the rise of food education in Japan which, she attests, has resulted in a “privatization” of food education, putting it “at risk of becoming an exercise of superficial mastering of ‘sanitized’ information” (p.465). Kimura proposes that in order to move beyond a framework which blames the individual for

lacking in knowledge, and to account for how the knowledge/power dynamics shape “what counts as food literacy” (p.466), a food education framework ought to develop a “structural understanding of food-related behaviors and practices as functions of cultural and social influence, one’s class position, gender stereotypes, social infrastructure, and the macrostructure of food and agricultural systems” (p.480).

Another strategy is to use an ecological framework, illuminating how food literacy touches upon other issues. Cullen and her colleagues (2015) propose such a framework by “situat[ing] food literacy at the intersection between community food security and food skills” (p.140). Food literacy, they assert, should “recognize the interconnected nature of food, health, and literacy, and how community-based interventions can be most effective with an integrated ecological paradigm” (p.141). Alicia Martin (2018), in her recent case study in two Ontario schools investigating the *Socio-Environmental Aspects of Students’ Food Literacy*, describes food literacy as a “compounded concept including multiple forms of knowledge such as “kitchen literacy”, “health literacy”, “nutrition literacy”, “garden literacy”, “agrifood systems literacy”, and “ecological literacy” (p.43). Martin accounts for “multiple dimensions of agri-food system literacy”(p.35) by (re)situating food literacy as part of a political ecology framework, which examines the relationships between environmental change and social, political and economic activities, while accounting for the differentiated impacts people experience in relation to environmental change (West, 2018). Martin proposes that “based on an understanding of knowledge as an empowering tool...(a political ecology framework for the study of food literacy) can lead to sustainable agrifood systems, especially if and when they are valued and sought by populations, governments and other state actors” (2018, p.36).

Yamashita & Robinson (2016) propose the strategy of bringing human labour issues into the forefront as a means to develop critical food literacy, noting that despite a growing interest in food issues related to environmental ethics and animal rights, the injustices experienced by people have tended to remain more obscured. Drawing upon empirical research, Yamashita & Robinson suggests several pedagogical strategies for facilitating critical food literacy which are designed to “make visible food workers”. Pedagogical strategies offered include engagement with “multicultural texts”, “reflective writing”, “reflective discussions”, “critical lenses and horizontal texts”, and the “production of learners’ own texts through research” (2016, p.274-275). For the authors, a critical food literacy framework should support “the ability to examine one’s assumptions, grapple with multiple perspectives and values that underlie the food system, understand the larger sociopolitical contexts that shape the food system, and take action toward creating just, sustainable food systems” (p. 269). Furthermore, the author views a CFL framework as supportive of critical literacy and citizenship, *as well as* building knowledge which can impact consumer habits and skills. Such a framework possesses the versatility and breadth to account for individual-level impacts while also emboldening “public, democratic discourse about food systems” (p.269).

A recent approach of critical food scholars aimed at better addressing the connection between educational frameworks and wider socio-political and environmental change is to offer conceptual frameworks and benchmarks for the evaluation of food literacy. The idea that food literate populations can impact food system change is predicated on the assumption that this is possible. If food reskilling includes a critical dimension, it is posited this can facilitate a subsequent reclamation of control over the food system (Jaffe and Gertler, 2006). Better

understanding transformative outcomes associated with different food literacy frameworks, now that they have been more clearly demarcated in the scholarship, would provide valuable insight for all future work, guiding the discussion related to the question “What kind of food literacy do we want to produce in Ontario school-age learners?”

Several critical food scholars propose that transformative learning can behave as a marker of socio-environmental change in relation to food literacy (Braun and Bogdan, 2016; Sumner and Wever 2016). Jack Mezirow, the founder of transformative learning theory explains transformative learning as “the process by which we transform problematic frames of reference (mindsets, habits of mind, meaning perspectives)- sets of assumptions and expectation- to make them more inclusive, discriminating, open, reflective and emotionally able to change” (Mezirow, 2009, p.92). Chad Hoggan, upon analyzing 206 articles related to transformative learning, has found that the literature accounts for a wider range of outcomes, including shifts in worldview, ways of knowing, ways of being, reflection of self, behaviour, and capacity (2015). Hoggan proposes a broader definition of transformative learning in order to better define the scope of transformation, i.e. “a dramatic change in the way a person experiences, conceptualizes and interacts with the world” (2015, p.4). Sumner and Wever (2016) argue that critical food literacy development requires “pedagogical encounters that encourage a critical attitude, cultivate emancipatory agency, and provide disorienting dilemmas which can lead to transformative change” (Sumner and Wever, 2016, 2nd last para).

To increase the likelihood for transformative learning, scholars such as Sumner, (2013), Goldstein (2014) and Wever (2015), Martin (2018) and Nutbeam (2000) provide frameworks for

food and health literacy which expand the dimensions of literacy to include multiple domains of knowledge. Two examples are discussed below.

Jennifer Sumner built upon the work of Habermas, who argued that we problematically often only rely on one knowledge domain, i.e. instrumental knowledge. Habermas proposed a framework for three knowledge domains: 1) empirical / analytic knowledge, 2) historical / hermeneutic knowledge and 3) critical / emancipatory knowledge (Sumner 2013; Wever, 2015). Sumner draws upon these three knowledge domains to reframe the concept of food literacy, responding to Kimura's critique of food literacy as a deficiency framework (2011). The three knowledge domains in relation to food literacy proposed by Sumner are:

Empirical/analytic knowledge: “nutrition facts, food sources, and food shopping and preparation skills” (Sumner, 2013, p.85). This is where all of the above discussed individual/functional food literacy approaches sit.

Historical/hermeneutic knowledge: “...advertising and branding analysis, culinary histories, the emotional appeal of ‘comfort foods’, and the ambivalent relationship many people have with food (e.g., bulimia, anorexia, and body-image issues)” (2013, p.85). This is where food literacy frameworks which are attuned to the above *and* begin to build skills for critical engagement with food media messages *and* begin to discern historical discourses underlying the food system *and* pay attention to the socio-cultural importance of food, would sit.

Critical/emancipatory knowledge: “knowledge mobilization associated with food justice movements, the demands of food sovereignty, and a critical understanding of issues like food deserts” (2013, p.85). This is where food literacy frameworks that address the above *and* facilitate participatory and critical dialogue and reflection in order to expose flaws, reveal

knowledge/power dynamics, problematize inequity, and embolden learners to imagine solutions, would sit.

Cassie Wever, who used Sumner's model to assess the food literacy of FoodShare's School Grown program, argues that "within this framework, individualistic learning is not negative or misguided — it is merely one component of a larger concept, and necessary for but not sufficient to comprise food literacy" (2015, p.37). Further, Sumner warns that "without including historical-hermeneutic and critical-emancipatory forms of knowledge, food literacy is doomed to remain a shallow, apolitical, individualistic conceptualization that will contribute little, if anything, to social change" (Sumner, 2013, p.85).

This tripartite model for situating and measuring food literacy is a valuable offering to food literacy practitioners, proponents, and learners at a time when what it means to be food literate is all too often prescribed without consideration of the context and priorities of learners themselves. This framework allows for the above actors to locate themselves, their discourses, and the goals of programming, as well as consider how these things align with a food system that is just, equitable and sustainable in the long run.

Similarly, in the field of public health, Nutbeam looked to the field of literacy studies to animate an understanding that there are different levels of literacy which aren't solely based on functional abilities, but "more in terms of what it is that literacy enables us to do" (p.263). Nutbeam applied a tripartite literacy model to the concept of health literacy: "Level 1, 'functional health literacy', [...] Level 2, 'interactive health literacy [... and] Level 3, 'critical health literacy' (p.264). Level three is "oriented towards supporting effective social and political action, as well as individual action... [and the] development of skills which investigate the

political feasibility and organizational possibilities of various forms of action to address social, economic and environmental determinants of health” (p.263). To relate this model briefly to the context of public education, St. Leger, a peer of Nutbeam, recognizes the limitations of approaches to education which focus on individual, analytical learning, stating that:

“...they are not sufficient to enable students leaving school to be empowered or autonomous as active members of society engaged in addressing social, economic and environmental determinants of health through actions. The ‘critical literacy’ (level 3) component is not well developed in many schools and countries” (St. Leger, 2001, p.199).

Critical food literacy is a burgeoning field which proposes strategies for facilitating more nuanced, equitable, comprehensive, and engaged learning in relation to food and the dominant food system. Intersectionality, visualizing food ecologically, “making visible” those who feed us, and conceptual frameworks for measuring wider, socio-political behavioural change in relation to food literacy have been offered as strategies for widening the scope of what it means to be food literate.

For the purposes of this major paper, there is one scholar whose food literacy framework encapsulates the above strategies and supports the task of examining the capacity for Ontario’s schools system to move towards a more critical approach to food literacy, namely Jennifer Sumner. Sumner proposes that food is a pedagogical act. Situated within the tradition of adult education oriented towards transformative learning for social change, Sumner offers strategies, grounded in critical theory, which hold the potential to “rehabilitate” food literacy in order to “move beyond individualized prescriptions and notions of blame to become a concept that can analyze current foodscapes and model sustainable alternatives” (2013, p.83). Building upon Wendell Berry’s proclamation that “eating is an agricultural act” (1990, p.145) Sumner asserts that:

“Eating is not only an agricultural act. It is also a social act, a political act, a cultural act, an economic act and an environmental act. And it is, above all, a pedagogical act. By eating, we can learn to adapt to a dysfunctional global food system that benefits a privileged few and downloads never-ending, unsustainable costs onto people, communities, nation-states and the environment. But eating can also help us to learn to think, to resist and to build an alternative future” (2008, p.356).

Committed to the idea that “food can be a catalyst for learning, resistance and change” (p.45), Sumner’s work related to food as pedagogy contributes valuable insight which can widen the parameters of what it means to be food literate. Sumner proposes a critically-oriented definition for food literacy, which lies at the heart of this major paper:

Food literacy is the ability to “read the world” in terms of food, thereby recreating it and remaking ourselves. It involves a full-cycle understanding of food—where it is grown, how it is produced, who benefits and who loses when it is purchased, who can access it (and who can’t), and where it goes when we are finished with it. It includes an appreciation of the cultural significance of food, the capacity to prepare healthy meals and make healthy decisions, and the recognition of the environmental, social, economic, cultural, and political implications of those decisions. (2013, p.86)

Chapter Three: Theoretical Frameworks

The Role of Knowledge in Advancing Education for Critical Food Literacy

As Goodman and Dupuis (2002) have argued, food social movements are rife with “struggles over [...] knowledge systems” (p.5), and this is also unmistakably true of the food literacy approach. As has been described, knowledge that teaches us how to “eat well” and “shop ethically” is not sufficient for sustainable food systems; more substantive efforts are required if change is to occur. An important acknowledgement in recent scholarship and a key concern of this paper is that the industrial food system has created a food crisis, and that education has a role to play in addressing this crisis. However, food literacy frameworks often fail to facilitate the knowledges and skills which can impact change beyond an individual level (Kimura, 2011; Wever, 2015; Sumner, 2013; Yamashita, 2016; Flowers and Swan, 2012). In order to address

deficiencies of the food literacy approach it is important to adopt frameworks which support teachers and learners in identifying which knowledge is serving to reinforce the status quo and which is addressing the roots of problems. For the purposes of this major paper I have selected three such frameworks, namely critical food studies, critical food pedagogy, and SDoH, which will be explored below. Foundational to all three, however, is the idea of knowledge as a variable in developing critical food literacy, an idea best illustrated by drawing upon Michel Foucault's conceptualization of discourse.

Discourse can be described as a selection of statements which give explanatory power to a topic. Examples include works of historical literature, public speeches, policy documents, cartoons, social media campaigns, or anything else which "provides the [...] architecture of language for talking about a particular topic" (West, 2018). By developing the ability to read "discursive formations" (West, 2018), learning related to food and food systems can be attuned to the historical events and forces that give shape to reality. This also extends to include an ability to read the "discursive formations" of teachers and teaching approaches. Swan and Flowers discuss the work of Bob Lingard (2009), who calls for education pedagogy to account for knowledge related to "the social and political context of classroom practices, including macro discourses of learning, teaching and assessment (Swan and Flowers, 2012, p.148). Also discussed in Swan and Flowers is the work of Luke (1996), who argues that education pedagogy is not merely a chosen approach for teaching and learning but is itself a "product of a network of historical, political, sociocultural, and knowledge relations" (Luke, 1996, in Swan and Flowers, 2012, p. 148).

Critical inquiry can train learners to question how discourse shapes people's behaviour, and vice versa. A critical examination of Canada's Food Guide, for example, might include questions such as "Who are the authors and influencers of this guide and what do they want us to know?", "What areas of knowledge informed the writing of this guide?", "What food groups are prioritized and why?", or "Who is marginalized by this text, and who is empowered?" (Adapted from Roberge, 2013, p.2).

Foucault's theories offer tools for understanding and questioning the production of knowledge and power, something many scholars posit is an important strategy for "rehabilitating" food literacy towards more critical ends (Goldstein, 2014; Wever, 2015; Martin, 2018; Sumner, 2013; Swan and Flowers, 2015; Yamashita & Robinson, 2016; Kimura, 2011).

Political ecologist Paige West describes one of Foucault's central arguments, that

"in [the] production of knowledge through discourse, we also begin to produce the conditions of possibility for practice. People start to think about things in a particular way, because of their discursive formation. They then start to act on the world based on this discursive formation. And one of [Foucault's] most important points, is that this is all wrapped up in a power dynamic." (West, 2018).

This philosophical line of inquiry is foundational to this major paper as it can be used as a filter through which to select pedagogies and educational frameworks that facilitate a critical reading of knowledge and power in relation to food, food systems, and the very concept of what it means to be food literate. In this way, education which facilitates critical engagement with food systems will "produce the conditions and possibility for practice" (West, 2018) which can lead to food system change.

Critical Food Studies

The first and primary framework adopted in this major paper is that of critical food studies. This academic field has recently emerged to dedicate space and synthesis to the many

specialized lenses that have emerged to study food. To facilitate interdisciplinarity, food studies “focuses on the web of relations, processes, structures, and institutional arrangements that cover human interaction with nature and other humans, involving the production, distribution, preparation, consumption and disposal of food” (Koc, Sumner and Winson, 2012, p.xii). Moreover, food studies has been characterized as “not only...an academic discipline but also...a means to change society” (Koc, Sumner and Winson, 2012, p.xii). The theory and interdisciplinary scope of food studies offers a framework which can redirect the food literacy approach towards more multifaceted and critical engagement with food. Gaining a basic understanding of the field of food studies has the potential to support actors within the school system in conceptualizing critical food literacy as a component of EE, and considering the role of environmental ethics as a component of education and teaching practice.

Furthermore, it is the author’s contention that the establishment of the field of food studies can serve as a model for advocates struggling to carve out a discursive space that can lead to more a popular reception of the concept of critical food literacy. Until very recently, food scholars sought a more coherent way to address the multi-dimensionalities and complexities of food study, and for a long time scholarly food-related work occurred in “disciplinary silos, making difficult the cross-fertilization of ideas and insights from different disciplines” (Koc, Sumner and Winson, 2012, p.xi). As the latter authors describe, the “tension between [the] familiarity and complexity” (p.xi, 2012) of food may explain the protracted process involved in the emergence of food studies. An attunement to the work, problems, processes and solutions that were involved in the establishment of food studies as a discipline, may inform people working to broaden the scope of food education and food literacy frameworks.

Critical Food Pedagogy and Food Literacy

Critical food pedagogy was chosen as a second theoretical framework for this major paper as its composite parts, critical pedagogy and food pedagogy, form the roots of education for critical food literacy. This framework traces its origins to the work of Paulo Freire.

In *The Pedagogy of the Oppressed* (2000), Freire put forth the notion that literacy can be directed to facilitate “reading the world” like a text, through critical and participatory engagement.

Beginning with the assertion that all education is political, Freire sought to establish a pedagogical movement where people gained greater ownership over the production, consumption, and distribution of knowledge, by building an awareness of where, why and how power dynamics exist within society. Freire writes about “hidden learning” opportunities not afforded to learners through the banking model of education which, he posits, assumes that “students” are passive receptacles for knowledge. Through participatory dialogue and reflection that begin with lived experience, especially by people experiencing oppression, learners can become empowered to take action and transform the world.

Building on Freire, Jennifer Sumner proposes a pedagogical approach for food literacy is to “read the world by eating” (2013, p.79), bringing together the theoretical frameworks of critical pedagogy with food pedagogy into critical food pedagogy. Applied to food literacy, as by Sumner (2013, 2015) and later Wever (2015), critical food pedagogy opens up the latitude of possibilities for learning and transforms it into a form of critical literacy. Wever and Sumner propose that critical food pedagogy can orient learning towards food system change, as it “discourages acceptance of the status quo and encourages critique of our unsustainable food system and the creation of alternatives that are more environmentally, socially and economically sustainable” (Sumner and Wever, 2016, Chapter 13, para 3).

Critical food pedagogy “valorize[s] the knowledge that challenges the industrial food system” (Sumner, 2013, p.185), opening up the possibilities that food education can facilitate change. In the context of a school, a critical food pedagogy can be widely applied, including to engagement with a text, a documentary, a garden, kitchen-based learning, a supermarket visit, reflective activities such as journaling, discussion, and action-based projects, community-based learning, EE, and farm-based learning. In short, critical food pedagogy can be drawn upon across all curricula and subjects to make connections to food as lens for “reading the world”.

In using a critical food pedagogy approach a school teacher ideally becomes a facilitator, providing questions and prompts aimed at spinning learning outwards and maintaining dialogue with participants, rather than simply “depositing” information into the students (Freire, 2000).

There is currently a trend in Ontario education, as will be discussed in Chapter Five, towards forms of learning which borrow from critical pedagogy as they decentralize learning, letting students direct the nature of inquiry and build and reflect upon their experiences and engage with critical perspectives.

Swan and Flowers (2012) have introduced the idea of “food pedagogies”, which they describe as an aggregate concept representing “educational, teaching and learning ideologies and practices...that focus variously on growing, shopping, cooking, eating and disposing of food” (2012, p.147). The term “pedagogies”, they explain, was chosen as it is “capacious enough to denote a range of sites, processes, curricula, ‘learners’ and even types of human and non-human ‘teachers’”, as well as “constrained enough to denote some kind of intended or emergent change in behaviour, habit, emotion, cognition, and/or knowledge at an individual, family, group or collective level” (p.147). Important to the kind of food literacy addressed in this major paper,

Swan and Flowers have critiqued popular “food pedagogies” for their narrow attention to “risk, obesity, healthism and ‘gastronomification’”, which too often fail to account for race, class, gender (p.147). These critiques are valuable when considering the Ontario school context, where food pedagogies are commonly tied to health, nutrition, food safety, and functional skills, rather than critical engagement. Also valuable to this paper, the authors, who like Sumner are based in the adult education tradition, remind us of the importance of conceiving of pedagogy itself as a product of knowledge/power dynamics. An awareness of this supports their concern about how food pedagogies are chosen and prioritized in particular education contexts, and can extend to acknowledge Kimura’s critique of food literacy for being shaped by influences which are “embedded within the power configuration of a society” (2011, p.466).

Building upon the work of Goldstein, who conceptualized food literacy in terms of two paradigms, Wever offers a broader approach, referring to the work of Donella Meadows who has offered valuable insights about leverage points, or “places in (a) system where a small change could lead to a large shift in behavior” (2008, p.145). Working with leverage points, Meadows suggests, can support people to think beyond paradigms, e.g. instrumental knowledge, norms and “common sense”, and make space for more nuanced, contextual thinking. Wever suggests that “in the case of food literacy and the issues present in the industrial food system that obstruct it, envisioning critical food pedagogy as a holistic concept, with individual knowledge as a single component, may be a more useful way to construct an understanding of what food literacy is or could be” (2015, p.31).

Radically oriented pedagogies, such as critical food pedagogy, given time, trust and strong facilitation, can invite participants to imagine the possibilities for transcending paradigms

such as the current food system, and become empowered by the idea that “if no paradigm is right, you can choose whatever one will help to achieve your purpose” (Meadows, 2008, p.164). In this way it “can help individuals and social groups develop new types of knowledge that will inform actions that contribute to resistance, greater freedom, and agency to shape their world” (Sumner and Wever, 2016, Chapter 13, np).

Social Determinants of Health and Critical Food Literacy

The third and final major framework guiding this paper is that of Social Determinants of Health (SDoH). As a field, SDoH recognizes that health outcomes are not, as traditionally prescribed, the sole responsibility of health sectors, nor are they solely related to deficiencies in individual responsibility and education. We now understand that health outcomes are significantly affected by the “conditions in which people are born, grow, live, work, and age” (Commission on Social Determinants of Health, 2008, p.1).

The Commission on Social Determinants of Health (CSDH) final report titled *Closing a Gap in a Generation: health equity through action on the social determinants of health* (2008) brought together global evidence and expertise to illuminate the notion that dominant institutions and states continue to perpetuate and reinforce unequal living conditions. Such conditions, the report argues, are largely a “consequence of poor social policies and programmes, unfair economic arrangements, and bad politics” (2008, p.1). The field of SDoH has informed The United Nation Development Programme’s (UNDP) Sustainable Development Goals (SDGs), which constitute “a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity” (UNDP, 2018).

These evidence-based international goals have set the stage for more thorough, equity-oriented thinking and program design related to education. SDoH was selected as a

theoretical framework for this major paper as it holds potential for building a case for critical food literacy as the normative framework in Ontario Schools. As the Hon. Monique Bégin, wrote in the introduction of *Social Determinants of Health: The Canadian Facts (2010)*:

“The truth is that Canada – the ninth richest country in the world – is so wealthy that it manages to mask the reality of poverty, social exclusion and discrimination, the erosion of employment quality, its adverse mental health outcomes, and youth suicides. While one of the world’s biggest spenders in health care, we have one of the worst records in providing an effective social safety net. What good does it do to treat people’s illnesses, to then send them back to the conditions that made them sick? [...] ...we need to put faces and voices to the inequities – and the health inequities in particular – that exist in our midst.” (Mikkonen, J., & Raphael, D., 2010, p.5).

