

Eating the World: Food Literacy and its
Place in Secondary School Classrooms

by

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Introduction

Our lives are shaped by food. We consume it every day and traditionally pattern the activities of our day around food. Since the advent of the agricultural revolution, most human cultures have developed around diverse sustainable food sources, leading to geographically persistent communities and the eventual specialization of trades, trade economies, and development of complex political systems. When food became scarce, exploration, cultural expansion, and adaptation were stimulated. In fact, the “evolution of human biology and human society have been intimately shaped by the types and amounts of food available” (McMichael, 2005, p.713).

Although in a modern society such as Canada the majority of people have enough, even more than enough, food to satisfy nutritional requirements, do we know enough about our food? Do we realize how many of us live with poverty and hunger on a daily basis? Do we know what ingredients are in our food, where it comes from, and how it was produced? Do we know anything about the other people involved in getting food to our plate? Is it important for us to know these things and is it important for schools to teach them? There is a growing body of research indicating that not only is it important for us to renew our understanding of food but that it is imperative for our cultural survival. In 1992, David Orr suggested the term, “ecological literacy” which, “implies a broad understanding of how people and societies relate to each other and to natural systems” (p.92). Fritjof Capra (2009) goes so far as to state that ecological literacy, “must become a critical skill for politicians, business leaders, and professionals in all spheres and should be the most important part of education at all levels – from primary to

secondary schools to colleges, universities, and the continuing education and training of professionals” and that “*the survival of humanity will depend on our ecological literacy*” (italics in original, p.244). It is important to locate food within the term ‘ecological.’ Ecological is not necessarily synonymous with “environmental,” as an ecological system includes not only biological aspects of water, soil, and organisms but also includes humans and all our physical and cultural patterns of interaction with each other and our environment. Although we tend to think of ecological issues in terms of water conservation, recycling, or habitat protection, all food comes from plant or animal sources and has its roots in the ecosystems upon which we depend for survival. Therefore, we must begin to regard food sources as being vital resources that require as much careful thought and protection as clean water and unpolluted air. Mawby (1985) stated that “few issues are of greater importance to the world than adequate food supplies, proper food use, and knowledge about the components of the agriculture industry” (as cited in Knoblach, 2008, p.530). Food is thus one of many important ways in which we relate to the rest of an ecological system, but this relationship has become obscured or even lost as our methods of food production and consumption have changed. So what is needed is a kind of *food* literacy: a deeper understanding of the complex environmental and social components of food in our lives.

Recently, while working on a project related to the food system, Grade 9, 10, and 12 teachers were asked about their relationships with food. Most students admitted that they knew very little about the food system and how or where their food was produced, processed, and transported: as one student declared, “*I don’t know anything about this!*” Teachers indicated that they are unsure how to incorporate food into their lessons or

where it might fit within the curriculum. Yet at the same time, they recognize the importance of food knowledge and its personal relevance to students:

Mrs. J: I think that when it connects somehow to their day to day life I think it lasts and sticks with them and this automatically connects to their day to daily life. What you are eating, everybody eats.

This project is an exploration of the topic of food literacy and how such literacy can be incorporated within the pre-existing secondary school curriculum in British Columbia. Specifically, it is aimed at academic curricula, such as an English or Science class, which do not contain any reference to food and classes within which food would not normally be examined as a topic or theme in an integrated way. In the context of this project, food literacy is not examined purely from the standpoint of nutrition, but also as an important component of environmental health and social justice, both within and between global communities. The three classes participating in this project also have established curricula published by the British Columbia Ministry of Education: English Language Arts 9, French Language 10, and Social Justice 12.

In each of the three classes, teachers collaboratively designed a food-related unit to extend or enrich a pre-existing unit of study. Teacher interviews and student work reveal many possible connections between previous knowledge about the food system, current curricula being studied, and new knowledge about how our food choices affect both the physical world and social relationships between people. The following section summarizes current research on food as an important education theme in ecological and citizenship studies.