From this, it follows that a food literacy framework in Canada as a form of human development should not assume that individuals are to blame for food-related crises. Rather than aim to cultivate individualistic and functional learning, or to “treat” individuals through education, school-aged learners should be supported to “see a concrete description of these complex and challenging problems” in order to “move to action” (2010, p.5).

Kelley Kenney’s thesis project *Kingston Adolescents’ Knowledge about the Social Determinants of health: Assessing and Addressing the Gap* (2012) found that “youth in general have difficulty explaining the causal pathways between social determinants and health outcomes” (Kelley, 2018). In line with the perceived need to move the food literacy framework beyond individual, analytical knowledge, Kelley contends that “When we accept and teach health as an outcome of individual behaviour or choice we are inherently teaching youth to put all the blame on individuals for their own circumstances” (Kelley, 2018).

The field of social determinants of health offers a framework and language which can be drawn upon by practitioners as a form of critical food pedagogy. This may facilitate an understanding of the social interrelationships and complexities that influence people’s pathways

to positive health, beginning with food as a determinant of health. Engaging with food education through an SDoH lens can bring about learning which examines the hidden relationships between eaters and different elements of the agri-food system and reveal how these relationships produce socio-environmental inequity. Narrow food literacy frameworks can be both problematized and expanded by the SDoH framework.

Don Nutbeam has committed significant work to addressing the failures of public health education campaigns which emphasized the “transmission of information” and thereby “failed to take account of the social and economic circumstances of individuals” (2000, p.260). The critiques of the food literacy approach are also concerned with narrow transmissions of information, aimed at supporting the health and wellbeing of an individual but often failing to bring about a wider socio-political and economic comprehension of the food system. Nutbeam’s tripartite model for health literacy, which accounts for SDoH at the critical health literacy level, can complement Sumner and Wever’s three knowledge domains for food literacy. This can further expand the possibilities for food literacy and align with the Ontario Ministry of Education’s commitment to “equity in education” and its acknowledgement of structural determinants as a barrier to this (2014).

Conclusion

Food as an educational concept possesses a certain beauty in its versatility and potential for having multidimensional applications and impacts across the human lifecycle, educational curricula, academic disciplines, government ministries, and socio-economic, political and cultural domains. It follows that by drawing from theoretical frameworks that can account for this, such as food studies, critical food pedagogy, and SDoH, the food literacy approach can too become a nexus for interdisciplinary, intersectional and multidimensional learning.

The multidimensional potential of food education is often lost on those who program education in support of food literacy. As Martin (2018) acknowledges, the tendency towards a narrow conceptualization of food literacy is often constrained by the lens of one's specific expertise, rather than explicitly celebrated and investigated for its compounded nature. The rich analytical frameworks and fields of study that underpin this major paper provide new hooks upon which to hang the food literacy hat, promising to broaden the scope of what it means to food literate.

Chapter Four: Research Design, Methods and Methodology

“When we try to pick out anything by itself, we find it hitched to everything else in the universe”
- John Muir, 1911

Research Question

What are the processes that would allow for critical food literacy to become an integral component of Ontario's public education system?

The research question was designed to look across Ontario's public education system at the pragmatic expressions of, and roadblocks to, food education and ask: What are the challenges and opportunities for advancing food education? What are the possibilities for food education in Ontario to develop critical food literacy? What are the key areas that require transformation in order for education which supports critical food literacy to be advanced? Where do opportunities exist for incorporating education which supports critical food literacy now, and how do these relate to longer term change?

Methods of Inquiry

In order to investigate change strategies for multiple sites within the school system a mixed methods approach was taken. The methods chosen were informal qualitative interviews with Ontario teachers and representatives of predominantly food-focused external organizations, and document analysis of grey literature including Ontario school curriculum and multi-level

educational policies. These methods were selected to explore the Ontario school system's capacity for, and receptiveness to, integrating critical food literacy. While explicit references to both critical food literacy and food literacy more generally were investigated across the academic and grey literature and used in interviews, to account for the fact such literacies are not widely understood concepts, a strategy was taken to investigate three broader forms of education better known within Ontario's school system: food education, EE, and critical literacy.

Searching for instances of food education more broadly in curriculum, policy, and interview data allowed for a reading of where education which develops critical food literacy could fit. Because of the overlap between a critical food literacy framework and EE, understanding the evolution of, the barriers to, and opportunities for EE in the Ontario context was a means for investigating the research question. In order to account for the critical component of the type of food literacy relevant to this paper, critical literacy was investigated as a feature of Ontario's education system as well as external organizational programming. The research intention was that in concert, an analysis of food education, EE and critical literacy in the Ontario context would allow for recommendations to be made for how critical food literacy can become an integral component of Ontario's public education system.

Establishing the Key Sites for Investigation

The key sites for investigation selected for this major paper were:

- The role of school boards and advancing CFL in Ontario Schools
- The role of teacher training and advancing CFL in Ontario Schools
- The role of school structure and activities and advancing CFL in Ontario Schools
- The role of external organizations and advancing CFL in Ontario Schools
- The role of funding and advancing CFL in Ontario Schools
- The role of assessment and advancing CFL in Ontario Schools

These were established through a synthesis of learning that occurred as part of the MES

program and personal experience working with food and youth. Particularly instructive was an internship with Sustain Ontario's² Edible Education Network. Drawing upon the network's cross-sectoral work which illustrates perceived priorities, barriers and opportunities related to food-based education in Ontario, as well an assignment to review school board policies in search of locations where food could fit, a picture began to form of the ways in which the school system is favourable or unfavourable to various expressions of food education.

Interview Questions³

Semi-structured Interview questions were developed with the above key sites in mind while also being designed to suit the participants' individual understandings of, experiences with, and visions for the role of food education. The questions were also designed to investigate the participants' insights related to the role of critical literacy and critical pedagogies in the schools system and external food education programs. Broad terms such as "food-based education" and "food literacy" were intentionally employed during initial lines of questioning in order to let the participants guide the conversation and present their own understanding of food-based learning in schools. For each site for investigation, questions were designed to draw upon participants' unique insight in order to reveal the perceived tensions within the school system which hinder critical food literacy becoming a more integral component of the school system. For instance, alongside more practical, nuts-and-bolts insights such as training and infrastructure as components for change, I dug deeper to build a picture of the discourses which influence these things. I wanted to know how education geared towards social change is perceived at different

² The OEEN vision is "To have healthy food environments across Ontario where children and youth have equal access to healthy and sustainably produced food, and where food literacy is supported through a range of educational and hands-on activities" (OEEN 2018).

³ A list of interview questions can be found in Appendix 1.

levels of the schools system, and glean insight into the factors which influence how critical forms of education are fostered and engaged with in schools. In short, I included questions which allowed participants to speak to aspects of the Ontario school system at a level of detail that we don't often hear.

Participant Selection⁴

Twelve participants were selected, including teachers, formal and non-formal facilitators, and academic researchers from public schools, external organizations and universities, predominantly based in Ontario. Particular characteristics were selected for, including an ability to speak to working from within, for, or in support of Ontario's elementary and secondary school system, and a willingness to discuss various expressions of food education, both generally and pertaining to the Ontario public school context. Because another important goal of the interviews was to hold dialogue about moving beyond the individual, analytical and liberal aspects of learning, participants were selected for an ability to speak to concepts related to critical perspectives, critical literacy and theory, transformative education and alternative pedagogical approaches.

Ethics

An application to conduct human participant research was approved by the FES Research Committee in August 2017, in advance of the research. This included the approval of an informed consent form which outlined key contacts, a rationale and description of the research activities, and the nature of participant involvement which was deemed low-risk. The form included the clause that involvement was voluntary and participants could choose to withdraw at any time in the research process, with no bearing upon relationships with myself or York University. Participants were given two options, to waive anonymity and be named if quoted as

⁴ A table of outlining participant characteristics can be found in Appendix 2

part of the research project, or to consent to being directly but anonymously quoted as part of the research project. I have committed to keeping all research data including interview recordings confidential, and where participants indicated they would like to remain anonymous, names were changed and professional positions left nonspecific.

Interview Preparation

My goal was to facilitate informal and conversation-style interviews that would allow participants to become comfortable and to steer the direction of the discussion. In order to formulate good lines of questioning for qualitative interviews it is important to prepare oneself with an understanding of “social and contextual factors that might bear upon the experiences and lives of those [...] interview[ed]” (Dilley, 2000, p.12). On a macro level, this task was accomplished through looking across the landscape of expressions, drivers, locations, attitudes, known challenges and opportunities for food education, EE and critical literacy in Ontario’s public education system. This included scanning broader Ontario programs and policies that focus on the interrelation of food, health and education, such as in public health. I also gathered a basic understanding of the expectations associated with teacher training and available continuing education courses for teachers. On a more micro level, I sought to familiarize myself with any available material which provided a brief professional background of each participant.

Initial communication with potential participants was conducted by email. Having selected a wide range of ideal participants, I sent out customized invitations to participate which included an explanation of the major research and information about the timeline, and length of interview time, that the interviews would be recorded and other pertinent details. I received a lot of interest, and ended up with twelve interview participants agreeing to take part.

Interview Reflection, Transcription and Data Analysis

The interviews took place between September and October 2017, and were audio-recorded. Out of the twelve one on one interviews, three were held by phone and nine in

person. Out of the in person interviews, five were held in Toronto, three in Ottawa and one in Montreal. Using a framework for questioning that associated particular questions and prompts with the pre-identified key sites for investigation allowed the discussion to flow organically between subjects while allowing the interviewer to seamlessly steer the conversation from one sufficiently addressed key site to a new area. The framework also allowed participants to offer multi-dimensional insights. All participants selected provided rich insight.

The interview analysis undertaken was more conceptual than descriptive, aimed at: “the generation of general, abstract categories from the data and establishing how they help to explain the phenomenon under study” (de Hoyos & Barnes, p.12, 2012). The interviews were comprehensively transcribed using a program (Transcribe), which allowed timestamping for efficient relocation of particular segments. While time-consuming, this process provided the author with an intimate and thorough understanding of the data.

Completed transcriptions were read through and checked against the audio recordings, in order to ensure complete accuracy. This process also allowed the author to gain a deeper impression of each interview through taking notes and making connections across the data, leading to the establishment of preliminary themes. As themes emerged they were categorized and conceptually mapped out onto a wall and later within a spreadsheet. This allowed for a deeper consideration of if/how interview themes connected with data from academic and grey literature, and for checking the depth and strength of themes in order to confirm or disconfirm the data.

Data Analysis Findings

Where data was sufficient enough to illuminate barriers for incorporating aspects of EE, food education and critical literacy in Ontario schools a site for investigation was translated into

a ‘site for change’. From here barriers could be reframed as opportunities through further triangulation with the literature and policy review, which guided the process of making recommendations. The data revealed through the different lines of inquiry predominantly provides insights which are supportive at the highschool level in the Ontario. However, recommendations can also be adapted to apply to elementary level education as well as education outside of the mainstream school system. Not all sites for investigation produced substantive data. The role of funding and advancing critical food literacy, for instance, wasn’t well represented, therefore it is not discussed as its own ‘site for change’. Due to the limited scope of this major paper, it is recommended that future work consider Ontario funding structures and processes and integrate within the ESR framework.

The final sites for change that this paper will discuss in the findings section are:

- Teacher education as a vehicle for advancing CFL in Ontario Schools
- School infrastructure and culture as a vehicle for advancing CFL in Ontario Schools
- Evaluation as a vehicle for advancing CFL in Ontario Schools
- Curriculum as a vehicle for advancing CFL in Ontario Schools
- External organizations as a vehicle for advancing CFL in Ontario Schools
- School boards as a vehicle for advancing CFL in Ontario Schools
- The Ministry of Education as a vehicle for advancing CFL in Ontario Schools

Efficiency-Substitution-Redesign (ESR) Analytical Framework

Stuart Hill’s ESR framework (1985) was selected as a way to shape the author’s recommendations. The ESR transition framework model is appropriate as it anchors readers to the big picture while providing sufficient latitude to express recommendations in great detail. A staged transition framework ensures that intentions and actions are in keeping with the long-term resign goals. As MacRae et al. assert, the ESR model can act as, “a guide to action and an indicator of progress” (2012, p.10).

First, the efficiency stage contains “strategies (that) involve making minor changes to existing practices to help create an environment somewhat more conducive to the desired change” (p.10). At the substitution stage, recommendations shift focus towards “the replacement of one practice, characteristic or process by another, or the development of a parallel practice or process in opposition to one identified as inadequate” (p.10). Finally, the redesign stage represents the ideal, long term goals for change. MacRae et al. note that “This final...stage, is unlikely to be achieved, however, until the first two stages have been attempted. Ideally, strategies should be selected from the first 2 stages for their ability to inform analysts about redesign (the most underdeveloped stage at this point) and to contribute toward a smooth evolution to the redesign stage” (p.10). In the context of this paper, the redesign stage considers the long-term goals which guide a process of critical food literacy becoming an integral component of Ontario’s education system, in relation to each site for change. The ESR recommendations/goals are informed by the issues and theories engaged with in the literature, and the findings from the Ontario education policy review and qualitative interviews, presented below in chapters five and six.

**Chapter Five: Findings Part One - An Ontario Education Policy Review:
Apertures of Opportunity for Critical Food Literacy in Ontario Schools**
Introduction

There are many exciting things happening right now that are contributing to increased momentum behind food education programming in Canadian schools. The intersection of food and education is especially relevant at a time when increased attention is being paid to environmental and sustainability education in formal education systems, wherein food education fits. Regional food and nutrition policy strategies are gathering momentum as guides aligning public and private operations with so called healthy food and food systems. For instance, in

November 2013, Ontario passed the Local Food Act (also known as Bill 36) to “help foster successful and resilient local food economies and systems in Ontario, help increase awareness of local food in Ontario, including the diversity of local food, and develop new markets for local food”. (OMAFRA, 2018). In 2014, The Ontario Food and Nutrition strategy was released, which was created to ensure that the “implementation of a coordinated cross-sector, multi-stakeholder food and nutrition strategy supports alignment and collaboration to ensure healthy food systems are strengthened and maintained in Ontario for the health of present and future generations” (2014, p.6). In 2017, consultations began towards a National Food Policy for Canada. This policy is still being shaped, and it promises to “set a long-term vision for the health, environmental, social, and economic goals related to food, while identifying actions we can take in the short-term” (Government of Canada, 2018).

Opportunities for advancing *critically* oriented food education can also be found more generally, across policy language, strategies and goals laid out by high-level policy documents. For instance, the Ontario Ministry of Education and The Ministry of Public Health have developed initiatives and strategies in order to account for and respond to the UN Sustainable Developments Goals (SDGs). Global education, SDG goal 4.7, is comprised of Global citizenship education and sustainable development education. The report *Global Education for Ontario Learners (2018)* commissioned by the Ministry of Ontario states that:

From an ethical or moral development orientation...[it] cultivate[s] learners’ intercultural understanding, communication, collaboration, and critical-thinking skills and gives them ‘the chance to realize their rights and promote a better world and future for us all. It encourages learners to critically analyze issues, respect differences and diversity and take actions in our lives and communities responsibly (UNESCO, 2014b, p. 3) (as cited in Manion and Weber, 2018).

In the next section, food education, EE and critical literacy will be considered in relation to the Ontario school system. A chosen strategy for investigating the research question is to

search for language and educational concepts which align with critical food literacy, such as those above. This is because food literacy is a contested concept and critical food literacy is an entirely novel concept. This Chapter will attempt to name the policy space for attaching the agenda of education for critical food literacy to - or more broadly, the food agenda.

A Food Policy for Canada

A Food policy for Canada proclaims:

Food matters. The decisions we make as individuals and as a country about food have a direct impact on our health, environment, economy, and communities. Working together, we can put more affordable, safe, healthy, food on tables across the country, while protecting the environment. (Government of Canada, 2017).

Here the government acknowledges that the public has an important role to play in shaping food policy. It indicates that Canadians are valued as a key element in achieving the above goals. Incorporating more food education at the public school level can help us understand of the impacts of the current food system, influencing “the decisions we make as individuals and as a country about food”(2017). However, ideally, such education must also account for the known reality that “Individuals may not always have the capacity to make “responsible” food choices as a result of socio-economic constraints...[...and] may have access to limited, contradictory, incomplete, and biased information, as in the case of some food advertising targeting specific audiences” (Martin, 2018, p.23).

The Government infers the food system is deficient by their proclamation that there is more to be done, as it fails to promise “affordable, safe, healthy, food on tables across the country, while protecting the environment” (2017) for every Canadian. This supports the idea that a certain *kind* of food education is required in order to address the above - one that facilitates socio-environmental change. A response to this high-level policy statement, one also germane to

the major paper research question, might be “How do we ensure that public education provides equitable opportunities for all learners to access and know how to engage with ‘affordable, safe, healthy, food’ *and* gain ecological and justice-based awareness of the food system *and* navigate the pathways for civic participation related to food, in Canada?”

Ontario’s Education System and Critical Food Literacy

In Ontario, “critical food literacy” is not explicitly supported by the public school system. In fact, Harris and Barter have found that “Although effects of poor eating habits and sedentary lifestyle among both rural and urban children and youth are noted widely in health and popular literature [...] food studies only receive tangential attention and generic attention within most school curricula” (2015, p. 12). There is no core course devoted to food education, and where food is indicated as content related to core curricula, such as in Health and Physical Education (HPE) and Specialist High Skills Major programs (SHSMs) in horticulture and culinary arts, it tends to be focused upon health and wellbeing at the level of the individual. Because food as content in curricula is tied to Canada’s Food Guide, it is “typically taught with a focus on technology and food production from an industry or commercial perspective” (Goldstein, 2014, p.9, Harrison, 2018). In addition, DeJardins et al. (2013), who conducted a report on food literacy in Ontario youth, have noted that food and culinary skills as a part of home economics curricula have been marginalized over the last thirty years. As discussed in Chapter One and Two, the perceived problem of food deskilling has been a driver for the proliferation of food education. Goldstein addresses the absence of critical food literacy in children and youth, asserting that “While the origin of consumer deskilling can be found in the purposeful action of the agribusiness industry, government is often viewed as complicit in this deskilling, for children no

longer receive life skills in cooking, healthy eating, or knowing where one's food comes from” (2014, p.8).

Despite a Food Share poll that found 95% of Ontarians support food literacy becoming part of mainstream education (2010) and a significant research demonstrating the multivarious positive socio-environmental impacts of food education, putting it into practice is problematic. Broadly, this is due to the structure of the traditional school system itself, the inertia of institutional change and the chasm between high-level policy statements and actual education practice.

Despite this, due to the critically-oriented goals that are present in the Ontario Education Strategy (2014), the environmental policy framework (2009), and the latitude and adaptability of curriculum, it can be argued that a critical food literacy framework aligns with the goals of Ontario's school system. Such an argument will be forwarded throughout this chapter.

Food Champions

A food champion is someone who self-selects, or is appointed to facilitate a change process in relation to food within a given context. D.D Warrick (2009) defined a change champion as “a person at any level of the organization who is skilled at initiating, facilitating, and implementing change” (p.15). In related literature, champions are valued as catalysts for change at different levels of an organizational structure (2009). Ideally, in order to increase the potential for success, change champions are required at all levels. Champions at the top level of the school system, such as principals, superintendents, curriculum developers and Ministry level executives play a key role in facilitating change (2009). Robert Lynch proclaims that “Champions are probably the most influential factor in creating a synergistic relationship that achieves a mighty purpose. Without at least one accomplished champion, the chance of

successfully sustaining, nurturing, and transforming an alliance is virtually nil” ([n.d](#), p.1). Food and environmental education champions are currently an ad hoc phenomenon in Ontario schools. Exploring opportunities for critical food literacy to play a more integral role in Ontario schools may facilitate greater alliances and better structural integration of food education.

Opportunities for Eating as Critical Food Pedagogy in Ontario Schools

Student Nutrition Programs (SNPs) present opportunities for eating as pedagogy in support of critical food literacy, laying down the foundations for food to play a more central role in school activities and culture and by modelling the value of the intersection of food and education. Over the last decade, numerous pilot universal student nutrition programs across Canada have contributed to strong global evidence that quality healthy eating programs greatly enhance student success (Cardiff University, 2015). In June 2018, Senate motion 368 was put forward, asking the government to create a national, universal nutrition program for children and youth (“Waiting for a food policy in Canada”, 2018). A focus on healthy eating as a gateway for student success, positive health outcomes, “equity in education”—one of the key goals of the current Ontario education strategy (2014), and other forms of knowledge is an obvious place for food education to begin. The data shows that if children and youth are learning about, and ideally *eating*, healthy, quality, delicious food at school everyday there are significant positive educational and developmental impacts (Foster et al., 2008; Dymont, 2005; Langelotto and Gupta, 2012; Lieberman and Hoody 1998; Health Canada, 2012; Ontario Agency for Health Protection and Promotion, 2013; Carlsson and Williams, 2008). A Report on the State of Public Health in Canada proclaims that:

When children go to school hungry or poorly nourished, their energy levels, memory, problem-solving skills, creativity, concentration and behaviour are all negatively impacted....As a result of being hungry at school, these children may not reach their full developmental potential — an outcome that can have a health impact throughout their entire lives. (2008, p.41)

In keeping with these statements, The Ministry of Education implemented PPM 150, the School Food and Beverage Policy in 2011, which the Ontario Food and Nutrition Strategy (OFNS, 2014) describes as having “greatly changed the food landscape in school cafeterias, meal programs and vending machines throughout Ontario by requiring healthy food and beverages to be provided on school premises” (p.21) The OFNS⁵ strategy recommends that “Harmonization of healthy food policies across public facilities, such as childcare, student nutrition programs, schools and recreation centres, is needed to further strengthen this change in the food environment and will contribute to making healthy options the preferred and easiest choice” (p.21).

In 2008 the Toronto District School Board funded the Feeding Our Futures program, a universal breakfast program which made nutritious meals available to all students in selected schools. The findings after two years were that “school breakfast programs providing access to a healthy morning meal to all students in their classrooms can be a valuable intervention measure to facilitate student success and well-being” (Muthuswamy, 2012, p.3). Despite these findings Canada is one of the only industrial nations without a funded universal nutrition program, and thus we have a scenario where “there is a patchwork of different programs cobbled together by different groups in an attempt to fill the gap between poor student nutrition and access to healthy food. Some jurisdictions do better than others at feeding school children” (Baker, Campsie & Rabinowicz, 2010, p.29). A national food policy has the potential to address universal school food programs, support local food procurement, and influence and encourage education which

⁵ Ontario Food and Nutrition Strategy

uses eating as pedagogy, such as SNPs, cooking and gardening. However, it isn't clear what kind of educational framework for food literacy such a policy would name and support.

Although SNPs are predominantly focused on providing nutritious food to students, getting students more involved in the behind the scenes programming and building reflective discussion around mealtimes are strategies for deepening food-based learning. Farm to Schools BC (F2S), is a potential exemplar in this respect. F2S engages learners in experiential food literacy through farming and tending to garden towers, supplying healthy food for school snack programs, and facilitating a more cohesive school community ("Getting Started", 2018). F2S supports stakeholders who wish to build a F2S program, to "dream big" and design the "perfect food system" for a given school context, presenting opportunities for food literacy learning to cast a wide net of engagement ("Getting Started", 2018).

Opportunities for Gardens as Critical Food Pedagogy in Ontario schools

School gardens as pedagogical vehicles present many immediate opportunities for education in support of critical food literacy. Gardens are becoming popular features of Ontario schools as a means for re-connecting learners to nature, to food, to food and gardening skills, to ecological literacy, and as a medium for making learning more concrete. School gardens are valued for providing hands-on learning which can address curricula ranging from culinary arts, welding, math, business, horticulture, science, biology, and health and physical education- modelling the multiliteracy, cross-disciplinary potential of gardens as pedagogy. Gardens can be installed as permanent garden boxes on site, grown indoors in garden towers, or creatively installed in milk crates which can be taken home by students, solving the issue of what happens to school gardens in the summer. Whether or not gardens grow food for learners to eat, food as pedagogy is a grounding learning approach.

Significant work has been committed to advancing the case for garden-based learning in recent years as a conduit for many forms of education and development. The literature demonstrates many benefits beyond healthy eating. For instance, Langellotto and Gupta, (2012) in their U.S. studies, found that: “gardening increased vegetable consumption in children, whereas the impacts of nutrition education programs were marginal or nonsignificant [...]...to explain our results: gardening increases access to vegetables and gardening decreases children’s reluctance to try new foods” (2012, p.). In the US, Henderson et al. (2011) did a scan of school garden literature reviews finding that “in one review, seven qualitative studies indicate school gardens have a strong community-building component, promoting teamwork, student bonding and school engagement with parents and neighbors. Researchers observe that gardens affect a school’s social learning environment in ways that may alter the school culture and identity” (2011, p.).

Williams and Dixon (2013) have done extensive research on school gardens. In their work *Impact of Garden-Based Learning on Academic Outcomes in Schools: Synthesis of Research Between 1990 and 2010* they sought to measure how garden-based learning had direct or indirect upon academic performance. They found that:

Of the 40 assessing direct learning outcomes, 33 (83%) found positive effects, 1 (3%) found a negative effect, and 6 (15%) indicated that learning was unchanged after the program. (2013, p.219).

Additionally, they found that: “these results also indicate that garden instructional activities may need more curricular development and integration with particular subject areas if they are intended to improve academic performance” (p.226).

William and Brown (2012) are teachers and gardeners who have extensively taught and researched school gardens as alternative pedagogical mediums. They describe literacy and

development associated with garden-based learning through seven principles: “cultivating a sense of place, fostering curiosity and wonder, discovering rhythm and scale, valuing biocultural diversity, embracing practical experience, nurturing interconnectedness, and awakening the senses” (2012, p. 14).

Sunday Harrison’s Green Thumbs Growing Kids program has been connecting children and youth in Toronto myriad learning opportunities through gardening since 1999. Harrison states “we shouldn’t expect kids to care [...] about big problems in the environment unless they have a hands on relationship to something that is beautiful and tastes good, and that they care about” (Green Thumbs Growing Kids Grow Eat & Learn!, 2016). This view highlights school gardens as a gateway to environmental ethics.

Breunig (2013) found that food education, especially through gardening and farm-based learning, positively supports changes in attitude and behaviour in Ontario high schools students. Building upon the work of Goldstein (2014) and Sumner (2013), Cassie Wever applied food literacy benchmarks categorized by Habermas’ three knowledge domains to assess whether FoodShare’s School Grown program was fostering learning at each level. The School Grown program facilitates garden and market based learning with youth at several technical schools in Toronto, engaging learners from seed, to harvest, to market, to seed using a food justice lens. It was found that although most of the learning fell under the empirical/analytic and historical/hermeneutic food literacy benchmarks, some learning did meet critical/emancipatory benchmarks and also “held great potential for future critical/emancipatory learning as program curriculum is developed” (Wever, 2015, p.76). More critical perspectives were especially evident in relation to an activity where learners wrote their own food curriculum (2015).

Such findings give weight to the idea that food education, such as using gardens as pedagogy hold great value as a way to build upon all curricula and support a diversity of literacies and learning needs for students. They could also be conduits for critical food literacy- which largely depends on the discretion of teachers to frame learning through critical perspectives.

Opportunities for Critical Food Literacy as a Component of Environmental Education Policy

Before presenting the interview findings and discussion in the next chapter, it is important to better situate the concept of critical food literacy within the Ontario public school system. In analyzing the interview data (forthcoming), academic literature, school curriculum and policy documents, a finding of this major paper is that a critical food literacy framework is well suited as a component of environmental education, but isn't recognized as such. An argument for this will be presented through the next three sections.

Following the UNESCO commitment to the Decade of Education for Sustainable Development (DESD) between 2005-2014, Roberta Bondar published the 2007 Ontario Ministry of Education report *Shaping our Schools, Shaping our Future*, which proclaimed:

“Ontario’s education system will prepare students with the knowledge, skills, perspectives, and practices they need to be environmentally responsible citizens. Students will understand our fundamental connections to each other and to the world around us through our relationship to food, water, energy, air, and land, and our interaction with all living things. The education system will provide opportunities within the classroom and the community for students to engage in actions that deepen this understanding.” (Ministry of Education, 2007, p.4).

The report was founded on the idea that:

“[s]chools have a vital role to play in preparing our young people to take their place as informed, engaged, and empowered citizens who will be pivotal in shaping the future of our communities, our province, our country, and our global environment” (Ministry of Education, 2007, p1).

In 2009, *Acting Today, Shaping Tomorrow: A Policy Framework for Environmental Education in Ontario Schools*, was published. Environmental education, in which critical food

literacy can fit, is now mandated to be incorporated across all curricula at all grades through policy. This policy, which forms the current guiding framework for rolling out environmental education across Ontario school boards, schools and teaching practices, contains the goal that:

“By the end of Grade 12, students will acquire knowledge, skills, and perspectives that foster understanding of their fundamental connections to each other, to the world around them, and to all living things” (Ontario Ministry of Education, 2014, p. 11).

In comparing the Ontario Ministry of Education’s definition of environmental education to the definition of a critical framework for food literacy used in the major paper, the commonalities and cohesion of the two concepts are revealed:

<p>In Shaping Our Schools, Shaping Our Future: Environmental Education in Ontario Schools, published by the Working Group on Environmental Education in June 2007, environmental education is defined as:</p>	<p>In Food Literacy and Adult Education: Learning to Read the World By Eating, published by Jennifer Sumner in 2014, food literacy is defined as:</p>
<p>“...education about the environment, for the environment, and in the environment that promotes an understanding of, rich and active experience in, and an appreciation for the dynamic interactions of:</p> <ul style="list-style-type: none"> • The Earth’s physical and biological systems • The dependency of our social and economic systems on these natural systems • The scientific and human dimensions of environmental issues • The positive and negative consequences, both intended and unintended, of the interactions between human-created and natural systems” <p>(Shaping Our Schools, Shaping Our Future, p. 6).</p>	<p>“Food literacy is the ability to “read the world” in terms of food, thereby recreating it and remaking ourselves. It involves a full-cycle understanding of food—where it is grown, how it is produced, who benefits and who loses when it is purchased, who can access it (and who can’t), and where it goes when we are finished with it. It includes an appreciation of the cultural significance of food, the capacity to prepare healthy meals and make healthy decisions, and the recognition of the environmental, social, economic, cultural, and political implications of those decisions.” (Sumner, p.86, 2014)</p>

As Goldstein eloquently summarizes, the literature that has contributed to conceptualizing a more *critical* food literacy framework:

“hold[s] a broader understanding of the concept that is rooted in context and motivated by active citizenship and systems change, where to become food literate is to undergo both transformative and emancipatory learning. These scholars define food literacy as prompted by political and social consciousness, and see the benchmarks of food literacy as including the drive and desire to pursue a structural understanding of and change in the current food landscape” (2014, p.31).

A critical food literacy framework aligns with Ontario's EE framework and goals in many ways. One area of compatibility is that, like critical food literacy, EE is interdisciplinary in scope, and a "compounded concept" (Martin, 2018) which can foster multiple literacies and account for multiple domains of knowledge. Like food literacy, or food education more broadly in Ontario schools, EE isn't a standalone subject with a distinct curriculum. In order to engage Ontario students with EE, practitioners are required to find ways to incorporate EE across the curriculum. Some subjects are better suited than others for this task. However, because of the broad scope of EE, expectations are that "Educators in every discipline can use [EE] to inform program planning, in order to take advantage of opportunities to support students' development of related skills and knowledge"(Ontario Ministry of Education, 2017, p.3). Crucial for critical food literacy education, Ontario's EE policy promotes equity in education and participatory engagement with issues as part of school and life-long learning:

"The framework is intended to ensure that all students will have opportunities to learn and to engage in participative leadership. Environmental education must address the particular needs of students as they relate to cultural background, language, gender, ability, and other aspects of diversity" (2007, p.6).

It is clear that Ontario EE policy is also "motivated by active citizenship and systems change", fostering "political and social consciousness" and the ability to gain a structural understanding of the world (Goldstein, 2014, p.31):

"Environmental education will draw on effective learning strategies - including inquiry, problem solving, critical thinking, and assessing alternatives - that engage students personally in their own learning, connect them to the world they live in, and give them the systems thinking and futures thinking they will need to become discerning, active citizens" (2007, p.4).

Conceptualizing critical food literacy as a component of EE policy is in part a strategic approach, as EE is a more popular concept with momentum and mechanisms for scaling it up within Ontario public education. An implicit theme across both the literature and interview data

below, is that strengthening the relationship between food education and EE can create a mutualism in which both approaches to education may benefit and grow.

Opportunities to Weave Critical Food Pedagogy Across Curriculum in Ontario Schools

While food is a core feature in some mandatory elementary and high school curricula, such as Health and Physical Education (HPE), it is currently possible for students to graduate without basic food and nutrition skills tied to health and wellbeing, or any form of critical engagement with food and the food system. Nonetheless, opportunities exist within curriculum that would allow for more critical engagement with food, which will be outlined below.

Upon reviewing several Ministry curriculum documents and the Scope and Sequences of Expectations in EE document, it was found that there are particular courses that are well suited for engagement through critical food pedagogy (CFP) in order to facilitate critical food literacy. The review was undertaken with the understanding that critical food pedagogy can be applied to any lesson with teacher discretion and comfortability. However, there are some courses which are more immediately conducive to CFP as a complementary practice, than others.

Food and even critical perspectives in relation to food feature as components of suggested content and teaching prompts across a significant proportion of Ontario curriculum, including Health and Physical Education (2015): Family Studies; Science (2008; 2008a): Biology, Environmental Science, Science; and most significantly Canadian and World Studies (2018): Geography History, Civics (Politics) and Indigenous education. Additionally, in the preamble to many curriculum documents it is now common for there to be primer sections for teachers, devoted to unpacking Determinants of Health, Equity in Education, 21st Century Learning competencies (to be discussed below), tools for critical thinking, inquiry-based and experiential learning, and encouragement to make connections with community partners in order

to build upon curriculum. These are all important ingredients which are already endorsed by the schools system, which can support education for critical food literacy.

As has been discussed, EE policy mandates that EE is integrated across curriculum - which offers significant latitude for teachers to make connections to food across every subject. Within the annually revised Scope and Sequences in EE documents which guide teachers to make curriculum connections to EE, food and food systems feature heavily as prompts for animating learning related to expected outcomes. In the 2017 version of the Grade 9-12 document, many significant links to food and food systems were found by the author of this major paper across 40 courses. Many of the teaching and student prompts were found to be critically oriented. For instance, prompts invite students to think about structural barriers which prohibit socio-environmental change or greater equity, highlight ecological and economic tensions related to the dominant food system and emphasize the importance of diverse perspectives related to food systems. In the recommendations chapter a resource will be discussed that was created by the author of this major paper to highlight explicit connections to food and food systems, which present immediate gateways for incorporating education for critical food literacy across curricula.

Critical Literacy in Ontario Schools

Critical literacy refers to students critically analyzing and evaluating the meaning of text as it *relates to issues of equity, power, and social justice to inform a critical stance, response and/or action.* (Edugains, 2016)

We are experiencing a unique opportunity in education policy for acknowledging the value and alignment of critical perspectives and pedagogical approaches in education, which can support the case for critical food literacy. The Ontario Ministry of Education is in the process of operationalizing equity in education and environmental responsibility and sustainability across

the school system. This has effected a notable increase in critically-oriented language and goals and a burgeoning institutional awareness of the importance of intersectionality. Global policy which pays more attention to determinants of health, and propounds strategies for addressing structurally embedded inequity has led to the Ontario school system identifying itself as capable of producing, reproducing or mitigating socio-economic inequities:

“Ensuring equity is a central goal of Ontario's publicly funded education system, as set out in *Achieving Excellence: A Renewed Vision for Education in Ontario* (2014). It stems from a fundamental principle that every student should have the opportunity to succeed, regardless of background, identity or personal circumstances. [...] Systemic barriers are caused by embedded biases in policies, practices and processes, and may result in differential treatment. The impact of these barriers is detrimental for many and can have lasting consequences. When factors such as race, class, gender identity, religion, and physical or intellectual ability intersect, they can create additional barriers and unique experiences of discrimination for some students” (2014, p.).

Critical perspectives aren't yet evenly distributed across education. Like expressions of food and environmental education, they tend to exist on an ad-hoc basis, contingent upon things such as practitioner training, experience and discretion, the trickle down of policy and curriculum resources, teacher accountability, school culture and administrative support.

However, in the context of Ontario's education system, considerable energy has been put into bringing together evidence that speaks to the value of critical perspectives in education.

The Ontario Ministry's new education strategy has made “transforming education a key goal” (Ontario Ministry of Education, 2015a). To support this goal, a 21st Century/Global competencies document was drafted by the Directors of Education (2015a), expressing the “need for today's students to engage in ‘deeper learning’ – or learning that allows students to take what is learned in one situation and apply it to new situations. Deeper learning involves the interplay of the cognitive (thinking/reasoning), intrapersonal (behaviour/ emotions), and interpersonal

(communication/collaboration). ...21st century competencies [...are] defined as knowledge and skills that are transferable (p.54).

In Ontario, the pedagogical approach of placing students at the centre of the learning process as active participants is becoming a valued characteristic of education, especially related to food and environmental education. This is visible in the growing popularity of place-based learning, community-based learning, experiential learning, action-based learning and inquiry based learning in Ontario schools. This in part stems from studies focused upon a new sociology of childhood, which “recognizes children as social actors who are capable of decision-making and as individuals who possess common sense and agency [...] reinforc[ing] the notion that the voices of adults should not be privileged over those of young people, particularly in regard to decisions that ultimately affect their young lives” (MacDonald and Breunig, 2018, para 1).

The Ontario Ministry of Education established the Student Voice Initiative in 2008 which strives to incorporate student-led learning and research in Ontario schools. Students are supported in creating action-based projects about issues that matter to them which reflect the school community. Sixty grade 7 to 12 students who partake in these programs are selected to be part of the Minister of Education’s Student Advisory Council, which directly influences education policy. This initiative is another demonstration of the Ministry’s openness and explicit support for student-led, participatory education for social change, building an argument for the inclusion of critical food literacy in Ontario schools.

As mentioned, several Gr 9-12 curriculum documents analyzed for this major paper ascribed significant importance to the development of critical literacy by incorporating a variety

of approaches and concepts in their preamble for teachers, in order to offer framing devices for achieving expected outcomes. The Canadian and World Studies curriculum preamble states that:

“today and in the future, students need to be critically literate in order to synthesize information, make informed decisions, communicate effectively, and thrive in an ever-changing global community. It is important that students be connected to the curriculum; that they see themselves in what is taught, how it is taught, and how it applies to the world at large. The curriculum recognizes that the needs of learners are diverse, and helps all learners develop the knowledge, skills, and perspectives they need to be informed, productive, caring, responsible, healthy, and active citizens in their own communities and in the world.” (Ontario Ministry of Education, 2018)

An example of critical literacy expectations from the social sciences and humanities curriculum states that:

“...students who are critically literate are able, for example, to actively analyse media texts and determine potential motives and underlying messages. They are able to determine what biases might be contained in texts, media, and resource material and why that might be, how the content of the text might be determined and by whom, and whose perspectives might have been left out and why” (2013, p.48).

Curriculum documents also incorporate examples and teacher prompts, which suggest approaches to guide teachers to meet curriculum expectations. The 21st century competencies have had an impact upon the nature of these examples. For instance, the concept of a “big idea” is used as a framing device in the Canadian and World Studies Curriculum (2018). The documents states that:

“A “big idea” is an enduring understanding, an idea that we want students to delve into and retain long after they have forgotten many of the details of the course content. The big ideas address basic questions such as “Why am I learning this?” or “What is the point?” Through exploration of the big ideas, students are encouraged to become creators of their understandings and not passive receivers of information” (2018, p.14).

The above teach tool is guided by critical pedagogy, pointing to Freire’s problematization of students as empty vessels in the context of banking forms of education (2000). To highlight a food example in the Canadian and World Studies curriculum: Issues in Canadian Geography, Grade 9 and section E. *Liveable Communities*, a ‘big idea’ that is offered to orient learners

towards critical thinking is “People have a role in determining the sustainability of human systems, such as food production and transportation, within Canadian communities” (MOE, p.71). The ‘broader framing question’ offers a pivot point for more critical engagement: “What criteria should we use when determining future development plans for communities?” (p.71). This is a juncture at which considerations of structural inequities could be engaged with, e.g.: “How is SDoH accounted for in community food planning?”. There are also many courses, especially under Canadian and World studies curricula, which are designed to foster critical literacy by incorporating learning related to equity, diversity, gender, race, class and social justice - demonstrating immediately available educational frameworks for incorporating food and food systems as themes.

The trends highlight many cracks in which a critical food literacy framework would fit. The inventory of ways this can be done is captured by Sumner, who declares: “Food catalyzes the potential for experiential learning, social learning, lifelong learning, transformative learning, informal learning, incidental learning, embodied learning and collective learning. It can develop ecological literacy, promote indigenous knowledge and invite questions about what sustainability can mean in practice, [and] how to implement it” (2008, p.36)

Citizenship Education as a Conduit for Critical Food Literacy

Lastly, the importance that is now placed upon citizenship education as a key outcome for Ontario learners demonstrates the Ministry’s commitment to fostering active and informed participation in politics. The Ministry’s current mission statement is:

“Ontario is committed to the success and well-being of every student and child. Learners in the province's education system will develop the knowledge, skills and characteristics that will lead them to become personally successful, economically productive and actively engaged citizens” (2014, p.1).

This is important to highlight as the concept of equitable, accessible, participatory and critically engaged civic education and action as mechanisms which could support positive socio-environmental change in relation to the food system is a key component of a critical food literacy framework. However, this paper argues that the kinds of educational approaches which are highlighted as mediums for fostering critical perspectives in relation to food and food systems, need to be extended to the concept of citizenship.

Supporters of citizenship education have posited that autonomy and open-mindedness are conduits for increased democratic engagement. Piet van der Ploeg & Laurence Guérin problematize the idea of citizenship education as “a cure for what is thought to ail democracy: lack of participation and lack of solidarity” (p.248), as a means for addressing a perceived “indifference towards politics, toward social issues, and toward the common good; and insufficient social connectedness and concern for others’ welfare” (p.248). The authors highlight the importance of acknowledging that there are “radically different views about the merits of political participation and solidarity” and ask “what do the differences of perception and opinion mean for citizenship education?” (2016, p.249). Critiques of citizenship education highlight “the illiberal nature of their opponents’ (liberal) view. To apotheosize self determination and critical judgment, they contend[...], is to assume that a liberal conception of the good life is better than alternative conceptions, jeopardizing the traditional liberal ideal of state neutrality among conceptions of the good” (p.249).