Summary of research

The way we choose, collect, and think about our food has radically changed since the beginning of the industrial revolution. Although preserved food has always been

transported across continents, such as the Silk Road trading routes connecting Asia, Africa, and Europe, these luxury items such as expensive spices were not available to the general populace. With the invention of the steam engine and subsequent locomotive technology, fresher food could be moved more quickly from place to place. Instead of transporting food on the hoof or by carrying it, more inexpensive food could suddenly be transported vast distances. We now have enormous trans-national corporations importing food to urban centres world-wide, not by steam engine but by enormous trans-oceanic cargo ships and airplanes. The consumer who once, even in an urban setting, chose fresh food from locally supplied market several times per week, is now a passive grocery store shopper with little idea how their food choices were grown, transported, or sold to them, nor the social and environmental damage being caused. “As countries develop and move to more urbanized societies, basic knowledge and understanding of the natural environment and its interrelated systems appears to have declined” (Hubert, Frank, & Igo, 2000, p.525) and our consumption of food is now “private, atomic and passive, rather than eminently social, relational and active” (Goodman & Dupuis, 2002, p.9).

How is today’s consumer to learn about this food system? Is it even their responsibility to make change if the food system is unsustainable? Knoblach (2008) feels that “agriculture is not just food production; it is an entire system at the centre of our economy” (p. 530) while Goodman and Dupuis (2002) state “how the consumer goes about knowing food is just as important as farmer’s knowledge networks” (p.15). Hubert, Frank, and Igo (2000) summarize the importance of why consumers need information about the food system:

The need for societal knowledge about agriculture is based on two primary factors. First, as consumers of agricultural goods, people need to understand basic principles of food and fibre sources, marketing, distribution, and nutrition. Secondly, that because of the role citizens play in policy decisions, people need to understand the impact of agriculture on society, the economy, and the environment. Controversial agricultural and environmental issues are often the result of competing factions and there is equal significance for environmental and agriculturally literate populations throughout the world. (p.526)

So consumers, because they are citizens of an area, region, or nation, have the opportunity to affect the governance or policy of the food system. In fact, “consumers will never be able to challenge the production system until they become ‘conscious’ or aware of the socio-political impacts of the system” (Goodman & DuPuis, 2002, p.7).

Food choice as a form of citizenship

Hubert, Frank, & Igo (2000) stipulate that “we need a society that can synthesize, analyze, and communicate basic information about the agriculture and the environment. However, for these societal changes to evolve, we must focus on learners” (p. 527) in the education system. Students are targeted specifically here because “civic values must be passed on to young people in order for them to think critically; to participate in policy decisions that affect their lives; and to transform the racial, social, and economic inequities that close down democratic social relations” (Giroux, 1998, p.12). Finally, Gasperini (2000) specifies that environmental education, including the food system, must

be systemically included at all levels of curriculum “in relation to sustainability of current patterns of consumption” (p.6). For example, when chocolate is purchased from a large company such as Nestle, some of the raw cocoa grown and purchased in West Africa has likely been produced by children or young adults working in slavery-like conditions (Orr, 2006; Manzo, 2005; Wolff, 2002). If students are unaware of this fact, they are not able to make informed consumer decisions and unwittingly continue funding the companies that traffic and enslave children to create their product. How can we call ourselves a democratic society if we implicitly support through economic trade the existence of slavery elsewhere? Another example is the role of food banks in a community. If students are not given the opportunity to explore the connections between access to food, poverty issues, and poverty related issues such as addiction, disability, and mental health, they may be less likely to support the existence of food banks or donate food in their future community. A lack of understanding of basic biological processes such as soil erosion in poor farming practices, bioaccumulation of pesticides in fish, or factory farming of animals for cheaper protein unfortunately allows students to make food choices that support and reinforce these current realities. It is important for citizens to have this knowledge so they can maintain important democratic values that are being eroded; this knowledge needs to be integrated into all education so we can better understand how our consumer choices are affecting the stability of society and our ecosystems.

Jennifer Tupper (2007) constructs the terms “care-less citizenship” and “care-full citizenship” to describe two conceptions of citizenship education and requirements for participation (p.259). Care-less citizenship assumes universal access to participation in