It is important to be aware of such critiques, as the notion that education and teaching approaches ought to remain neutral has long been a contested subject for education practitioners and philosophers. A key component of Van der Ploeg & Laurence Guérin’s argument which has

a bearing upon education for critical food literacy is that currently citizenship education appears to view active engagement as the ideal. If food education is to be truly critical and emancipatory, it should include an understanding of the many forms of citizenship engagement and acknowledge non-participative engagement as an option. The authors argue that:

“...in order to [gain a realistic picture of what is possible], students must acquire knowledge of the relationship between politics and society, of power relationships within society, of social conflicts, of dynamics within and among institutions, of policy making and bureaucracy, and of conflicting views about these topics. Such knowledge fosters their assessment of what kind of citizens they wish to be and how to realize their citizenship in practice. Gaining this knowledge is not possible without an education in which the students can themselves investigate and assess the differences between perspectives on citizenship” (p.258).

A critical food literacy framework does not demand that everyone take action, or a certain kind of action. Nor does it assume that critical food literacy precludes support for the current food system. In this way, the author’s vision of critical food literacy echoes van der Ploeg & Laurence Guérin in positing that “students must be able to decide for themselves which perspective should determine their actions—a presumption that is not only fundamental to education, but to democracy” (p.261).

Ideally, food system change will be informed by, and reflective of, the diversity of relationships, needs and levels of access that people experience in relation to food. To create equitable opportunities for contributing to this process, public school education must expand the goals of food education beyond functional food literacy towards critical engagement with food systems *and* with the concept of citizenship. This will in enable people to make informed decisions and have greater access to resources and choices for participation or non-participation in relation to the food system.

The above examples of critical language and outcomes, approaches and teach tools support an argument that a food literacy framework in Ontario’s school system should be critically oriented in order to account for Ministry level goals, strategies and expectations.

Chapter Six: Findings Part Two: Conclusions and Discussion from Twelve Qualitative Interviews

Introduction

In the following section the findings from the qualitative interviews will be presented. The findings will be organized around the seven “sites for change” that emerged through an analysis of the most prevalent themes in the interview data. The interview data represent responses to questions and discussion which were built around the previously discussed “key sites for investigation”, which based on the data collected revealed the sites for change. Under each site for change the findings are further organized as themes which are clearly demarcated. The selection of the themes was influenced by a triangulation of analysis between the interview data, high-level policy and grey literature, and academic literature for their potential to illuminate the processes for advancing education for critical food literacy in Ontario classrooms.

After presenting the themes under a site for change, a redesign goal will be proposed which represents the ideal long-term outcome for a particular site. The redesign goals are intersecting and overlapping, but serve to orient a particular site towards change. An overarching goal for system-wide change is represented at the Ministry level (redesign goal G), which represents long-term structural change. The redesign goals will then be used to guide recommendations made in Chapter Seven. Some discussion and recommendations will be folded around the findings below, but the majority of discussion will occur in the next chapter as part of the recommendations.

Site for Change A: Teacher Education

Across all of the interviews, the relationship between teacher training and EE, food education and critical literacy were subjects which produced rich data. Stories from the data demonstrate a gap between EE policy mandates and teaching EE on the ground, revealing in part the need for teacher education. Although many practical challenges and strategies were discussed, the data overwhelmingly highlighted a narrow conceptualization of food and EE by teachers and society. This aligns with the food literacy literature which has critiqued the tendency for food education to be limited to engagement related to healthy eating. The quotes below illuminate the need for a wider understanding of food literacy and EE:

Theme A1.1: Teacher Education - A wider conceptualization of food literacy and EE applications and outcomes are required as part of teachers education

How do you teach kids to enjoy the environment when the teachers don't even enjoy it? ...I tried to do one of our staff meetings in the garden, [...] THEY hated the bees...THEY hated that they might be getting their shoes dirty on the mulch...[...]You can talk about how do we can engage [students], but [teachers] can't even engage and learn [without discomfort]. ~ 'Cassandra', Active High School Teacher - (Visual Art Ed., nutrition, garden-based learning, naturalism), Ontario

We often hear in response to why environmental education can't happen, "we don't have the resources". Do we really not have the resources? I think this comes up as [teachers think] they need to go outside, and build these giant things...and yes if you can great, but if you can't, it doesn't mean you can't do environmental education. I think they get caught up in thinking it needs to be, XYZ. So they just don't do anything. ~ 'Melody', Active Elementary School Teacher, experience training pre-service teachers, PhD student, Ontario

When I was in teachers college [...] we were allowed to pick a subject of our own choosing and teach it to the rest of the group [and talk about] why we thought teaching that was important. So I taught about native plants [...], we all picked different things, some people said we should be talking about racism, or gender issues. [During] question period [...], someone said, "I don't understand why you're wasting our time with this subject, this is not important to kids, it's not important to the curriculum, it has nothing to do any of the subjects being taught, I don't see the relevancy of it". And a lot of people [...] agreed with that. [...] Wow, so how "do" you change their minds? [...] I guess they just thought in terms of which one is more important, [they] thought gender issues or [other social issues are] way more important. So I always felt like social issues, human to human were more important than other issues [for teachers].

'Cassandra', Active High School Teacher - (Visual Art Ed., nutrition, garden-based learning, naturalism), Ontario.

The above story speaks to a narrow conceptualization of EE and pre-service teachers. The preference for engaging with social issues over environmental issues in public education settings noted by the interviewee can be addressed through teacher training which supports and models how environmental and social issues are inextricably linked. Developing teacher comfortability to draw upon a variety of analytical lenses through which to frame learning, such as social justice, ecological and feminist lenses, can quickly bring into focus the human impacts of environmental issues and vice versa. A PhD Student who has both led and studied teacher education has further insights into preconceptions held by pre-service teachers about EE:

...it's interesting when I talk to pre-service teachers they say, "I can't do this, I can't do that", [...] they are bringing up barriers to doing environmental ed. [...] they're saying exactly the same thing as the literature says [...] it's like [...] they already know this is going to be hard, and so like where is that coming from? It's coming from the way that society talks about environmental education. It's coming from the way we value or don't value it. It's coming from mentor teachers that they come into contact with that are like, "yeah that's nice but we don't have time to do that kind of thing [...] we have to stick to curriculum", and meanwhile there [are] huge parts of the curriculum that are supposed to link to to environment and society [...] but a lot of teachers skip over that stuff. ~ 'Melody', active elementary teacher, experience training pre-service teachers, PhD student

In discussing wider conceptualizations of EE and CFL as a component of EE, the subject came up of whether making connections to subjects such as socio-economics, and gentrification could come off as being too critical and disruptive to the status quo at the public school level:

I don't think it has to be, I think that people wouldn't immediately identify [these subjects] as being about the environment and being about EE. [...] They'd [look at those subjects] and say, oh that's history, that's geography...You don't have to go as far as [to say] that all education is EE, but EE does encompass other things and not just conservation, and not just soil, or global warming. [...]I'm hopeful that food can make this clearer, we can all identify with it, we all need it, it has environmental ramifications, [...] we can more clearly see how this is associated with ethical issues and poverty and equity issues...the unfolding of that is a little less vague [and] easier for people to understand. ~ 'Melody', active elementary teacher, experience training pre-service teachers, PhD student

Theme A1.2: Teacher Education - Greater pedagogical creativity and flexibility may support teachers to make connections to a wide variety subjects, including critical food literacy

There are many stories in the data related to content-driven teaching as a product of teachers college and school system culture and pressures. Being focused on getting through content was often framed as prohibitive to teaching in a way that builds upon student interests and realities and remaining attuned to opportunities for making connections to subjects on the fly. This is relevant to education for critical food literacy because in order to develop a more structural and critical comprehension of the food system, teachers will be required to make connections across the curriculum *and* attune food-based learning to reflect the priorities and needs of a unique student community.

...[T]alking about the (environmental policy) document, teachers feel, like oh my god one more thing? [...] Because there is still this emphasis on content, [you hear] “I can barely get through my grade 10 history course because I have to cover this this and this, so where do you put in food?”. Well, there would be room for food if you weren't so worried about sticking all that content in there and realized that it's not about the content, it's about making connections, right? Something like teaching the first world war - and you can talk about the devastation of farmland, people starving, you can make easy connections to food. But people are sometimes resistant, and teachers don't know how to - nobody has shown them how to bring in these types of things, because you're also doing mental health issues and human rights stuff and you're trying to teach kids who have special education needs. Teachers are overwhelmed.~ Ian, Active Alternative School Teacher, Toronto

In all of our planning, the artists were getting stuck in the box, they were getting stressed out by timeline set, that they weren't always paying attention to the students interests, but instead were pushing the agenda to get the project done, not realizing that if they would have just stopped and shifted, students would have engaged. ~ Katie, Mikw Chiyâm Program Director, Artist, Art Educator, Consultant, Quebec

The new group of teachers [at our school] were just all about curriculum, it really changed the nature of the school. One in particular,[...] I remember listening to a principal flat out tell him, you know you don't have to stick to the curriculum all the time, if the students have a certain interest...but no. ~ ‘Robert’, Retired Alternative School Teacher, Toronto

The above data supports the idea that practitioners may benefit from professional development which models pedagogies and approaches that are well suited for facilitating

participatory learning, pivoting with the interests of learners, for blending frameworks for learning, and making connections to a “diversity of methods, a diversity of questions and ways of proceeding” (marino, 1997, p.44). Attuning learning to student interests, knowledge and experiences may be a key strategy for incorporating critical food literacy across curriculum, as food plays such a central role in our lives. Because critical food literacy isn’t attached explicitly to curriculum, short-term strategies for its integration will require teachers to find ways to make connections across curriculum. One teacher shared their strategy for doing this:

As long as I'm teaching how to paint or sculpt I can connect this to any theme. You get to choose any text for reading, doesn't have to be Catcher in the Rye. If you're studying grammar, the article can be about food. ~ 'Cassandra', Active High School Teacher - (Visual Art Ed., nutrition, garden-based learning, naturalism), Ontario

Theme A1.3: Teacher Education - Wider conceptualizations of food education

The following interviewee quotes demonstrate a few possibilities for the breadth, depth, adaptability and relevancy of food-based learning in a public school setting:

I feel like school gardens and gardening is the answer to why are we learning this - it crosses disciplines, any discipline you choose can be taught in the garden. For me I never understood math, until I farmed...suddenly spatiality became something that was relevant, the same with baking and cooking...suddenly measurements and fractions became relevant, because you take it out of abstraction. For the garden, it's such an easy disciplinary leap. That's one thing we tell the teachers, we're not coming in to make more work for you, we're coming in and we're going to do what you're doing [but] in the garden. ~ Jen, Growing Up Organic Educator, Ottawa

If you think about, whenever there is food-it's people coming together and it's community being built, whether it's on a family level, [or] on a community level. What I see, especially in Northern communities, is if there's food, there's people. We've created a \$500 budget for food...just for snacks for the art show and for the classroom, because we know that will draw people in and that's our first point of contact - and then they stay for the art! ~ Katie, Mikw Chiyâm Program Director, Artist, Art Educator, Consultant, Quebec

I think that if we could see the value of food and that it can help with learning all the different themes that we're expecting our students to learn in the classrooms, it can open a window to a lot of deeper learning, a lot of hands-on projects, a lot of great ways for students to measure things, and cooking and changing states of matter, [...] the whole realm.[...] Food can be integrated throughout the curriculum, and not just [to] take up time but to really help build the subjects in the curriculum. [...] I think that [food literacy] would really just become embedded in the way

everybody works, being out in the garden as part of a math lesson, [...] it would be used to just build community and connect with people and nourish everybody in the process. ~ Carolyn, Sustain Ontario, OEEN Network Coordinator

Theme A1.4: Teacher Education - The scope of learning that can occur in relation to food through instances of learning about or intervening with the social determinants of health

Many stories shared by participants demonstrate how food education can present interventions to, and/or learning related to SDoH. Examples from the data aren't necessarily SDoH explicit, but demonstrate how food education can be a conduit to other types of learning, multiliteracies and domains of knowledge. Demonstrating connections to SDoH may support the process of fostering a wider conceptualization of food education by society, teachers, administrators and food champions.

Western Tech was interesting because they have a big food program there, now it's a Specialist High School Major program (SHSM) [...] When I was there, there was a lot of cooking, [...] so these kids were cooking meals and they were learning about diet, learning about [...] the fast food thing, but what they were really doing was levelling the playing field and providing opportunities. I had several students, I just ran into one last summer, who [for them], it was their ticket [...]. These kids are mostly poor and they [thought] they're not going to go to university [...] but food became an opportunity and so they went on to college and became chefs [...], and it all started at Western Tech in the food program for them. ~ Ian, Active Alternative School Teacher, Toronto

We created the garden from scratch sort of in the front, so everyone can see it. [...] we wanted people to see how easy it [can] be to grow a garden, how easy and cheap it could be to make your own food...[The] impetus to get that going [...] was we kept talking to kids about the importance of eating organic and we had all these assemblies about [it] [...] And kids were like, "yeah I get that I understand it, I get it, but I just can't afford it". So we said OK, let's grow organic food. ~ 'Cassandra', Active High School Teacher - (Visual Art Ed., nutrition, garden-based learning, naturalism), Ontario

In Chisasibi they have the first greenhouse built on school property, and that was a teacher [initiative]. [...] [T]hey were training youth on how to run and operate greenhouse [...] how to use it and up-keep...and then they are selling herbs and lettuce and things that they harvest [...], they go around with a cart to all the teachers and so there's fresh veg, and they also invite the community to come in. So [they] learn how to plant and grow things and also they sell seedlings, so it's this incubator project...and that in itself is just opening up this beautiful crack. And I think everyone is ready for it because [...] there is often only one day a week that fresh veg comes in [...and] within 2 days, all the fresh veg is gone. Then people have to wait another 5 days...

~ Katie, Mikw Chiyâm Program Director, Artist, Art Educator, Consultant, Quebec

The following quote that touches on how food education can connect to SDoH is from Cassie Wever's case study with Foodshare's School Grown program (2015):

Someone said in the curriculum writing "Housing's too expensive," and I was like "Is that about food?" and one student was like no, and then all the other students were like "I think so," and just having that conversation, and realizing that our food is tied to all these other systems, economic systems...being able to draw those connections. (Interview with School Grown Senior Coordinator, Wever, 2015, p.82).

Pointing to the field of social determinants of health, which informs Ontario's equity-oriented goals and strategies, may provide the grounds that food champions and advocates need to justify critical food literacy as an integral component on Ontario public education.

Theme A1.5: Teacher Education - Critical pedagogy as a vehicle for critical food literacy - Opportunities for, and barriers to advancing critical /alternative pedagogies in Ontario schools

The prospects for critically-oriented education to become an integral component of Ontario education was not seen as an easy task by any of the interview participants. Of the elementary and high school teachers, no teacher interviewees could name any board or ministry level resources for supporting teachers to incorporate critical pedagogies, with the exception of the Ontario College Teacher Association Alternative Teaching Additional Qualification (AQ). Most elementary and high school teachers could not recall receiving any training related to critical literacy development and teaching approaches at teachers college. This knowledge was something that teachers acquired on their own through self-interest, peers, the development of other interests such as naturalist studies and social justice learning, or the experience of teaching in alternative schools. The idea that education that is "fun" and play-based, especially at the high school level, emerged as a contentious idea in the data. This may be a barrier that teachers face to incorporating critical food literacy and EE more broadly, which can be addressed in various

forms of teacher education, and also through Ministry initiatives to ensure policy aligns with practice. The following quotes demonstrate this theme:

A lot of the things you're talking about making it comfortable, unpacking [EE and food education] and looking at it in different ways, in my experience it comes from teachers that have had other types of teaching experience, I worked at a naturalist centre, we can teach in a different way, different methods, teachers come in and think it's great, in that context ...but as part of classroom context it's not as acceptable, it's like the school culture doesn't accept it. Primary and junior is more play based, inquiry based, it's set up to be more acceptable. At a senior level, they need to be taking notes, need to be doing furious work, once you're looking at things in this way teachers say it's not academic enough, not going to prepare them for university. This is where a lot of the fear comes in. ~ Melody, active elementary teacher, experience training pre-service teachers, PhD student

When something is fun, it becomes put in a category of not learning. When something is too playful or when people and especially teachers are having a good time, they have this embedded guilt that comes with fun. ~ Katie, Mikw Chiyâm Program Director, Artist, Art Educator, Consultant, Quebec

There's been a real corporatization of teaching [...], I think this whole piece around being able to engage critically, and the shift meant that [admin] didn't trust the teachers as much anymore, wanted you to just obey and it became about [...] marketing. [...] I think despite people saying things about social justice in the Toronto board of ed and they talk about equity, ...I don't think that they want kids to think that critically. Because when kids think critically they ask questions and they challenge, which is good, [but] I don't think that this is what the paradigm wants, the paradigm wants people to conform and do what they need them to do so that schools look good and superintendents look good. [...] There are some exceptions to that, but for the most part that's been the trend. So you've divested teachers of their ability to teach what they want to teach, and that undermines their ability to do critical pedagogy. ~ Ian, Active Alternative School Teacher, Toronto

Theme A1.6: Teacher Education - Critical Pedagogy: Strategies for teachers, by teachers to incorporate more critical / alternative approaches into practice

A pattern that emerged from the data involved the art educators, alternative educators, and adult educators. These participants had unique insights and ideas for the advancement of critical food literacy in Ontario schools. One possible explanation for this is that they each shared experiences of teaching in decentralized classrooms, expressed comfortability and flexibility with teaching approaches which allow for student-directed learning, seemed to focus on

assessing student process rather than product, and shared an ability to keep track of multiple lines of inquiry, shift between different pedagogies in support of different student needs, and perform multifaceted assessment. Educators of such backgrounds, then, may be in a unique position to support the “rehabilitation” of food literacy, which involves participatory learning, critical /emancipatory outcomes and accounting for multiple knowledge domains. Many more practical insights for implementation of critical food education are in section B1.2, below. An example of an adult educator’s insights were as follows:

I think it has to be a broad spectrum over a long period of time. Most people don't have a eureka moment, they learn things, they learn to change slowly over time. So I think a number of pedagogies...certainly, the direct, mini lectures and talking to them about things. Having special speakers come in to talk about things. Doing group presentations which tend to be quite participatory, so students sort of get into the hands on learning. We do visual learning too, I get students to do posters of their final papers, and we talk about them in class and they get hung them up on the walls. [...] I think there has to be a lot of different approaches 'cause food is so, psychologically and emotionally special to people, that it's more than just issues, although some people are attached to their issues.~ Jennifer, Adult Education Lecturer at OISE, Food and Critical Pedagogy Scholar, Toronto

As has been discussed as a feature of the theoretical frameworks for this paper, facilitating opportunities for diverse perspectives to be shared, built upon and challenged can widen one’s frame of reference. With careful “guidance and scaffolding by a teacher or facilitator” (Yamashita & Robinson, 2016, p.275) learning can be directed to “build upon, add nuance to, or challenge one another’s interpretations of texts and the assumptions, beliefs, or values that underlie those interpretations” (p.274). For supporting the co-development of a sensitive, open, curious, respectful and safe space that supports digging deeper into issues in order to produce more long-lasting effects, two themes came up across the data and in the literature. The first is that food education needs to be widespread, and happen over time (Brooks and Begley, 2013; Desjardins et al., 2013; Goldstein, 2014; Wever, 2015).

[W]e used to see a lot of students once, we'd do a one off workshop. It's really hard to go deep in that set up. Now we'll see students and their teachers multiple times, play more of a supportive role, [this] has opened up more space to have deeper, more critical conversations because you've developed a relationship. The same thing with School Grown, we're in those schools everyday for the whole growing season...So if we're going to have conversations with a teacher about the way they do something, how the program operates, who gets selected for a program and who doesn't, we're doing that from a place where there's a relationship. Its lands better. ~ Katie, Director of Programs at Foodshare, Toronto

The second theme is to decentralize the classroom (Wever, 2015; Simpson et al., nd):

We've seen [in other short term projects]...people working together towards a common goal in a space that they can keep and feel safe within...that they've shared a lot, [...]. [I]t's why we asked for one space to be dedicated to [the program] in every school, because that's the artist's studio...and we want the students to enter in - and [...] to take away the power dynamic [...]. [B]y creating an Mikw Chiyâm [classroom], it's an alternate classroom for the teachers, [...] from the beginning [it] is a shared space...[...] So that immediately decentralised the classroom. ~ Katie, Mikw Chiyâm Program Director, Artist, Art Educator, Consultant, Quebec

Theme A1.7: Teacher Education - How should change related to teacher education happen?

In discussions related to the perceived best strategies for advancing food literacy, a few participants discussed the idea that for changes to occur at the level of teachers college, this would first require changes to curriculum. This reflects the notion that for critical food literacy to become an integral component of Ontario schools, the change process needs to be top-down.

...making [food literacy] part of curriculum makes it part of teachers credentials which makes it part of what is required in a teacher's education program, because teachers education is always driven by the course requirements for teaching subjects. ~ Katie, Director of Programs at Foodshare, Toronto

[Food] could [...] be mentioned in curriculum, to me that's so simple, it's a sentence. [...]Then it's there, it's accountability, even if it's new. This might make teachers more willing to learn from others. Sometimes the intention is there, they just need another push. [...]But if there's that line in the curriculum, they would feel obligated to address it and put in the work necessary. ~ 'Cassandra', Active High School Teacher - (Visual Art, nutrition, garden-based learning, naturalism), Ontario

Conversely, several participants warned that the structural, top-down approach which makes learning more regimented could limit the possibilities for food education, including ensuring that it reflective of a learning cohort's priorities. In addition, it was inferred that the

curriculum is sufficiently dynamic for different approaches to food education to occur, and that addressing gaps in infrastructure and teacher training are both more effective approaches, and more easily achievable in the short term.

...some people feel like yes, we have to make [food] a mandatory part of the curriculum. If we don't teachers aren't going to teach it. Other people make the argument that as soon as it's in the curriculum it takes away the spirit of it and people just tick off boxes to get it done, and that the current curriculum actually allows for everything that we want and that the best way to get there is likely teacher education and professional development. That people want to teach it they just don't know how. If people can show them easy models to link it with, they will embrace it. So that's been an interesting question. Curriculums still have to change, but professional development can be a lot more feasible. ~ Carolyn, Sustain Ontario, OEEN Network Coordinator, Ottawa

It's good to have some provincial standards, like being tied to the curriculum, but I think it is important that [food literacy] looks the way it should look based on the community, and what is most important to them, and what they want to prioritize. ~ Katie, Director of Programs at Foodshare, Toronto

Food doesn't have to be in the curriculum for it to be used towards meeting curriculum goals. So, I don't see it as having to be in the curriculum but more of a culture in the school of using food and cooking and gardening and those kinds of things to meet curriculum goals. So if you have those tools in the school and there is this culture of 'let's go to the kitchen and do a math class',. I think that's more important than needing it be be part of the curriculum, it's probably easier to do that then change the curriculum. ~ Alissa, Coordinator - Parkdale Food Centre, GUO Liaison, Ottawa

Redesign Goal A: Critical literacy is embedded across the school system, evenly distributed across all subjects. All Ontario teachers receive in depth training in critical pedagogy and critical food pedagogy at the pre-service level and have access to concomitant professional development training.

Site for Change B: Curriculum

The following quotes from the interview data relate to two aspects of curriculum as a site for change. The first theme indicates a few challenges for incorporating education for critical food literacy into curriculum. The second theme highlights strategies that were offered by teachers for making connections to food as part of school-based learning, further demonstrating the latitude of curriculum to account for critically-oriented food based learning.

Theme B1.1: Curriculum - Challenges to Incorporating Critical Food Literacy across curriculum

[...] After the Mike Harris Government, environmental studies became a non-teachable subject. [In teacher's college] you have to take your undergrad in a teachable subject, [...] So you create a generation of teachers who are limited in their ability to take critical courses...[and] who didn't focus on Environmental Studies ~ Katie, Director of Programs at FoodShare, Toronto

I've been fighting to do something to do with agriculture [and] environmentalism. Because my school is shrinking they kept saying we can't add a course to the system because the core courses will collapse if we don't have enough kids. ~ 'Cassandra', Active High School Teacher - (Visual Art Ed., nutrition, garden-based learning, naturalism), Ontario

It's an interesting thing, how do you create a framework or a model where you show all those interconnections and make them explicit within two dimensional space, which is paper. It's challenging" ~ Carolyn, Sustain Ontario, OEEN Network Coordinator.

The last quote highlights the difficulty of clearly naming the latitude of food education in curriculum documents. Including critical food pedagogy prompts for teachers and learners in curriculum documents can support this to some degree, but it is necessary to further support this with concomitant policy review, pedagogical and practice-based support for teachers if more structural change is to occur related to critical food education.

Theme B1.2: Curriculum - Opportunities for Incorporating Education for Critical Food Literacy in Ontario Schools

Many interview participants shared stories and strategies which offer insights into how to carve out space for food in schools and how it can be connected to a diversity of subjects. The last long quote demonstrates an instance of critical food education being used to address Ontario high school geography and health curriculum. This is also an instance of critical food education which teaches about, and intervenes with, SDoH:

One of our schools we have our garden out front, shop class welds tools for us, business [class] sells the food, food class cooks it. It's looking at how each grade and each class can engage with food in ways that is relevant in interesting. ~ Katie, Director of Programs at Foodshare, Toronto

We have an aboriginal studies class [...] it's in grade 9 and 10 [...] it's in all the alternative schools. [...] A big part of that is getting kids to know about food and the relationships between

aboriginal or Indigenous communities and food. Last year one of the things they were doing is using corn and making bannock. ~ Ian, Active Alternative School Teacher, Toronto

...we think [food literacy] needs to be involved at every grade, across multiple subject areas. Right now the engagement around food is optional. [...] Teachers have a lot of discretion over what [...] the most important parts of a grade 10 history class[are], for example. So, it needs to be [...] in a significant proportion of enough of those places that you can't skip it. [...] The way the [curriculum] prompts are written, [...] [you can] still deliver the curricula expectations and not talk about food, so it needs to be embedded in [curriculum so], that it becomes something. ~ Katie, Director of Programs at Foodshare, Toronto

[In] geography [curriculum] there is a large part on sustainable or agricultural practices especially related to the urban environment [...] I would do stuff like show the movie Food Inc, we worked with simulations and talked a bit about the Industrial Food Complex and where a lot of food comes from, the processes needed to create more food. Where I work is generally in remote communities [...] there's still a lot of sustenance hunting going on. So that I support a lot of that. There's also the fact that the stores have the worst and processed foods everywhere, so there isn't much food literacy on things like the effect of certain types of food and diabetes or where the food that they get at the store tends to come from.

[In] the health [curriculum] there is a component that is about healthy living and food choices [...] a lot of the communities I've worked in still partake in hunting as a traditional activity, there's a lot more push and research pointing to traditional diets being much healthier than eating a lot of the stuff commonly available in the stores here. [...] I've had Elders come in and they've prepared traditional food in the classroom. My kids have learned how to prepare stuff, they've learned how to clean wild meat, they've learned about ethical ways of harvesting. It's kind of something that I tie into a lot of subjects just because I like to work cross-curricularly and you can tie in things like issues involving the water system and contamination from the science (curriculum) and things like pesticides into subjects like harvesting fish. ~ 'Alex', Active High School Teacher in a Northern Community, Visual Art Ed. experience, Ontario & Quebec

Redesign Goal B: All Ontario Curriculum explicitly supports connections to education for critical food literacy as a component of EE which is reflected at all levels of teacher training

Site for Change C: School Infrastructure and Culture

Several quotes presented above have already touched on the role of school infrastructure and culture, suggesting that food can be woven across the curriculum: “*if you have those tools in the school and there is this culture of ‘let's go to the kitchen and do a math class’*”. Gardens were also referred to as “*the answer to why are we learning this - it crosses disciplines, any discipline*”

you choose can be taught in the garden". Establishing basic, affordable school gardens and kitchens and garnering school community stakeholder support are posited in the interview data as options for immediate solutions (in contrast to waiting for top-down change). Such infrastructure provides sites within which to model the cross-disciplinary nature of school gardens, demonstrate simple forms of engagement which complement teaching practice, rather than complicate it, add colour and hands-on experiences to "*help build the subjects in the curriculum*". This is represented by the following theme:

Theme C1.1: School Infrastructure and Culture - School gardens and kitchens as key components of advancing critical food literacy

Recognizing that you don't need a gigantic garden or kitchen...even just a couple garden boxes and a little kitchenette would be enough to do that. That would be the bare minimum in schools I think, those two things (in order to do food-based learning). [...]It's not expensive to do the bare minimum and the bare minimum has a huge impact. ~ Alissa, Coordinator - Parkdale Food Centre, GUO Liaison, Ottawa

Basic garden and/or kitchen infrastructure and passionate and committed school community members have repeatedly come up in the data and literature as key drivers for food education. The success and sustainability of food and EE initiatives in schools is understood to hinge in large part upon the culture of investment and stakeholder buy-in by parents, teachers, students, custodial staff and administration. The following theme demonstrates the role of food champions as stewards of infrastructure and school culture related to EE and food education:

Theme C1.2: School Infrastructure and Culture - Food Champions: Influencers of School infrastructure and Culture the CFL movement can learn from

[A teacher I came across] made raised beds, was growing food, giving [food to the restaurant that provides co op placements to their school and built teaching gardens. All [of this] on the one teachers' shoulders. ~ 'Cassandra', Active High School Teacher - (Visual Art Ed., nutrition, garden-based learning, naturalism), Ontario

For Growing Up Organic it was mostly one interested teacher that [gets involved in programming] and then other teachers say 'what are you doing?' and then they slowly become part of the club and learn how to do it from their peers and colleagues, but that could be fast tracked a lot if there were more training opportunities. ~ Alissa, Coordinator - Parkdale Food Centre, GUO Liaison, Ottawa

There is also a huge opportunity for kids to be involved in the food culture of their school, [...] food happens in schools already like at lunch and breakfast programs [...] kids are very passive in how they interact with those things instead of contributing to them or having ideas about them. I've only been to one school where the kids were actually participating in the making the snack program and that was with the initiative of the volunteers who were running the program.
~ Alissa, Coordinator - Parkdale Food Centre, GUO Liaison, Ottawa

Redesign Goal C: Ontario school-wide infrastructure and culture align with Redesign Goal G⁶

Site for Change D: Evaluation

The first theme in this section presents quotes which support the idea that an evaluation of food education which looks at indicators beyond a health-based focus is necessary. Evidence of the broader impacts that food education has also been demonstrated in Theme A1.4, the SDoH section above, and in the work of Cassie Wever (2015).

Theme D1.1: Evaluation - The evaluation of food education for a wider-range of outcomes beyond health is necessary:

...people didn't really have clear impact, people [...] would be able to speak to about how it was great their kids were getting out in the garden, how it was great that to have the hands-on activities, how people felt included - there wasn't much on [how] this led to happier learners, or learners that felt they belonged more, or learners that were better connected with another generation, or that graduated, or came to school every day because of the program [...]... people couldn't really speak to that. It made me realize as a movement that we need to develop our language to speak more in line with - what is wellbeing? How does food literacy and outdoor education and all this lead to wellbeing? What do we need to put in place to actually measure that and communicate it? ~ Carolyn, Sustain Ontario, OEEN Network Coordinator

[We saw] change in a lot of students [...], our first workshop happened in the classroom, inside, and seeing the difference between that and then being hands-on outside, you know, kids being destructive inside and then being leaders outside. It's not food literacy related but...~ Alissa, Coordinator - Parkdale Food Centre, GUO Liaison, Ottawa

The second theme illuminates stories from the data that may present more immediate opportunities for measuring transformative learning through critical food pedagogies such as small group reflective discussion, reflective writing and action-based learning related to food.

⁶ (Redesign Goal G: Core concepts for embedding education for critical food literacy are completely integrated into operational activities at the Ministry level: Equity in education, EE, Critical pedagogies, SDoH education, food 'classroom' infrastructure, practice-based teacher training and PD, curriculum, administrative support, sustainable food and environmental practices, Universal snack programs)

Sumner (2013a) and Wever (2015; Sumner & Wever, 2016) have indicated transformative learning as one of the “markers of learning that challenge the dominant industrial food system” which is posited to be “more likely to cultivate critical/emancipatory knowledge and skills, and to lay the groundwork for future transformative learning” (2015, p.47).

Theme D1.2: Evaluation - Strategies for the Evaluation of Transformative Learning Related to Food Education

One of [our workshop materials] is a [...] solutionary postcard, [...] we do four workshops here, and the last workshop is about reflecting upon everything we've talked about and [students look] at their own neighbourhood and things they've noticed and what solutions they have thought of [...] and then writ[e] to their [...] city counselor [or] anyone making decisions about things...[it says] "I am a Solutionary, you can be too"[...] Last year [...] the City Counsellor visited the one class [...], he went to their classroom and had a really thoughtful conversation about all of these food issues they raised. ~ Alissa, Coordinator - Parkdale Food Centre, GUO Liaison, Ottawa

Another thing that we do in the first workshop here at Parkdale, we make soup mixes and it's an easy way to get them in the kitchen and make something in half an hour without turning the stove on. So they make these mixes and make one to leave here [at the food bank] and one to take home. [...] at first teachers would say, "oh no, you need it, the kids want to leave it here" and we would say "we want the kids to take it home and make soup and talk with their family about what they did here"...so that was one way of encouraging [learning] to move beyond the classroom. And then the next time they come we ask "how many people had the soup with your family?" and almost everybody raised their hand and we can share who it was eaten with, thoughts and ideas. ~ Alissa, Coordinator - Parkdale Food Centre, GUO Liaison, Ottawa

Although some assessment occurred in the reflection aspect of this learning experience, it was acknowledged that:

Evaluation is really tricky and time consuming, and a lot of things happen away from the classroom, you can't quantify how the learning here is impacting the family...maybe their parents are now making the soup mix and maybe they've shared it with their neighbours, maybe it's totally changed their ability to save time and money and eat a healthy meal in 30 mins...Or even thinking about [...]the food that they donate to the food bank? That's part of food literacy too and critical thinking. ~ Alissa, Coordinator - Parkdale Food Centre, GUO Liaison, Ottawa

Cassie Wever's recommendation to “Build in pre and post program assessment” (2015, p.93) in order to capture transformative learning, coupled with regular structured reflective journaling may be useful to capture shifts in perspectives, behaviour and actions that occur over

time and improve the future evaluation of critical food literacy.

Redesign Goal D: An adaptable, cross-sectoral CFL evaluative model is developed through multi-level stakeholder collaboration and incorporated across Ontario schools (and all sectors) to gather short-term and long-term data related to the transformative capacity of various expressions of food education, pedagogical best practices and strategies for change

Site for Change E: External Organizations

As food education, and especially critical food education, is ad-hoc and not structurally supported in schools, external organizations represent a current civil society solution to fulfilling program needs related to food and EE. For instance EOs are advocates for getting food on the policy table:

I was at the [...] Ontario Coalition for Healthy Schools Conference. They were speaking to the minister's consultation of student wellbeing process. There was no mention of food there. There was a lot of physical activity a lot of mental health, a lot of other things, nothing about food. ~ Carolyn, Sustain Ontario, OEEN Network Coordinator, Ottawa

[I] want to speak to OPHEA (Ontario Physical Health and Education Alliance). They are really connected to schools and do a lot of stuff around healthy schools and the healthy schools coalition, and [ask] not 'why isn't food there', but " [...] 'what language do we need to speak to get food on the table and into the conversation'?. ~ Carolyn, Sustain Ontario, OEEN Network Coordinator, Ottawa

A notable role that EOs are supporting, important to this major paper is leading food programming which accounts for SDoH and includes elements of critical pedagogy, as demonstrated by the following theme:

Theme E1.1: External Organizations - Instances of Critical Pedagogy and Social Determinants of Health in External Organizational programming:

I think often the teachers want their kids to come here and volunteer or help stock shelves in the food bank or help out in the kitchen, that's the first instinct. [...] We [said] we don't want to do that, we want kids to be challenging inequality and learning about why people are poor in their neighbourhood and how come food banks exist...and asking questions such as, if you donate a box of corn dogs to your food bank are you helping? A lot of kids will say yes at first, and by the end they realize, oh no! And they look at the donations that they brought in and think, ahh! Now that's critical thinking. ~ Alissa, Coordinator - Parkdale Food Centre, GUO Liaison, Ottawa

We have a workshop called what Toronto Eats, which looks at five people, real life examples...their names have been changed - about what they eat in a week, how much income

they have, how much of it is available to spend on food...and then we pair that with either a grocery store trip or a menu planning activity, which [assigns learners characteristics] [...] so we tie [...] income security and food access into the work. [...] Kids already know a lot about food by the time they get to school, so [they don't] shy away about conversations about food, or about access and how it's tied to all those things. [E]ven when they're fairly young, they know if they have enough or they don't. ~ Katie, Director of Programs at Foodshare, Toronto

One of the workshops we do here is around SDoH. [W]hen I was doing research into how other people are teaching kids about SDoH, [...] there's nothing. [W]e only have an hour with most kids and we want to be in the kitchen for half of that so we [take] half an hour to get a concept across. So we have a participatory story that the kids tell about someone who is sick or hurt and all the different factors that led them to be in that position. We can identify with all these different SDoH, we don't really use that language, but we have all the different SDoH up on the barn doors so that we can see all of the different systemic things that impact someone's ability to be healthy. ~ Alissa, Coordinator - Parkdale Food Centre, GUO Liaison, Ottawa

The above examples represent existing, accessible activities and ideas to build upon that can support critical food literacy in practice for teachers, while also supporting the Ministry commitment to equity in education (Achieving Excellence, 2014).

Theme E1.2: External Organizations - Moving Towards a Long-Term Goal of Structural Embeddedness of Critical Food Literacy in Ontario Schools: The Valuable Role of Grassroots External Organizations:

The following quotes, represent the role of EOs as well positioned proponents for paving the way for critical food literacy in Ontario schools:

When I first started at GUO, one of the discussions at our board of directors level was program sustainability and developing autonomy in schools - so that we go in and help them set up, give them the tools, guidance, do some workshops and then be like "Here are the workshops, now you do them". And then I [...] realized that teachers don't want that, they so appreciate someone coming in. You can tell them what a farmer does, but if a farmer comes to your classroom...that is what a kid is going to remember. So I think there is huge value in having external organizations coming in. ~ Alissa, Coordinator - Parkdale Food Centre, GUO Liaison, Ottawa

The most successful projects I've seen there's someone outside the school helping to animate whatever the project is...whether it's a large garden, or a sustainable cafeteria or an afterschool program, a lot of it involves a partner that is outside the school board, that is doing fundraising and working with teachers and supporting people [...] So I think that having FoodShare there talking to teachers and giving presentations, and giving people ideas, and modelling stuff outside, helps. [...] It's just that connector role that Foodshare plays that I think is missing [for other schools]. ~ Katie, Director of Programs at Foodshare, Toronto

I think that outside organizations are orbiting the giant hairball. What I mean by that is that they can have an objective view of how there could be change within such an embedded system but on a micro and a macro level. I think that the education system itself, won't change itself, and outside organizations are playing a role, of showing what's possible but in bite sized pieces. And I think that's starting to wake people up a little bit and inspire people. Parents can see, "Whoa that was amazing, my kids were so productive in what they did with that artist, or chef, or that outdoor educator. Why can't that happen everyday?" ~ Katie, Mikw Chiyâm Program Director, Artist, Art Educator, Consultant, Quebec

Redesign Goal E: Critical food literacy is the normative framework in Ontario food and EE-focused external organizational programming, EO funding is sustainable, and their influence, support and collaborative capacity is recognized as integral to Ontario schools

Site for Change F: School Boards

When teacher participants were asked the question "To what extent do you feel like the school system has allowed you to flourish as a teacher?" the quality of support by principals came up repeatedly as directly correlated to this. As one interviewee commented:

The principal I was working with for those 10 years was great. He was very by the books and by the rules but, if you were doing your job, you were basically left alone. The principal that we had this year was not good, she's made it discouraging to work for that school and I probably won't go back. I stayed at the school as long as I did, a lot because of the principal I had. ~ 'Bridey', Active Elementary School Teacher, Ontario

To add to this, several teacher quotes included above have discussed how much the nature of admin. support has changed in the school system, the role of the principal in relation to challenges and opportunities for critically oriented education, and being supported to design-as-you-go and teach in ways that are student-directed. Principals are under pressures from above, though it seems important to recognize that their support can go a long way to activate new initiatives, infrastructure and shifts in school culture - all things that advancing critical food literacy in schools will require. The data has revealed that for more immediate changes, teachers and school communities require principals and wider administration to become active

stakeholders in the cause. The following themes provide insights into board-level considerations in relation to advancing critical food literacy in Ontario schools.

Theme F1.1: School Boards - School Administration and Principal Support as a conduit for advancing EE, food education

A woman that I'm teaching has taught for 20 something years [...] she made a comment on "I had never seen the resources..." [...] that are supposed to be widely available for teachers to use like Natural Curiosities or the Taking Action, Shaping Tomorrow document, or any of the policy documents for integrating environmental education [...] She said, a lot of the time [in her experience] the principals get so many documents [...] that they filter them before handing them off, [...] She thought maybe the principals [she's] been in contact with haven't thought this is necessary so they haven't pass this along [...] they pass along what they want their schools vision to be. ~ Melody, active elementary teacher, experience training pre-service teachers, PhD student

I think principals [are the ones that need to know about the affordability of school gardens] [...], they're the ones making most of those decisions. It's not expensive to do the bare minimum and the bare minimum has a huge impact. [...] There are principal meetings that happen [...] but they tend to be about budgets and policies [...] so I guess often times they might not see themselves who can make those decisions, but that they're more administrative. ~ Alissa, Coordinator - Parkdale Food Centre, GUO Liaison, Ottawa

A related theme, that also in part explains the gap between policy and practice, is that Board-level expectations cycle through different trends and lack in accountability and evaluative mechanisms. This is important to attend to, since critical food literacy education and EE will benefit from each of these things- as they require value as core universally relevant subjects for school-based learning. Superintendents and Principals can plan a role in addressing accountability through in-practice implementation support and evaluation.

Theme F1.2: School Boards - Teacher-level pressures due to changing Ministry and board educational trends and the need for greater practice-based follow-up

...Terms are always changing and the language. Teachers always talk about that and complain that there are all these board initiatives that happen, "oh this is the big philosophy right now, so we're going to move towards doing math this way, or science this way and we want everybody on board". You work really hard doing extra stuff [...], sometimes you get classroom time to work on that and then the following year it's a new idea, and they've sort of dropped whatever you were doing the previous year and there's no follow up, of "well how did that work out", or [...] "was it worth it or was it a waste of time?" The older teachers I hear complain a lot about that "like oh my god we've already done that, the cycles gone around 3 times already since I've been teaching". ~ 'Bridey', Active Elementary School Teacher, Ontario

Process [is] if they want to teach you something new, say it's coming from higher up, the directors, they bring it down to the Superintendents, [they] will make a meeting with all the principals at their family of schools. Maybe will say can you talk about it with all their staff [at a PD day]. Might do it just one day, if it's something that they want changed, they tick it off and don't do any follow up, don't make sure it's in the classroom. ~ Cassandra, active high school teacher - (Art, nutrition, garden-based learning, naturalism)

Redesign Goal F: Ontario School Boards align with Ministry Redesign Goal G, including embedded multi-level training, external partnerships, resources and funding initiatives which support education for critical food literacy

Site for Change G: The Ministry of Education

Chapter Five presented an argument for CFL as the framework in greatest alignment with a suite of Ministry of Education goals. However, despite equity-oriented concepts, expectations and goals across policy there remains a discomfort for many teachers to facilitate learning capable of disrupting the status quo. Data to support this site for change offers insight which illuminates the gap between policy and practice, and provides strategies for change which would resonate across all sites listed above and the entire school the system.