politics, and ignores “individual accountability to the physical and social world” (Tupper, p.259). Care-full citizenship, however, includes not only an emphasis on participating in communities but a real questioning of our dominant worldview and why systems of institutional oppression, even within democracies, continue to exist. In this model, students would ask themselves about their own level of personal privilege and how it historically and currently influences their citizenship experience (Tupper, p.262). This requires students to also examine why social and political inequities exist in the first place and what their role might be in perpetuating them. Sharing the answers to these questions extends the idea that social citizenship is to be about how we relate to others and that a new definition for citizenship be “fluid, adaptable, and dynamic” (Tupper, p.270). Because this conception of citizenship would shift in different situations, it could require a cross-curricular implementation that is not confined to social studies classes. Students and teachers would need to ensure that these newly constructed ideas of citizenship are not so fluid as to become meaningless, but changeable enough so that diverse issues in multiple subjects could be discussed under an umbrella of rights, responsibilities and ability to enact these for all participants, those with privilege and those without. One example of this might be the ability of citizens to purchase food free from organic pesticides, often labeled as “organic” by the food industry. Organic food is currently sold at a premium price and is unaffordable for many individuals. A “care-full” citizen might advocate for and organize a local market or location where high quality, pesticide-free local food could be sold at an affordable price for any consumer, not just those with high incomes. Another example might be a group of students learning about the amount of greenhouse gasses and pollution generated by the long-distance

transportation of much of our food and advocating for or growing more local food in their community.

In addition to creation of identity and interrogation of inequity, one final aspect of citizenship education must be addressed in schools: that of participation itself. If care-full citizenship requires active discussion and participation, then shouldn't students be given an opportunity to practice these skills before graduation? Critical thinking and communication skills give students an ability to respond to any issue they might need to, but it is the practical, the doing, the embodied knowing of citizenship that is also lacking in schools. Civics classes are primarily text-based with little student input into the curriculum. This is not to suggest that students would have complete control over a class or curriculum. But could they not help shape the scope of a class project, the way that a student government operates and interacts with the community, or the way students are included in town hall meetings or school planning committees? Secondary students can have a very sophisticated understanding of how these processes work and yet in many schools and districts their voice is excluded. These students also have a strong sense of citizenship in community service and an empathetic social citizenship in issues such as environmentalism, poverty, and homelessness (Chiodo & Martin, 2005, p.28). If they are given the opportunity to participate in projects that not only ameliorate immediate social needs such as collecting food for the food bank, but are also allowed to ask why this inequity exists in their community in the first place, students then work toward becoming true, care-full citizens.

Although food-related example of human interactions abound, it is very easy for the term citizenship to slip back into its most often used political context (i.e. describing

citizenship within a political state). However, systems theory and globalization have begun to influence understandings of relationships between individuals and between political states. Sáiz (2005) offers an interactive description of citizenship as

The enjoyment of civil, political, and cultural rights, and corresponding duties to remove barriers to equal membership of the political community. A society that is committed to realizing the ideals of citizenship is obligated to engage outsiders in open dialogue about the respects in which its actions may harm their interests. (p.166)

Although the goal of this kind of citizenship is social justice, the social and political reality is often an institutional hierarchy whose participants have no real rights, no means to make change within the system itself. Woodward, Skrbis, and Bean (2008) argue that our self-identified cosmopolitanism and desire to consume global goods is one factor in this crisis and that in fact, this commodified view of world culture is “unrelated to deep forms of engagement” (p.212). C.A. Bowers (2007) uses the word “enclosure” to describe commodification of any part of the natural or social world. Perhaps we have even enclosed the very idea of citizenship at a general level: Sáiz’s model may be an ideal, but the reality of pervasive global capitalism often makes the analysis of political relationships between citizens an economic exercise rather than one based on ecological needs and values. Is it possible to reconcile this global reality within the framework of an ecological paradigm? We are, in a sense, all citizens of one or many ecosystems. But the term “citizenship” can be very fluid, depending on the social or political situation (Tupper, 2005, p.270). According to ecological systems theory, we can now use the

term citizenship to describe our membership not just within a socially constructed group, but also within the natural world.

Our systemic relationship to food

One of the closest relationships between us and our environment is our daily need to consume food. All food, whether it is considered organic or not, local or from far away, fresh or processed and wrapped in layers of packaging, comes from living organisms in the environment. The biological placement of humanity as omnivorous animals within a food chain is an inescapable reality. Although there are some isolated cultural groups with hunter-gatherer practices, in the developing world “all societies are dependent on agriculture for their survival” (Hubert et al, 2000, p.531). It would seem then, that we must ensure we live within a functioning natural environment that can produce an adequate amount of food for our survival.