Theme G1.1: Ministry - A gap between education policy statements and practices on the ground

There have been many quotes in sections above which support this theme, but the following quote is a particularly troublesome example:

“...I didn't have anyone, [that knew about Acting Today, Shaping Tomorrow (2009) in the 13 teacher trainees interviewed] ...and these are people that are more situated in [matters of] the environment in the university in general, and people are like [...] why didn't anyone tell me? [...] [EE is] on their radar it's something they're interested in, they're eager to find ways to pass this on to their students and incorporate it into their teaching [...] and nobody had heard of this. ~ Melody, active elementary teacher, experience training pre-service teachers, PhD student

The same participant suggested that teacher candidates may have preconceived notions about the values-based issues inherent in teaching EE:

A lot of [teacher candidates] haven't personally come across somebody that says you're not allowed to talk to students about these issue, but they're already afraid of talking to students about these kinds of issues. [...] They don't want to seem controversial, they don't want to rock

the boat, [...] some of them will say to me “teachers are supposed to be apolitical and the environment is very political, so I can't bring up anything that that has to do with the environment”. ~ Melody, Active Elementary Teacher, experience training pre-service teachers, PhD student, Ontario

Theme G1.2: Ministry - Strategies for Addressing the Gap Between Policy and Teaching Practice: Information Delivery for better implementation

Implementation strategies frequently come up in the literature as a factors that are overlooked in planning and policy strategy. The following quotes represents examples of EOs taking on some of this work, which supports recommendations for funded, sustainable partnerships between the school system and EOs.

[A colleague and I] did a lot of work to synthesize the [Quebec Education Plan] into a one sheet. To create an access point. The coolest thing [my colleague taught me], was that it's so simple, it's all about information delivery. If you give someone a 200 page brick they're not going to actually read it, but if you deliver an entry point and they research more into it, that's super important [...] I think the interesting thing is helping teachers understand what they were doing before and how to translate that to the new guideline, how to add to what they were doing to fulfill, rather than have to change their whole approach. ~ Katie, Mikw Chiyâm Program Director, Artist, Art Educator, Consultant, Quebec

Participants gave other insights into strategies for supporting smoother implementation of food and EE in schools, that the Ministry should become attuned to. One idea, that is happening to an extent, is to form stronger interdepartmental relationships between EE and Education faculties in Universities:

[University] departments can sometimes be very siloed,...[people think] it's too much paperwork to have people traipsing all about the university taking things in different departments - but it's like, if there is already a course that exists...you could even have a process where [a faculty related to environmental studies] and a faculty of education work together...that really wouldn't be that difficult. ~ Melody, active elementary teacher, experience training pre-service teachers, PhD student

Several participants spoke about the value of modelling EE and food education in situ, stressing the importance of “next steps” in the implementation process:

We need the models, the best way to do it is to say we need curriculum for [EE/food ed.], which is equally important as math, as science, as art, as English...and we have people specifically trained to teach it. To say that a math teacher has to teach it is beautiful, but it is not working. It's not in their heart, [...] if it's not [...] in their passion or familiarity or comfort level, they're

not going to go there. [...] ~ 'Cassandra', Active High School Teacher - (Visual Art Ed., nutrition, garden-based learning, naturalism), Ontario

It's always that next step [that's missing]. You [...] go to these meetings and you're given all these resources, fairly quickly, [but there's] not so much modelling...you know, you're in a room, and then you go home. It's funny, it takes a lot of energy to do that next step I think for most teachers. So you need, somehow, a small group and a trainer. ~ 'Robert', Retired Alternative School Teacher, Ontario

In keeping with a quote above about education reflecting the priorities of learners, the following quote identifies the importance of this for both teachers and students as learners:

The person [running PD teacher training] needs to understand the context in which they're teaching it in. [...] I spoke the teacher language, but then also spoke an alternative language of how to do experiential learning, how to decentralize, how to give students a chance. That's the weirdest thing, teachers won't take anything unless they know exactly how to apply it to the context that they're in and how to justify it to other teachers. [...]..if you just give them examples of how they can use something but they can't justify it to sell it, in a sense, they won't do it. It's too much work. It's taking away that mental work that make it more likely they will incorporate it. ~ Katie, Mikw Chiyâm Program Director, Artist, Art Educator, Consultant, Quebec

Redesign Goal G: Core concepts for embedding education for critical food literacy are completely integrated into operational activities at the Ministry level: Equity in education, EE, Critical pedagogies, SDoH education, food 'classroom' infrastructure, practice-based teacher training and PD, curriculum, administrative support, sustainable food and environmental practices, Universal snack programs

Chapter Seven: ESR Recommendations

The next chapter will make recommendations for the seven sites for change using an efficiency-substitution-redesign framework (ESR). The author recognizes that there is much overlap and interconnection between sites and that the impacts of any one proposed change process may have ripple effects, and may be helped or be hindered by the nature of change happening at other sites/levels of the school system. Sites for change A and B have been expressed as one section, as they are particularly inter-related. At the beginning of each section, the site for change will be named and the redesign goal will be restated. Below each redesign

goal are efficiency⁷ and then substitution⁸-level recommendations related specifically to each site. These are designed to take the reader through staged transitions which illustrate several processes that ultimately support the the redesign⁹ goal. The recommendations are by no means exhaustive, it is hoped they may offer some foundations for future work to build upon. Lastly, embedded links provide more depth by making connections to online resources and some additional documents written by the author.

Sites for Change A/B: Staged Recommendations Related to Teacher Education for Advancing Critical Food Literacy In Ontario Schools

Redesign Goal A: Critical literacy is embedded across the school system and evenly distributed across all subjects. Education for critical food literacy is a addressed and modelled in pre-service teacher training and professional development, enabling critical food literacy in Ontario learners.

&

Redesign Goal B: All Ontario Curriculum explicitly supports connections to education for critical food literacy as a component of EE which is reflected at all levels of teacher training

Efficiency Level Recommendation 1A/B

Promote learning opportunities to pre-service and active teachers related to EE, food education and critical pedagogy as a means for developing critical food literacy (CFL)

Action Level:

Pre-service & Active Ontario Teachers; Teachers’ Colleges; External Organizations; Food Champions

In order to support a wider understanding of food education, EE, critical literacy and pedagogies on the part of teachers, and to encourage the incorporation of the above into teaching practice, Pre-service Ontario student-teachers might more frequently select courses which complement education for critical food literacy as electives, or towards a research component of a teaching degree. Many such

⁷ **The Efficiency Stage:** Considering the learning that has accompanied this major paper, what “minor changes to existing practices” will support the research question and prepare a site for future change? (MacRae et al., 2012, p.10)

⁸ **The Substitution Stage:** Considering the learning that has accompanied this major paper, what practices, activities and policies can be rolled out in relation to each site for change to replace or laterally compete with those which inhibit critical food literacy from becoming a more integral component of Ontario’s public education system? (2012)

⁹ **The Redesign Stage:** Considering the learning that has accompanied this major paper, what are the defined long-term goals for each site for change that support the research question?

courses already exist within faculties of education and environmental departments of either home or neighbouring Universities. Some Toronto-based examples are compiled below in a user-friendly digital format.

[University courses for pre-service and active teachers related to EE, food education and critical pedagogy as a means for developing critical food literacy](#)

Many additional teacher training opportunities such as EE, food and equity-focused conferences, workshops, online courses, outdoor-based training and volunteer opportunities exist which could act to support both new and active teachers in bringing education for critical food literacy into practice.

For successful implementation of the above recommendations, the promotion of alternative learning opportunities needs to be complemented by a commitment on the part of key actors such as EE organizations, teacher associations, and teacher mentors, to fostering greater awareness, interest, and enrollment in such courses. Ontario Ecoschools, which consists of seven school boards, York University, and the Toronto and Region Conservation Authority, is well positioned to support this recommendation.

An EO opportunity which teachers may consider for deeper engagement with alternative pedagogy and mentor-based learning is to volunteer with **[The p.i.n.e project](#)**

Lastly, two infographics have been created by the author to support school system actors to conceptualize a) the multi-dimensional, multi-literacy potential of critical food literacy and b) a conceptual framework for change in relation to critical food literacy in Ontario's school system. These infographics can be found in Appendix 3.

Efficiency Level Recommendation 2A/B

Incorporate educational frameworks and instructional areas which develop critical food literacy, and engage with the supplementary document: *Opportunities for Connecting to Education for Critical Food Literacy in Environmental Education, Grades 9–12: Scope and Sequence of Expectations, 2017*

Action Level: Active Ontario Teachers; Teacher Mentors/Consultants; External Organizations; Food Champions

Active teachers, external organizations and food champions could incorporate the following educational frameworks and instructional areas across Ontario high school curriculum in order to develop critical food literacy:

- | | |
|--|---|
| <ul style="list-style-type: none">● Food regime analysis● Critical food pedagogy● The interdisciplinary nature of food studies● Environmental ethics● Feminist food studies● Food social movements● Permaculture design principles● Food policy incoherence in the Canadian context● Food policy incoherence in the school context (conduct school-based assessments of existing relationships and contracts between a given school and external companies and identify whether these help or hinder environmental sustainability and school food sovereignty) | <ul style="list-style-type: none">● Critical perspectives in food citizenship● Investigate food systems and social movements in relation to capitalism● Co-Inquiry: What does it mean to be food literate? From different definitions, problems with the concept to creating a fluid definition which accounts for a unique classroom community● Problematizing ethical consumerism● Indigenous perspectives in food studies● Social Determinants of Health● Food Justice |
|--|---|

Curriculum Tie-ins for Education for Critical Food Literacy

A supplementary curriculum document¹⁰ has been created by the author and embedded here as a component of this major paper called: [*Opportunities for Connecting to Education for Critical Food Literacy in Environmental Education, Grades 9–12: Scope and Sequence of Expectations, 2017.*](#)

¹⁰ Disclaimer: The views and opinions expressed in this document are those of the authors and do not necessarily reflect the official policy or position of the Ministry of Education

This document is intended to highlight apertures of immediate opportunity to advance education for critical food literacy in Ontario classrooms. The document draws upon the Ontario Ministry’s [*Environmental Education, Grades 9–12: Scope and Sequence of Expectations, 2017*](#), a resource designed to support teachers to make connections to EE across the curriculum. From the Ministry document, instances of the word “food” were highlighted in order to demonstrate the many vectors at which EE and food education intersect.

Ministry Document Findings

Many significant links to food and food systems were found across 40 courses at the high school level. Numerous teaching and student prompts were found to be critically oriented, including those which invite learners to think about structural barriers which prohibit socio-environmental change or greater equity, highlight ecological and economic tensions related to the dominant food system, and emphasize the importance of diverse perspectives related to food systems.

In addition to highlighting courses with food content, the author’s supplementary document begins with a preamble which includes an explanation of critical food literacy and its relationship to EE and a collection of resources aimed at priming the reader to engage through critical and food-systems lenses. These resources include four primers written by the author on the subjects of critical pedagogy, transformative learning, flexible workspaces, and SDoH, as well as several additional Ministry documents that support critical literacy, equity in education, and Indigenous perspectives in education.

The document represents a starting point and the author encourages scholars to engage in a deeper analysis of *Environmental Education, Grades 9-12* in order to draw out further opportunities for connecting critical literacy across Ontario curricula.

Efficiency Level Recommendation 3A/B

Problematize the concept of what it means to be food literate at the very heart of food education

Action Level: Teachers, EOs, Food Champions

Pre-service and Active Ontario Teachers; External Organizations; Food Champions

In response to critiques of the food literacy approach as deficient (Kimura, 2010; Sumner, 2013; Yamashita, 2016) and variance in teacher experience and comfortability with critical pedagogical approaches revealed in the interview data, this paper proposes a simple compass bearing which can support the rehabilitation of the food literacy approach. *Problematize the concept of what it means to be food literate at the very heart of food education.* As has been discussed, there has been increased importance placed upon social constructivism - the idea that knowledge doesn't happen in a vacuum, but is rather socially constructed. Other areas of emphasis in the school system are equity in education and Global competencies and citizenship education. Teachers and EOs could draw upon several teach tools and critical pedagogical approaches which help support learners to situate, examine and problematize expressions of food education and food 'texts'.

Use Decoding Questions

When engaging with a food 'texts' questions can be framed in a way which support a deeper, more structural investigation of the material: "*who are the authors and influencers of this text and what do they want us to know? What areas of knowledge informed the writing of this text? What information is prioritized and why? "Who is marginalized in this text? Who is empowered?"*" (Adapted from Roberge, 2013, p.2).

Giménez and Shattuck's Food System Change Framework

Giménez and Shattuck's framework can support learners to situate food texts as part of trends, discourses and orientations. This can be complemented through engagement with horizontal texts

(Yamashita, 2016) to explore counter arguments and perspectives in relation to a given subject.

Horizontal texts can support a blending of multiple critical lenses for reading the food system, such as gender, class, race and alternative food initiatives, in order to gain more structural and nuanced comprehensions.

FOOD SYSTEM CHANGE

	CORPORATE FOOD REGIME		FOOD MOVEMENTS	
Trend	Neoliberal	Reformist	Progressive	Radical
Discourse	Food enterprise	Food security	Food justice	Food sovereignty
Orientation	Corporate/global market	Development/aid	Empowerment	Entitlement/redistribution

(Holt Giménez & Shattuck, 2011)

Goldstein and Wever’s Benchmarks for Food Literacy

Goldstein and Wever’s blended Benchmarks for Food Literacy (Wever, 2015) built upon Sumner’s (2013) work to categorize different outcomes of food-based learning under Habermas’ three knowledge domains. This tool can be used by school and NGO educators to orient the goals of programming across all three knowledge domains and to design future programming. This tool can also be used by youth and teachers to evaluate the levels of food literacy acquired as part of school-based learning and to discern and track transformative learning that occurs at the critical/emancipatory level. The tool can be found in Appendix 4.

Critical Food Pedagogies and Popular Education as Toolboxes for Critical Food Literacy

Popular education is an approach which is grounded in critical pedagogy, social constructivism and anti-oppression frameworks. As a “democratic toolbox” (Catalyst Centre, 2018) popular education offers practical, creative and immediately applicable ways to develop the thinking capacities of learners who are expected to “propose solutions to, and courses of actions to address, real problems” (Ontario

Ministry of Education, 2018, p.9). Yamashita & Robinson have warned that experiential education, such as school gardening, farming and kitchen-based learning, “does not necessarily guarantee the development of critical thinking about food systems, especially if it unquestioningly touts certain food practices as being sustainable” (2016, p.271). Popular education practices facilitate knowledge through co-inquiry, for example starting with the lived experiences of food and the food system. Such participatory engagement fosters learning through critical self-examination of values and perspectives, potentially resulting in challenges to one’s belief system, and in the broadening or even transformation of perspectives. Complementing critical food pedagogy with popular education may help introduce the idea that what it means to be critically food literate is in a constant state of flux. In essence, this major paper proposes is that critical food pedagogy and popular education are grounding practices for developing critical food literacy. These practices can be drawn upon to facilitate a continuum of dialogue from the ground up, surrounding “what counts as necessary knowledge and skill in relation to food” (Kimura, 2010, p.466).

Efficiency Level Recommendation 4A/B

Advocate to strengthen the relationship between EE and critical food literacy

Action Level: EOs; Food Champions; Academic Researchers; Active Teachers; Teacher Consultants

Acknowledging food literacy as a component of EE *and* health-based education and unpacking the different frameworks related to this concept, is recommended for school stakeholders that are working to advance EE, food-based learning and nutrition initiatives in Ontario schools. With a basic understanding of the literature related to critical food literacy frameworks, it is possible for Ecoschools and other similar organizations to conceptualize food literacy as a component of EE, and to work

towards promoting it as such. Acknowledging the multidimensional nature of food literacy may help to animate a greater understanding and wider conceptualization of EE. In addition, it is recommended that stakeholders consider the role and value of critical food pedagogies as conduits for food-based learning and meeting expectations related to 21st century competencies and numerous Ministry initiatives, strategies and goals.

As an EO that is well positioned to support this task, Ecoschools is working to bring together EE curriculum and teaching resources, campaign kits, funding opportunities and school certification programs through their website. To the authors knowledge, there is presently no mention food literacy through their website, though they offer resources such as the [*Local Food Awareness and Action Campaigns*](#) kit which includes lesson plans for connecting food to the curriculum by FoodShare. Such documents would be a good location for resituating food literacy as a component of EE. Additionally, this can be highlighted as part of their work to support teachers to “[*engage in interdisciplinary environmentalism*](#)”.

This recommendation is timely because movements are being made by Ecoschools to support wider conceptualizations of EE and to include food as a lens for EE. This is demonstrable from the 2018 Ecoschools and OISE conference: [*Engaging with Ecojustice: Environmental Education and Equity in Action*](#), where two food focused workshops were available for teachers: *Neighbourhood Food Asset Mapping for Engaging Lessons & Innovative Solutions* and *Ecojustice Education through the Lens of Food*.

Join Ontario Environmental Education Association Boards and Advocate for Efforts to Support EE and CFL connections

There are immediate opportunities to influence the work of Ontario EE associations by joining boards and advocating for food and food systems education to be highlighted as a part of EE. The author

joined [Ontario Society for Environmental Education](#) board in 2018 and strategically joined the 2019 Ecolinks Conference team. In 2018, approximately 90 Ontario teachers attended the Ecolinks conference, and while much information was offered, there was no focus on food as an environmental subject. The presence of the Natural Curiosities team, whose new publication focuses on “The Importance of Indigenous Perspectives in Environmental Inquiry” (2018), was a notable as it supported critical perspectives in education. The author has advocated for additional themes at the 2019 conference in order to [invite presenter proposals](#) which focus on: Exploring food systems through environmental education, Indigenous perspectives & environmental education, and Environmental justice. Proposals supporting these themes have been received.

Efficiency Level Recommendation 5A/B
Investigate Art Teachers, Alternative School Teachers and Adult Educators
as Potential Mentors and Consultants for CFL Educators and Teacher Training Design

Action Level: External Organizations; Academic Researchers; Food Champions

As indicated in the chapter six, teachers with a background in certain areas such as art, alternative and adult education may be well positioned peer mentors who can demonstrate for more ‘conventional’ teachers in the mainstream system, what critical pedagogies look like in practice. Because such educators are already embedded in the school system, and can potentially quickly become valuable mentors and consultants for the project of advancing critical food literacy, it is the author’s recommendation that future academic research explores if and how art, adult and alternative educators (the three As) may be ideally suited as internal school system pedagogy, assessment and practice-based consultants that can advance EE, including critical food literacy.

Substitution Level Recommendation 1A/B

Strengthen interdepartmental relationships between Faculties of Education and Faculties of Environmental / Food Systems Studies at Ontario Universities

Action Level: Ontario Universities; Ontario College of Teachers; Food Champions

In order to forward the policy goals of Acting Today, Shaping Tomorrow (2007), it is widely acknowledged that further teacher education is required to support the incorporation of EE, which this paper argues should include the topic of critical food literacy. To a degree, relationships do exist at York University and University of Toronto between education and environmental faculties. However, as the following quote from the data suggests, there is more to be done:

There is one environmental education course in the department [at my home university]. But it's one course, and a lot of learners can't get it into their schedule. But other universities like the one I'm teaching at right now [a different university], [...] nothing, not one. ~ 'Melody', active elementary teacher, experience training pre-service teachers, PhD student

It is recommended that Ontario Universities facilitate stronger relationships between faculties of education and faculties of environmental studies so that learners can easily move between faculties. It is also recommended that universities create an environmental education BEd degree concentration & specialization, within which critical food studies should be included. Interdisciplinary departments, such as those focused on environmental studies, sustainable agriculture and food systems, and food security, are well situated to support education departments in the design of EE courses for BEd and MEd learners. Forming these interdepartmental relationships has the potential to increase revenue, research and funding opportunities within and between university departments. Interdepartmental university relationships can also support the work of widening the conceptualization of food and EE for teachers and school system actors, the project of situating critical food literacy as part of EE, and advance food and environmental policy coherence across a variety of sectors. Because of existing experience in facilitating EE opportunities for pre-service teachers, York University and U of T may be

explored as locations from which to elicit insight and mentoring for other Ontario universities that wish to increase interdepartmental connectivity.

Substitution Level Recommendation 2A/B

Embed key educational frameworks and instructional areas for critical food literacy in Ontario high school Specialist High-Skills Major Courses (SHSMs)

Action Level: Ontario School Boards, External Organizations; Food Champions

With the goal of promoting and strengthening the relationship between critical food literacy and EE, boards can incorporate a range of learning opportunities related to critical perspectives in food studies in Specialist High Skills Major (SHSM). For instance, the educational frameworks and instructional areas in 2 A/B can be incorporated into the following SHSMs: [SHSM - Environment](#), [SHSM - Agriculture](#), [SHSM - Horticulture and Landscaping](#), [SHSM - Health and Wellness](#). External organizations and food champions can play a role in guiding this process and promoting SHSM connections to critical food literacy components to teachers, learners and school boards.

Substitution Level Recommendation 3A/B

**Development of a part-time, funded course with the suggested title:
*The Foundations for Implementing Critical Food Education in Ontario Schools:
For Teachers, School Administration and Not-For-Profits***

Action Level: Ministry of Education; Ontario School Boards, External Organizations; Food Champions

To address multiple themes that arose in the interview data, the author recommends the creation of a course for teachers, school administrators¹¹ and not-for-profits. This could be a means through which to conceptualize the integration of education for critical food literacy at multiple levels of the school

¹¹ An additional recommendation - relevant to site for change F is that the Ontario Principals Council draws upon the themes to develop a similar condensed course for Principals as part the work they do to support professional learning in support of Ministry initiatives ([Principal Association Projects](#) (PAP)).

system. A preliminary course description and outline has been created by the author and embedded below, including suggested readings and resources. The term ‘critical food education’ is used, as this language is currently more accessible than ‘critical food literacy’.

***The Foundations for implementing critical food education in Ontario Schools:
For Teachers, school administration and not-for-profits***

Course Recipients:

Teachers of all subjects and grades, school administration, not-for-profit educators

Course Overview:

The course will be designed for teachers, school administration and not-for-profit educators. A suggestion is that it supports four main learning objectives:

- a) develop a foundational understanding of three disciplines: food studies, environmental ethics and critical food pedagogy
- b) learn about examples of critical food education in Ontario schools and explore some of the challenges to, and opportunities for implementation
- c) provide an overview of Acting Today, Shaping Tomorrow: A Framework for Environmental Education in Ontario Schools (2009), Achieving Excellence: A Renewed Vision for Education in Ontario (2014), Ontario’s Wellbeing Strategy for Education (2016) and the Indigenous Education Strategy (2018) and demonstrate how and where critical food education fits and supports these initiatives
- d) through peer to peer workshopping, participants will engage in a variety of activities in order to strategize towards implementing critical food education (or elements of it) into their teaching practice and school culture.

Substitution Level Recommendation 4A/B

Situate Education for critical food literacy as part of environmental education policy and practice in Ontario schools

Action Level: Ministry of Education; Ontario School Boards

At the substitution-level, it is recommended that a Scope and Sequences in critical food literacy document is created by the Ministry of Education. This would feature as a subcomponent of the Scope and Sequences in EE document, and could be circulated on its own. This major paper argues that it is as a component of the environmental education policy and the current trend of an expanded understanding

of environmental education that education for critical food literacy can be advanced across the curriculum at all grade levels.

Site for Change C: Staged Recommendations Related to School Infrastructure and Culture for Advancing Critical Food Literacy In Ontario

Redesign Goal C: Ontario school-wide infrastructure and culture align with Redesign Goal G¹²

Efficiency Level Recommendation 1C

Recognize EOs as valuable resources for simplified information delivery of food education implementation strategies, curriculum and policy

Action Level: Teachers; Principals; Food Champions; EOs

External organizations were discussed by many interview participants as immensely valuable for supporting the animation of food education, but were recognized by several teachers as difficult to access due to high demand. Interviews with EO representatives revealed that because programs can only be scaled out to a limited degree due to the sheer number of schools in Ontario and the unreliable nature of factors such as human resources, contracts, political terms, policy change and funding experienced by not-for-profits, marginalized schools are prioritized as targets for programming:

While garden education is fantastic for every kid, my understanding is that the kids who really benefit from it are those who don't get sufficient (support) who need more physical based learning, or struggle in the traditional classroom, at-risk youth, many different subsets. [...] it comes down to allocating scarce resources towards only specific schools and populations. ~ Carolyn, Sustain Ontario, OEEN Network.

While it is vital that resources first support kids and families that are in the greatest need, ideally, EOs would be funded, scaled out, and have the capacity to support more Ontario schools with EE and food education. This isn't currently possible for a variety of complex reasons, but in the interim, it should

¹² Redesign Goal G: Core concepts for embedding education for critical food literacy are completely integrated into operational activities at the Ministry level: Equity in education, EE, Critical pedagogies, SDoH education, food 'classroom' infrastructure, practice-based, in-context EE and education for CFL teacher support and ongoing PD, curriculum, administrative support, sustainable food and environmental practices, School food sovereignty and Universal snack programs

be recognized that many online resources have been created by EOs that can support teachers and school food champions to navigate and implement food-based learning. A few of examples to draw upon can be [found here](#).

Efficiency Level Recommendation 2C

Bring together academic evidence of the benefits of school gardens and outdoor, nature-based learning and make a case of gardens intervening with SDoH

Action Level: EOs; Academic Researchers / learners; Food Champions

EOs such as Sustain Ontario are assuming roles as advocates for getting food on the policy table, including acknowledging the absence of food in health-based initiatives and strategizing by asking questions such as “What language do we need to speak to get food on the table and into the conversation?” ~ Carolyn, Sustain Ontario, OEEN Network.

A recommendation for future researchers and EOs is to draw upon the substantive qualitative and quantitative evidence which highlights positive outcomes related to garden, outdoor, nature-based, and kitchen-based learning and build a case for how these outcomes intervene with SDoH. Further strategies which support this recommendation can be found in Section E-1D.

Substitution Level Recommendation 1C

Ensure that all schools have access to a basic kitchen, school garden, associated materials and storage, kitchen carts and art carts, and guidance for creating a positive, school-wide food culture

Action Level: Ministry of Education; School Boards; EOs; Food Champions

A substitution-level recommendation is to solve the ad hoc nature of school gardens, kitchens and food champion involvement by ensuring garden and kitchen infrastructure is part of every school. This would include Ministry and board-level guidance related to implementation as well as curriculum links and funding mechanisms aimed at supporting school food cultural activities. As will be discussed in

Section S-1F, board-level sustainable partnerships with EOs are of fundamental importance as they support the implementation of infrastructure, the scope of food-based learning, teacher training, and student engagement. From a practical point of view, funding kitchen carts can simplify the process of moving materials between classrooms and kitchens/gardens. Funding art carts with materials for collages, painting, drawing, crafting and zine-making can support the incorporation of critical pedagogies including popular education as a democratic toolbox for education for CFL.

**Site for Change D: Staged Recommendations Related to Evaluation for Advancing
Critical Food Literacy In Ontario Schools**

Redesign Goal D: An adaptable, cross-sectoral evaluative model for measuring outcome related to CFL is developed through multi-level stakeholder collaboration and incorporated across Ontario schools

Efficiency Level Recommendation 1D

Evaluate food education for a wider-range of outcomes beyond health

Action Level: EOs; Active Teachers, Academic Researchers, School-age learners

A recommendation is the design and implementation of an evaluative model for use by teachers, school administration and learners aimed at measuring how school infrastructure and culture related to food impacts a variety of developmental, behavioural and emotional outcomes. This will support the above substitution-level goal 1C. Building a clearer picture of outcomes related to food education will support future advocacy. Focusing on framing kitchen and garden-based learning as intervenors of SDoH could be a strategy for addressing a perceived need that came up in an interview, which for food networks to “to develop our language to speak more in line with ‘*what is wellbeing, and how does food literacy and outdoor education and all this lead to wellbeing?*’, as well as to guide the process of figuring out ‘what do we need to put in place to actually measure that and communicate it?’” ~ Carolyn, Sustain Ontario

Efficiency Level Recommendation 2D

Acknowledge the “Challenges of Measuring Wellbeing in Schools” (Kempf, 2018) and promote the naming of critical food literacy as the normative approach in public education by pointing to the presence of critical outcomes in Ontario education policy, as discussed in Chapter Five

Action Level: EOs, Food Champions, School Boards, Ministry of Ed.

“No one can define or measure justice, democracy, security, freedom, truth, or love. No one can define or measure any value. But if no one speaks up for them, if systems aren’t designed to produce them, if we don’t speak about them and point toward their presence or absence, they will cease to exist”. (Meadows, 2009, p.176)

Both the interview data and food literacy and EE literature suggest that better understanding the relationship between certain approaches to education and wider socio-political and environmental change is vital for future advocacy and action. Increased evidence of a causal link to such change would positively impact the perceived value of EE and food education and their roles as part of public education (Maxey and Gillmore, 2016). However, as Kempf posits in *A Review Prepared for the Ontario Teachers Federation: The Challenges of Measuring Wellbeing in Schools (2018)*:

For now—given the state of the field of measurement and given the resources available in schools—accurate and reliable measurement and interpretation of individual student wellbeing is not feasible. Even if we were to overcome these challenges with better instruments and increased resources, training, and support, it would still be impossible to measure individual wellbeing exclusively in relation to school and its effect on children. Recognizing that various situational factors impact wellbeing, a single ministry-level strategy is likely insufficient for tackling these issues (2018, p.11)

A recommendation is to continue advocating for CFL frameworks in schools. While marshalling greater evidence of how CFL relates to pro-socio-environmental outcomes will be useful in this, the non-linear nature of transformative learning makes it a more difficult outcome to document. Until further evidence is acquired, the known positive outcomes of food education including SNPs, critical literacy, garden-based education and EE can be drawn upon to make a case for CFL as supportive of Ministry of Education policy and goals, as discussed in Chapter Five.

Substitution Level Recommendation 1D

Draw upon the U.S. National Farm to School Network *Evaluation for Transformation* model to design a cross-sectoral evaluative model for Ontario schools to assess for outcomes related to EE and different food pedagogies

**Action Level: EOs; Ministry of Education; Public Health; Ontario Farms
Academic Researchers; EOs; School Boards; School-age learners, Public Health Associations**

A recommendation is for an evaluative model to be designed and launched in Ontario which accounts for the intersecting values and impacts of school-based food programming across sectors. Ideally, a cross-sectoral evaluative project will investigate a variety of food pedagogies, such as school gardens, farm to school initiatives, action-based learning and local school food networks, and establish mechanisms for assessing different levels of potential impact (e.g. individual, community, society) and correlations between pedagogies/approaches and different outcomes.

A model for Ontario to build upon which is expansive enough to include a critical food literacy framework and address some of the recommendations made as part of this ESR framework (e.g. research, policy review, food champion sustainability) is the National Farm to School Network (FTSN):

Farm to school enriches the connection communities have with local, healthy food and food producers by changing food purchasing and educational activities at schools and preschools. Farm to school activities and policies are unique to location, and can be defined in a multitude of ways. For the purposes of this evaluation framework, the core elements of farm to school activities are: 1. Procurement of local and regional food products; 2. Gardening, based at schools and preschools; and 3. Education, food and farm related. (Joshi et al., 2014)

To assess the potential for farm to school activities to have impact across four sectors, “public health, economic development, education and environmental quality”(NFTS, n.d), FTSN established “a cross-sectoral and broad, collaborative approach to evaluation and research” (n.d). Their ultimate goal is to foster “A local, equitable food system that promotes the health of the population, the economy and the environment” (n.d). In addition, FTSN has named three key areas which are required for long-term change to occur, namely “policy, movement building and capacity building” (n.d).

Further, FTSN’s evaluative framework is designed to move from [Evaluation to Transformation](#) (Joshi et al., 2014), and is committed to delivering simplified information and findings through [easy-to-digest sectoral briefs](#).

Site for Change E: Staged Recommendations Related to External Organizations for Advancing Critical Food Literacy In Ontario Schools

Redesign Goal E: Critical food literacy is the normative framework in Ontario food and EE-focused external organizational programming, EO funding is sustainable, and their influence, support and collaborative capacity is recognized as integral to Ontario schools

Efficiency Level Recommendation 1E

Acknowledge the research and literature related to critical food literacy in all future work and name narrowly-focused manifestations of food literacy as ‘components’ of CFL

Action Level: External Organizations; School Boards; Public Health; Ministry

A recommendation is that EOs and school stakeholders engaging with the concept of food literacy acknowledge and bring the the forefront of discussion the multiple frameworks for food literacy. Critical food literacy animates this understanding by demonstrating the intersectional values of food literacy and health literacy through multiple knowledge domains. The above actors can support this in part by ensuring that when “unpacking food literacy” (OPHA, 2018), frameworks which are narrowly focused, such as those aimed at developing cooking and nutrition knowledge, are referred to as *components* of education for critical food literacy.

Efficiency Level Recommendation 2E

Investigate family studies associations as allies for advancing CFL framework in Ontario Schools

Action Level - EOs; Academic Researchers

A recommendation is to engage with family studies (FS) associations to discuss their views on critical food literacy frameworks and using critical food pedagogy to support FS curriculum. It would be insightful to also discuss their position on strengthening ties between EE and CFL. Alicia Martin’s case study (2018) found evidence of FS (and hospitality and tourism) teachers who incorporate “agrifood systems and sustainability as key integral elements of discussion in their programming” (Martin, 2018, p. 75). A precedent exists, yet more research is required to explore the potential of FS teachers and teaching associations as critical food literacy champions.

Substitution Level Recommendation 1E

Establish discursive spaces for explicitly unpacking and advocating for *critical* food literacy

Action Level

External Organizations; Food Champions; Academic Researchers, school-age youth

Building upon efficiency recommendation 1E, a recommendation is to establish intersectional and interdisciplinary working groups and conferences between state and non-state actors to create discursive spaces within which to address the tensions between liberal vs. critical food literacy frameworks. Such participatory work can tease out the development of a more fluid and critical understanding of food literacy. Pointing to Ontario education policy related to critical outcomes can be used to advance the argument for critical food literacy as the normative framework in Ontario schools. Creating explicit discursive space for CFL can help establish a clearer picture of what it looks like in practice, across different sectors of society and government. Lastly, opening up more space to engage with the tensions

between food literacy frameworks can facilitate the creation of mechanisms for ongoing review, cross-sectoral evaluation, and greater policy alignment.

Site for Change F: Staged Recommendations Related to School Boards for Advancing Critical Food Literacy In Ontario Schools

Redesign Goal F: Ontario School Boards align with Ministry Redesign Goal G, including embedded multi-level training, external partnerships, resources and funding initiatives which support education for critical food literacy

Efficiency Level Recommendation 1F

Invite Ontario learners from critically-oriented school food programs to introduce their experiences at principals' meetings and PD days for teachers as part of the Ministry's Student Voice Initiative (SVI)

Action Level: Ministry; School Boards; School-age learners

Themes in the interview data, critical food literacy literature, and the theoretical frameworks which underlie this paper all point to the importance of attuning a food literacy framework to the voices and contexts of the learners, rather to the dominant economic and political influences of society. As discussed in Chapter Five, The Ontario Ministry of Education established the Student Voice Initiative in 2008 which strives to incorporate student-led learning and research into Ontario schools. A recommendation is for critically-oriented food and garden-focused student voice initiative projects to be identified and students involved in these or other related external programs, such as Sustain Ontario and FoodShare's *The Growing Out: Evaluation and Impact Youth-Grown Tools project* (Collaboration Session at Bring Food Home, 2017) be given the opportunity to speak about these initiatives at a principals' meeting and teacher PD days.

Efficiency Level Recommendation 2F

Support teachers to use discretion and make connections to food, food systems and pathways to action

Action Level: Principals; Principals Associations; School Boards; EOs; Food Champions

Curriculum documents, which incorporate teaching prompts and examples as guides explicitly give agency to teachers:

Both [prompts and examples] are intended as suggestions for teachers rather than as exhaustive or mandatory lists. Teachers can choose to use the examples and prompts that are appropriate for their classrooms, or they may develop their own approaches that reflect a similar level of complexity. Whatever the specific ways in which the requirements outlined in the expectations are implemented in the classroom, they must, wherever possible, be inclusive and reflect the diversity of the student population and the population of the province (Ministry of Education, 2013, p.20).

Principals should remain consistently aware of their role in shaping school culture and ensure that teachers are supported to exercise discretion and build upon the curriculum by making connections to subjects such as food, while also meeting curricular expectations. It is recommended that principals explicitly support the incorporation of food examples and prompts across subjects. One approach to this would be to demonstrate how CFL components fit within EE. Connections to food, food systems and pathways for action could address EE policy and Ministry goals related to equity, health and wellbeing, and actively engaged citizenship.

Substitution Level Recommendation 1F

Establish sustainable, funded partnerships between school boards and external organizations to support the delivery of education for critical food literacy across the school system, support teachers, perform evaluation and guide policy revision

Action Level: Ministry; School Boards; Principals; EOs; Parent Councils

Several interviewees identified the issue of new educational concepts and subjects, laid on by the Ministry or school boards, often lacking support related to next steps. This was used to explain the ad hoc nature of EE. Teachers may therefore benefit from additional support related to how to actually put such

concepts and pedagogies into practice. Ideally, EE and critical food education consultant positions would be created to support teachers in this, but as a more immediately feasible option it is recommended that school boards explore funded relationships with food-focused EOs to support in-school EE, garden, kitchen and critical food literacy programming. Successful models include the OCDSB¹³ and [GUO](#) in Ottawa, as well as the Vancouver School Board’s relationships with [Fresh Roots Farms](#). In addition to supporting a wide variety of curriculum-aligned, food-focused programming, such formal partnerships contribute to funding security, which empowers EOs to establish trust and rapport with administration, teaching staff and learners over longer periods of time and model the possibilities for food education in-context. This stronger relationship further allows EO programming to better address a school community’s unique needs, interests, priorities, available infrastructure and funding, and to strategically address school board goals.

Site for Change G: Staged Recommendations Related to Ministry of Education for Advancing Critical Food Literacy In Ontario Schools

Redesign Goal G: Core concepts for embedding education for critical food literacy are completely integrated into operational activities at the Ministry level: Equity in education, EE, Critical pedagogies, SDoH education, food ‘classroom’ infrastructure, practice-based, in-context EE and education for CFL teacher support and ongoing PD, curriculum, administrative support, sustainable food and environmental practices, school food sovereignty and Universal snack programs

Efficiency Level Recommendation 1G

Acquire official acknowledgement that CFL aligns with Ontario Ministry of Education Policy

Action Level: Ministry of Education

A requirement for advancing CFL in education is for the Ministry of Education to select and adopt a definition of food literacy that is in alignment with its goals. Presenting a unique opportunity for the promotion of critical pedagogy, The Ontario Ministry of Education is currently in the process of

¹³ Ottawa Carleton District School Board.

operationalizing equity in education and environmental responsibility and sustainability across the school system. Unfortunately, as has been demonstrated, there is often a gap between policy statements and actual teaching practices, but immediate leverage points towards closing this gap exist. First, “we [...] need to understand and establish what food literacy is or could be, what the goals of food education are, and if these align” (Wever, 2015, p.35). Based on the policy statements highlighted across this paper, this major paper argues that the framework most aligned with the Ministry’s goals is that of critical food literacy, and as such it should be explicitly adopted as official policy. To conclude, a quote by Katie German, Director of Programs at FoodShare further illustrates the importance of the critical component of food education:

If you don't investigate [food injustice] and work to dismantle it then there's a good chance that food literacy programs that don't consider inequity are just replicating them. I think that there's a lot of food literacy work, that if it's not critical of itself, goes into schools and replicates a dominant white lens on food education. If your not thinking about it, you're probably entrenched in it, even if that's very far from your objective.

Efficiency Level Recommendation 2G

Incorporate learning about SDoH across curriculum and as part of teachers’ training

Action Level: Ministry of Education

This major paper argues that in order to address equity in education and support critical food literacy as an integral component of Ontario education, all actors within the school system should have understand the language of SDoH, including teachers and learners. Because SDoH are already mentioned in the preamble to curriculum documents, the next step is to facilitate practical support to help teachers understand how to frame issues and lessons using SDoH. Learning about SDoH can be incorporated as part of EE and Canadian and World studies curriculum, for instance. Social and environmental issues unpacked through critical food pedagogy can offer another set of pathways into SDoH learning. In embedding SDoH comprehension across the school system, the Ministry can increase its role as an intervenor in SDoH, and

augment positive pathways to health for all learners. Positive developmental and socio-emotional outcomes related to school gardens, farm-to-school programs, health literacy, school nutrition programs and experiential and action-based learning related to food should be considered for their role in reshaping the social determinants that lead to poor health outcomes.

Substitution Level Recommendation 1G

Close the gap between policy and practice by naming and supporting the incorporation of critical pedagogies (to address multiple Ministry goals, 21st Century competencies, and EE implementation)

Action Level: Ministry of Education

A recommendation is that the Ministry incorporates [existing monographs related to critical education](#), as well as discussion related to critical pedagogies throughout future curricula and Ministry initiative documents. These could also be promoted as part of formal and informal teacher education. This major paper argues that policy which speaks to the value of greater equity, access, and opportunity for all in the education system can not afford to obscure the pedagogical vehicles through which this can be addressed. There are missed opportunities to name critical pedagogies as means for achieving critical outcomes at ideal junctures within existent Ministry policy documents, such as *Acting Today, Shaping Tomorrow* (2009) and *Achieving Excellence* (2014). This appears to be an instance of cognitive dissonance with in the system, a dissonance that may stem from “the Gap Between Critical Pedagogy and Liberal Academic Approaches to Global Education” (2013, p.1), a phenomenon addressed by O’Sullivan and Smaller, discussed in Chapter Two. The Ministry’s policy statements clearly indicate that it aims to produce learners who are critically aware and actively engaged members of society. On the ground, however, it has cultivated pedagogues who are more liberal than critical. To connect the relevance of this recommendation to a current opportunity, in the “Ensuring Equity” section of the Ministry’s website (2018), one of the key

components: *School and classroom practices* announces that the following progress has been made (website updated March, 2018):

The ministry is working with 13 school board teams to support the implementation of **Culturally Responsive and Relevant Pedagogy (CRRP)** initiatives that aims to ensure more students feel reflected in their learning. These initiatives are intended to address equity issues that are a priority at the local level. A further 12 school boards are on a waiting list to engage in CRRP initiatives during the 2018/19 school year. (Ontario Ministry Of Education, 2018)

Concluding Remarks

This major paper joins a significant body of scholarship in calling for a more critical, participatory, and expansive form of food literacy that is necessary to address the increasingly complex and crisis-ridden landscape of our food system. This prescription extends to the context of Ontario's education system; if the Ontario Ministry of Education is to truly act on its commitment to ensuring meaningful equity, it must move beyond the individualist approaches to food education, and indeed all forms of education, which fail to challenge the status quo, prioritizing instead learning approaches which facilitate a wide, critical, ecological, and structural understanding of the world.

While such a radical shift won't happen overnight, apertures of opportunity for planting the seeds of change abound. Ontario's school system already acknowledges the fact that learning related to the environment and food is central to the development, health and wellbeing of learners, and to the future viability of our world. Ontario schools are committed to the nourishment, equity and critical capacities of their constituents, promising to facilitate the necessary competencies for engaging with an increasingly globalized and interconnected world in a solutions-oriented way.