The Western paradigm, with a more linear, scientific perspective has viewed food as a kind of nutritional input: a necessary reaction between molecules to ensure optimal human body functioning in an individual. But this kind of biological isolationism does not address social inequities in food supply, nor has there ever been agreement in public health policy as to what recommendations are necessary to have a healthy society (Lang, 2005, p.732). Within the ecological systems paradigm, “the environment is nutrition’s invisible infrastructure” and food policy needs to expand to include evidence-based studies on environmental policy (p.733). Narrowly defining food as a special interest topic and not developing regional or national policy removes power from consumers and places it solely with retailers, “the gatekeepers between supply and consumption” (p.735), whose goals are economic rather than ecological in nature. Nutrition science

and political policy needs to “engage with a larger, systems-based understanding of nutrition and the ecology of food production” (McMichael, 2005, p.706).

Jennifer Wilkins suggests the term “food citizenship” and defines it as “the practice of engaging in food-related behaviours that support, rather than threaten, the development of a democratic, socially and economically just, and environmentally sustainable food system” (2005, p. 269). This re-invigorates the idea that citizenship comes with rights, such as access to adequate and safe food, as well as responsibilities, such as sustainable agriculture. Rather than citizenship being simply a political status, it is a personal and collective responsibility to enact a responsible food system.

In industrialized areas of the globe, many ethically conscious food corporations specialize in these types of products and seem to allow shoppers to use their food dollars as a kind of political activism. Josée Johnston clarifies the ostensible ethics of this situation: “the citizen-consumer hybrid is actually a superficial model that does not attend to citizenship goals, rather it primarily serves consumerist goals of choice, status distinction, and ecological cornucopianism” (2008, p.265) and presents a clear distinction between the two terms.

	Consumerism: maximizing individual interest	Citizenship: collective responsibilities to a social and ecological commons
Culture	Prioritize individual choice and variety	Limiting individual choice and variety; collective solutions
Political economy	Consumer markets valued; social status through consumption	Equitable access and empowerment for all social classes; markets restricted
Political ecology	Conservation through consumption	Reduce consumption; re-evaluate wants and needs

Figure 1. Effects of consumer vs. citizenship actions (Johnston, p.247).

An example of this might be the desire to consume completely organic food, even if it has been shipped thousands of kilometers to the point of sale. The way the food is grown may contribute to a positive relationship to the ecological commons, but the resulting transportation costs and emissions may negate this entirely. So ethical consumption of food at the mass-market level and associated marketing strategies becomes simply a palatable mask to hide public recognition of ecological damage done by international food systems.

Within the current industrial food system, “both eater and eaten are in exile from biological reality” and we exist in “a kind of solitude” (Berry, 1990, p.148): separated from the naturally occurring food chains we have eaten within for millennia. In order to reconcile our food needs in a responsible way, we need to consider how food is actually grown: as plants in soil, herbivorous animals or those from the marine environment and part of the larger ecosystem in any given place. If we recognize our food plants and animals as members of our ecosystem and our continuous relationship to them for our physical and cultural needs, there arises a great possibility for a shift in thinking about the meaning of food and our relationship to it.

Seyfang (2006) and Dobson (2007) explicitly link food consumption and ecological citizenship and believe that this is the framework through which humanity can “redefine social processes and provision of food to enable a reduction in consumption levels and hence a reduced ecological footprint” (Seyfang, p.393). Through an analysis of localized control over a network of food production and sales, the public-private, citizen-consumer dualism fused and “explicitly define[d] private consumer behavior as political and a space for collective action for the common good” (p.387). Community

decision making about food then can be a mechanism and social context within which we can practice ecological citizenship in daily life: at home, in the marketplace, and at school.

Food system (food citizenship) as a pedagogical tool

Seyfang (2006) noted that education and community outreach were necessary to keep local food networks functioning and sustain the goals of ecological citizenship within individual consumers.

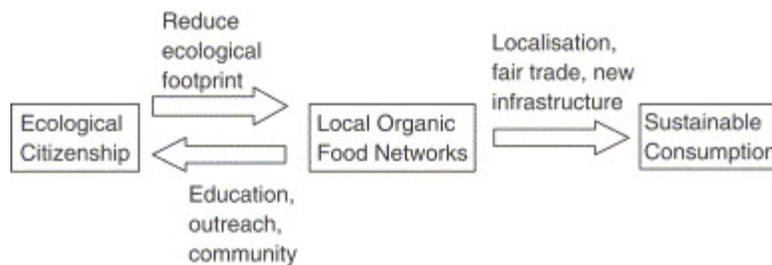


Figure 2. Education as a function of maintaining ecological citizenship (Seyfang, p.393).