This major paper proposes that in the context of Ontario's education system, food, engaged with through a critical lens, can be used to build upon the curriculum, address the goals of education, and act as a connective tissue for closing the gaps between policy and practice. The author hopes that the recommendations made here offer a preliminary scaffolding for implementing the change necessary to close these gaps by offering insight into change processes which hold the potential to create an equitable, sustainable and just food system for all.

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Appendix 1

Semi Structured Interview Questions

Theme	Questions
Ice breakers / personal stories (Ind)	<p>Please begin by telling me a bit about your classroom and what you're most excited about accomplishing this year with your students.</p> <p>In your wildest dreams, what do you imagine food-based education can look like in the mainstream system?</p>
Food Literacy definitions (Ind)	<p>Can you describe what you understand food literacy to be?</p> <p>Do you think that most teachers, external organizations, parents etc understand food literacy as covering the scope of what you just included?</p> <p>OR</p> <p>Do you think that the scope of what it means to be food literate could be widened? (in terms of the subjects, socio-economic and political ground that food can relate to)</p>
Food Literacy Experience (Ind)	<p>Have you had experience in leading food literacy / food-based education in your classrooms?</p> <p>- <i>Prompt: Did you see any changes in behaviour / attitudes? Experience this yourself?</i></p> <p>What are the top three things that would support <u>you</u> to be able to do more food-based learning in your classroom?</p>
School boards: Curriculum connections / change / teachers as individual agents (Ind, School, SB, Ministry)	<p>What curriculum links to food are being made at your institution?</p> <p>Do you think that it is important that we teach a clearly defined food literacy in schools? Why / Why not?</p> <p>- <i>Prompt: Should food literacy be a mandatory part of the curriculum? Why? Why not?</i></p> <p>What are the possibilities for food education to connect to a diverse student base?</p> <p>Do you know of any progressive schools or school boards that have successfully integrated food literacy into their curriculum?</p> <p>Does the board provide any resources related to curriculum innovation and critical learning strategies that can be applied to the environmental and food studies?</p> <p>What do you understand the process of making curriculum changes to be?</p>
Teacher Training / Critical Education: (Doing) Critical Education (Ind, School, SB, Ministry)	<p>Did you go to teacher's college?</p> <p>Was critical education taught to you in teacher's college?</p> <p>In teacher's college did any of the courses connect to food education?</p> <p>Did this support you to feel comfortable leading food-based education?</p> <p>How equipped do you think your peer-teachers generally feel leading food related lessons?</p> <p>Have you taken any Additional Qualifications (AQs) that have supported you to teach environmental education and food literacy?</p>

	<p>What do you think are the best pedagogical methods for teaching food literacy to students? Prompts: How can alternative educational approaches be used to support food literacy?</p> <p>Have you any experience with popular education? What do you think about the intersection of popular education and food literacy? <i>Prompt: Do you incorporate environmental education, place-based learning or popular education in your teaching approach?</i></p> <p>If critical pedagogies are used: Have there been any challenges related to incorporating these pedagogies in your classrooms?</p> <p>When it comes to food literacy, how do you decide what topics and level of analysis meet the students needs in a classroom? - <i>Prompt: is the level of analysis intended to produce individual, analytical skills, to spin further out to include learning about diverse perspectives, knowledge systems and relationships to food, or to examine the global context of food and food crisis and invite students to imagine solutions</i></p> <p>Over your teaching career has anything changed in the school system that has supported you to teach using more critical pedagogies?</p> <p>Have you witnessed any changes from the board, or at another another level of the education system over the years you've been teaching - that critical pedagogical approaches were recognized as valuable or even promoted?</p> <p>Do you know of any schools where critical education is applied evenly across all subjects?</p> <p>How do you account for diversity in your classrooms?</p> <p>What advice can you offer to teachers to support them to teach in diverse classrooms?</p>
<p>School System: Realistic goals / time management / rewards & challenges of being a teacher</p>	<p>Besides being accountable to the curriculum and to your school principal to some degree, do you feel like you have free agency as a teacher? Can you design as you go? What do you need to do more of this? What do your colleagues need in this regard?</p> <p>To what extent do you feel like the school system has allowed you to flourish as a teacher?</p> <p>Has the structure of the school system allowed you to uphold your ideal teaching values, principles and approaches?</p>
<p>School Structure and activities: (Ind, School, Community)</p>	<p>In your school, what are the possibilities for incorporating participatory, food - based learning, both as its own subject and as a means to engage with other subjects?</p> <p>Do you know of any teachers or community champions currently advocating for food literacy at your school? If yes, do you know anything about their process?</p>

<p>Networking / lateral learning strategies (Ind, School, SB, Ministry)</p>	<p>What educational opportunities for teachers about food literacy programming do you know about?</p> <p>Have you ever encountered any formally organized teacher to teacher, lateral learning networks? Time commitments aside, what do you imagine the impact of this could be?</p> <p>https://www.youtube.com/watch?v=Sb4DwDhUm2s http://www.meas-extension.org/meas-offers/program-evaluation/farmer-to-farmer</p>
<p>External Organizations / partnerships (Ind, School, SB, Ministry)</p>	<p>Do you work with any external organizations that engage you or your students in food literacy? If so, which ones?</p> <p>Do you have any ideas about how external organizations can do more to support food literacy in mainstream education?</p> <p>How do you think that schools and school boards perceive external organizations that are fulfilling program needs related to food education? - <i>Prompt: Do you think they could be perceived as a sufficient long-term civil society solution to food literacy in education by boards?</i></p> <p>What role do you think external organizations are playing in the change process towards advancing food literacy in education? Is there any hope for significant change within the boards?</p> <p>How do you get your information about what is happening across Ontario, related to food - based learning?</p>
<p>School Boards: Policy</p>	<p>Do you know of any progressive schools or school boards that have successfully integrated food policies (aside from the food and beverage policy)? - <i>Prompt: What school boards are modelling healthy food environments?</i></p> <p>Do you know of any policy that we can point to, that could support the development of food literacy policy?</p> <p>Where do opportunities for change currently exist within school boards? - <i>Prompt: How can teachers and food champions be supported to understand how to connect the dots and harness such momentum?</i></p> <p>Do you think that the way forward is to continue to insert opportunities for food literacy ad-hoc, via external organizational partnerships and civil society solutions, and hope that culture and program sustainability grows around these opportunities? Is this a better approach than trying to enact structural change?</p> <p><i>If not addressed: From your perspective, how are Ontario school boards currently helping the advancement of food literacy? From your perspective, how are Ontario school boards currently hindering the advancement of food literacy?</i></p>
<p>School boards: Funding (SB, Ministry)</p>	<p>Have you come across any available funding that could be used to support food literacy programming?</p>
<p>School Board: Assessment models - what exists and dreaming big</p>	<p>To what degree do you have freedom to use different assessment / adapt assessment models in alternative schools? What does that look like?</p> <p>In your opinion, do assessment models need to be redesigned to accommodate the critical capacity of subjects?</p>

<p>(Ind, school & community advocacy; SB, Ministry)</p>	<p>What might this look like?</p> <p>If you had more time would you change assessment models to be better accommodate different learning styles and individual strengths?</p> <p>What do you think about participatory forms of assessment? Can students become a bigger part of the assessment process?</p> <p>Do you ever invite students to choose the medium through which they express their knowledge through assignments? Have students been receptive to this? <i>Prompt: such as art-based, performance based, audio based assignments.</i></p> <p>If yes, how do you efficiently mark and grade assignments when they are submitted through a variety of different mediums?</p>
<p>Change / advocacy (Ind, School, SB, Ministry)</p>	<p>What do you understand to be the key sites for change that could support food literacy to become structurally supported in mainstream education? (i.e. teachers education, policy, funding, school structure, etc.)</p> <p>Why do you think that food literacy should be a priority for school boards?</p>

Appendix 2: Summary of participant characteristics related to this MRP

Main categories:

 = Ontario and/or QC school system teacher

 = External org. / engages with schools & teachers

 = University level instructor and/or researcher

Participant Characteristics									
	Teacher in ON	Teacher in QC	Teacher Training Cert.	Ext. Food Org Rep	Experience working / teaching from a critical orientation	Experience supporting Indigenous Education	Food, garden, naturalist, EE teacher exp.	Visual Arts teacher/ teacher training	Active Academic Research area
P1	X Active Ontario high school teacher <i>Wasaho Ed. Authority</i>	X	X Art Edu.		X	X	X food, EE	X	
P2	X Active Ontario elementary teacher		X				X EE, naturalist		
P3	X Active Ontario high school teacher		X Art Edu,		X	X	X EE, naturalist, food, garden	X	
P4	X Active Ontario elementary teacher		X		X		X EE		X PhD: Ontario teacher candidates and EE exp

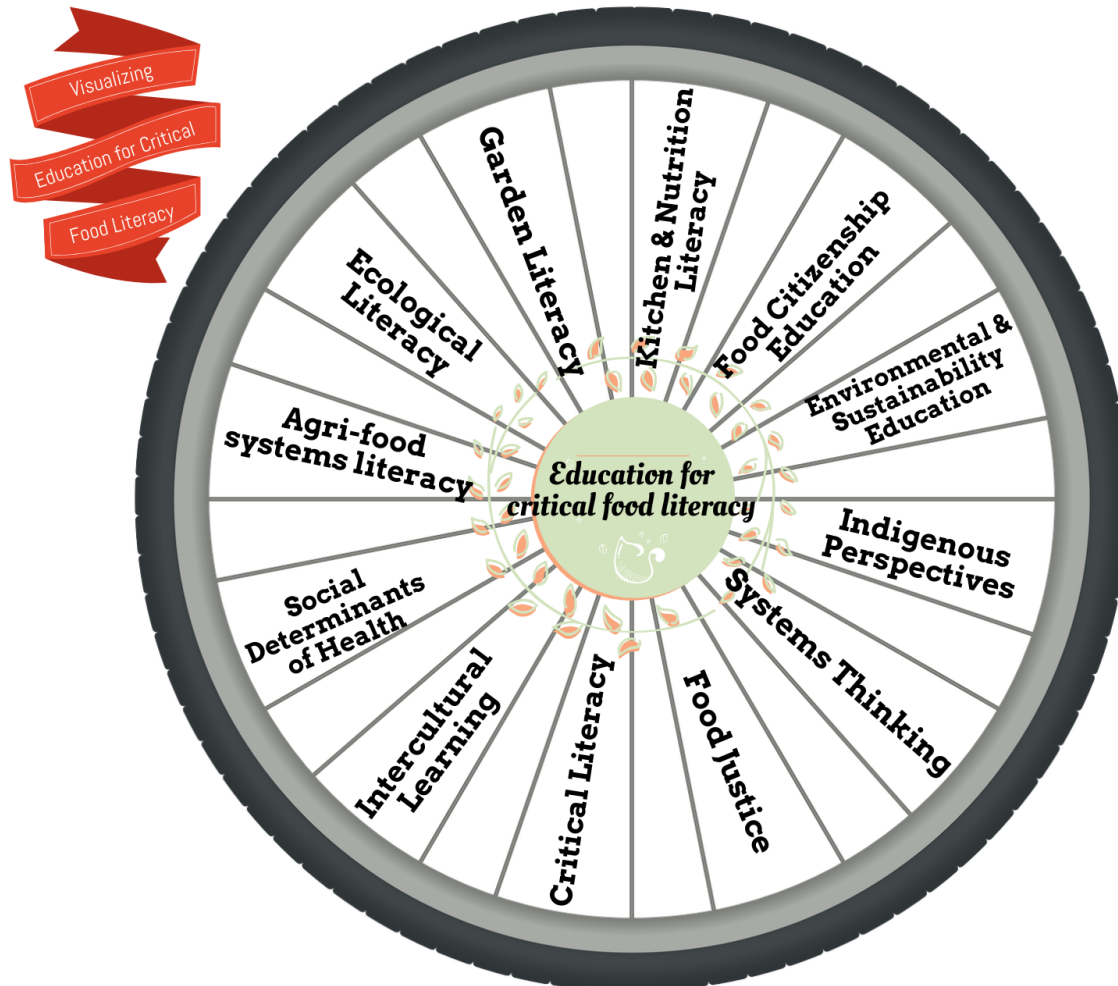
	Teacher in ON	Teac-her in QC	Teacher Training Cert.	Ext. Org Rep	Experience working / teaching for critical literacy	Experience supporting Indigenous Education	Food, garden, naturalist, EE teacher exp.	Visual Arts teacher/teacher training	Active Academic Research area
P5	X Active Ontario high school teacher; Ont. Curri. Dev.		X		X		X food		
P6	X Retired Ontario high school teacher		X		X		X EE, food, naturalist, garden		
P7			X Adult ed. & comm. dev.	X food-based	X		X food		
P8				X food-based	X		X EE, food, naturalist, garden		
P9				X food-based	X		X food, garden		
P10	X Non-active Ontario teacher		X	X food-based	X		X food, garden		

	Teacher in ON	Teac-her in QC	Teacher Training Cert.	Ext. Org Rep	Experience working / teaching from a critical orientation	Experience supporting Indigenous Education	Food, garden, naturalist,EE teacher exp.	Visual Arts teacher/teacher training	Active Academic Research area
P 11			X Art & Community Edu	X art-based	X	X		X	
P 12	X Univ. level teacher - Adult ed. & comm. dev.				X		food, EE, garden		X Adult ed., critical ped., critical food studies, civil commons

Appendix 3 a) Infographic for school system actors

Education for critical food literacy (CFL)

Food is both a vehicle and a subject for learning (Wever, 2015). 'Food literacy' is comprised of multiple literacies and domains of knowledge (Sumner, 2013). As part of environmental education policy in Ontario, critical perspectives related to food & food systems can be incorporated across the curriculum at all grade levels. Facilitating critical food literacy through co-inquiry with students can foster tolerance, compassion, diverse perspectives and solution-oriented thinking which support Ontario's goal of 'equity in education' (MOE, 2014). Scholars suggest that facilitating 'food literacy' that moves beyond individual and functional learning towards intercultural, critical and action-based engagement has potential to impact families, communities and society by inviting students to explore avenues for creating a food system that supports all people.



Food literacy is the ability to “read the world” in terms of food, thereby recreating it and remaking ourselves. It involves a full-cycle understanding of food—where it is grown, how it is produced, who benefits and who loses when it is purchased, who can access it (and who can't), and where it goes when we are finished with it. It includes an appreciation of the cultural significance of food, the capacity to prepare healthy meals and make healthy decisions, and the recognition of the environmental, social, economic, cultural, and political implications of those decisions.
- Jennifer Sumner, 2013

Appendix 3 b) Infographic for school system actors

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Education for critical food literacy (EfCFL) A conceptual framework for change

"Originating from the Haudenosaunee (Iroquois) 'people of the longhouse' or Six Nations (Six Iroquois nations all living together: Mohawk, Cayuga, Onondaga, Oneida, Seneca and Tuscarora), the Three-Sisters Garden is meant to embrace community and the many purposes and inherent goodness of plant life. The long and short of it is this: the beans, corn and squash represent three very different Indigenous sisters with their own unique capabilities and healing properties — 'sustainers of life' who love one another and their community very much. They need to stick together and support/help one another in order to thrive. Their gifts are meant to benefit, sustain and help grow their community too." (Mills, 2017)

The three sisters agricultural model has been used to represent the relationships between the understood ingredients for change for advancing education for critical food literacy, as discussed in this FES major paper/project.

Component Characteristics

Corn: Central Pillar - Needs to grow in order to support the area requiring change

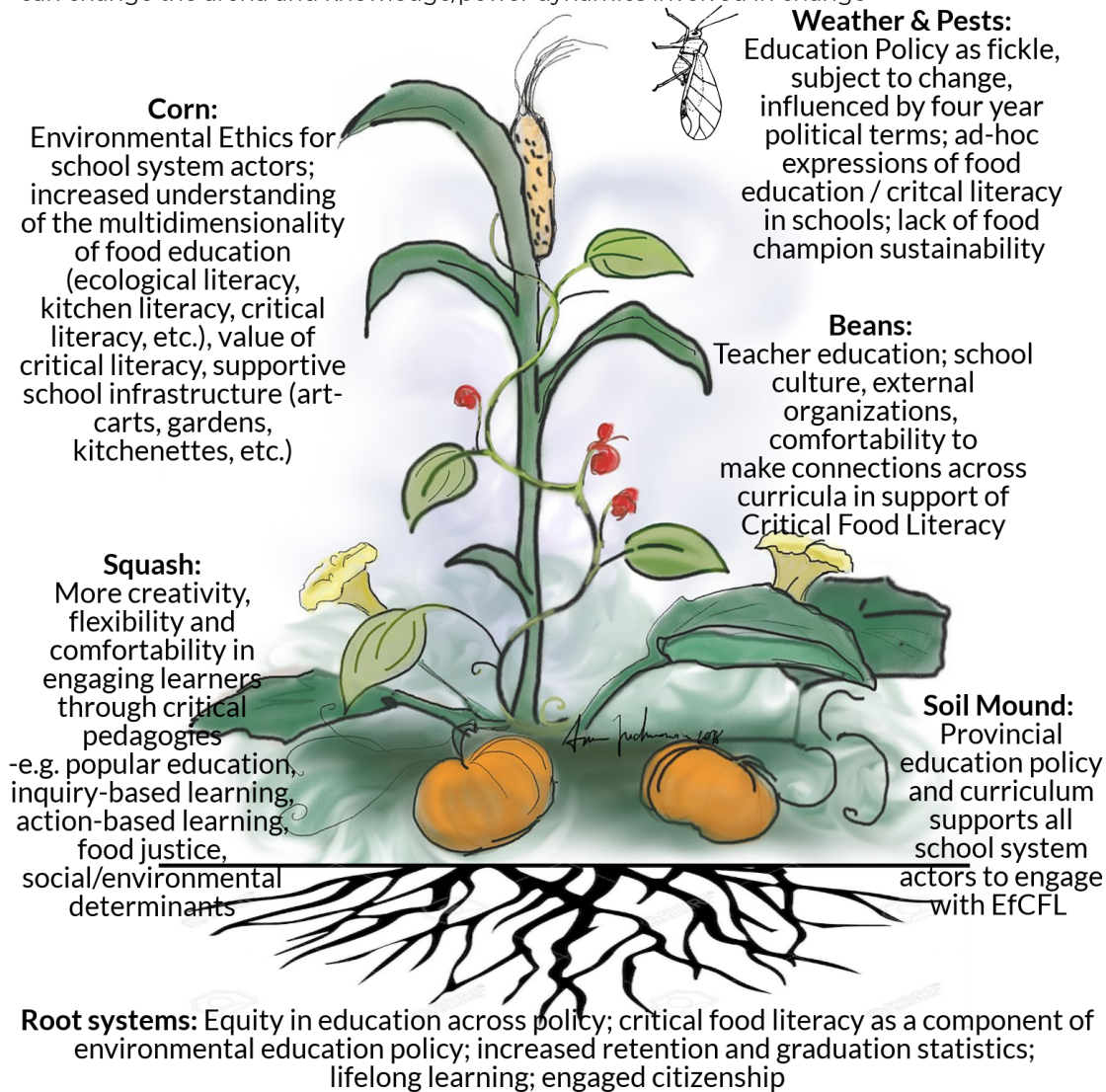
Beans: Will lean upon the corn, area which will change

Squash: Vehicles for change, best practices for supporting practitioners of change

Soil Mound: Grounds for embedding structural change

Root Systems: Overarching drivers of change - motivator for local agent/s

Weather & Pests: Unforeseeable factors - events which are hard to predict and plan for that can change the arena and knowledge/power dynamics involved in change



Appendix 4 (Wever, 2015, p.49) Table 1: Benchmarks of food literacy
 (adapted from Goldstein, 2014; normal text is taken directly from Goldstein while the headings and all italicized text have been added)

Empirical/Analytic Knowledge/Skills	Historical/ Hermeneutic Knowledge/ Skills	Critical/ Emancipatory Knowledge/Skills
<p>Increased nutrition knowledge</p> <ul style="list-style-type: none"> - Improved cooking skills - Cooking more meals from scratch; ability to cook for oneself - Ability (and desire) to purchase healthy foods - Improved food safety behaviours - Ability to budget/plan meals - Increased consumption of fruits and vegetables - Interest in trying new foods - Confidence and motivation to use food knowledge to make healthy choices - Ability to make informed decisions and judge marketing, new products, and quality of food - Ability to influence family/friends in purchasing/cooking/eating decisions - Satisfaction, creativity, confidence, resilience because of food knowledge and skills - Ability to cook with substitutes - Knowledge of where food comes from & various food terminology (eg. GMO) - Ability to read and interpret food labels 	<p><i>Knowledge of one's food culture</i></p> <ul style="list-style-type: none"> - <i>Understanding of food as a catalyst for community building</i> - <i>Knowledge of how food's role in society has changed over time</i> - <i>Knowledge of unhealthy relationships to food</i> - <i>Ability to understand and dissect food advertising</i> - <i>Ability to analyze the role of food in media such as television, movies, literature, etc.</i> 	<p>Knowledge and awareness of the multiple dimensions of food (broader engagement)</p> <ul style="list-style-type: none"> - Ability to reflect critically on food and the food system, interest in seeking change - Awareness of socio-political impacts of the food system and ability to analyze associated discourses - Interest in active citizenship as it relates to food - Ability or attempts to disrupt current food system through informed actions - Exercising food-related behaviours that support a democratic, socially, economically and ecologically just food system - Knowledge and awareness of food & agricultural systems and their relationship to environment and health - <i>Knowledge and/or skills related to ecological relationships, processes, cycles, patterns, and context</i> - <i>Knowledge of the plants and animals that affect the ecological aspects of growing food</i> - <i>Sense of connection to and care for a particular socio-ecological place, expressed through human, non-human, and food-based relationships</i> - <i>Evidence of critical reflection in support of transformative learning</i> - <i>Evidence of critical discourse in support of transformative learning</i> - <i>Critical knowledge of the social and economic forces of a society that affect food</i>