Ecological education as a participatory act, whether in a school or in the larger community can “reorient our anthropocentric focus in education to one that acknowledges the rest of the living world and our inalienable connection to it. It is the difference between being apart from the system and a part of the system” (Ross and Gruenewald, 2004, p.7). Within our local geography, it is vital to notice our daily food choices. Because global food trade will not cease, we will continue to influence far-flung natural and social systems but these are an unknown and distant abstraction. If we can educate ourselves on the visible or knowable effects of our actions on both our global and local environments and food sources there is a chance we will take greater care of the entire ecosystem. If community food citizens create their own natural language about

food, and enact their own local food curriculum, they may reclaim these items from commodification and use them as tools to communicate and develop local values.

The word *curriculum* here again implies education and schools. Different community institutions, including schools, approach ecological citizenship in various ways. A school inspector in the UK comments that “learning about democracy and citizenship when I was at school was a bit like reading a holiday brochure in prison” (Varnham, 2005, p.53), and David Orr (2004) agrees: “the modern curriculum teaches little about citizenship and responsibilities and a great deal about individualism and rights” (p.32). This dichotomy between knowledge and practice is common in public schools with planned curricula. Dobson (2007) argues that through active project work all citizenship education could be taught through an environmental lens because every relevant theme such as “critical thinking, understanding human values, formulating policy, problem solving, political literacy, and human interdependency can be studied” (p.284). If this assertion is extended, environmental citizenship, and thus food citizenship, at the local, then applied to the global, actually becomes the ultimate thematic unit for education across many curricular areas.

Further research is needed to understand not only how entire communities understand their relationship to food, but how younger community participants, our students, understand their place and influence on the food system. There is a lack of research on how students conceptualize the food concepts and we do not know how students “think about food in relation to the technological and social food systems and the impact of the food system on the environment” (Barton, Contento, Koch & Haigiwara,

2005, p.1165). Classroom-based inquiry is one such method that may help clarify our understanding.

Growing a Food Curriculum Project

Qualitative design

Qualitative design is used to “study research problems requiring an exploration in which little is known about the problem” or “a detailed understanding of a central phenomenon” (Creswell, 2005, 45) but in a way that is based on personal or group narrative processes rather than statistically analyzed data. This constructivist process allows the context-dependent and personal viewpoint of the participant to be emphasized (Lincoln & Guba, 1985, in Creswell p.45) as compared to more statistical quantitative work. Qualitative design does require the researcher to declare all personal values and assumptions (Creswell, p.45) in order to reduce potential bias during analysis but because the perspectives of the researcher flavour the entire design, collaboration occurs between inquirer and participant. Rather than arriving at an empirically derived conclusion, qualitative questions allow interpretation of events and improve the understanding of a particular event. These particular observations and interpretations are then added to the evolving body of research work in that area.

In education, qualitative design plays a key role in the interpretation of the multiple experiences and viewpoints of both students and teachers. Whether inquiry takes place with one group of individuals or across many geographical areas, “qualitative research provides a method for adapting some broad theoretical frameworks to multiple subcultures” (Silverstein, 2008, 275). Because qualitative questions seek to illuminate the socially-constructed knowledge of individuals, many possible methods exist. This

project is specifically constructed using qualitative design to investigate the knowledge and opinions of a small group of teachers in one school as they experiment with a particular teaching theme.

As each individual teacher negotiated the process of implementing food-related activities in their classes, they shared their insights about their own and their students' learning process. This kind of project is important because it can describe "how things are" in a school or classroom and illustrate how "understanding beliefs, attitudes, and behaviours of sociocultural groups [can] enable them to design more effective strategies for bringing about educational improvement" (Zaharlik, 1992, p.122). Within this pedagogical framework, both the researcher and participants examined their understanding of one part of the food system and how they might investigate this further with their students.

Locating the researcher

The position of the investigator in a project such as this is delicate and demands personal reflection of one's place within and potential bias toward the process. Having been raised as a food producer and formerly a commercial organic grower, I have strong personal beliefs about effective and sustainable food systems. I also bring to this project academic and professional training as a biologist, environmental educator, and over a decade of teaching experience in the public school system. Finally, as a resident of the community in which Greenside school sits, I have a keen personal interest in improving education around local food issues.

For many years I have been very concerned with the lack of secondary student education around food production, healthy food choices, and how their food choices

affect not only themselves but our society and societies around the globe. I often meet students who are about to graduate from our school, as well as adults in the community, who never give a passing thought to where their food comes from or how their choices impact others. Even in this community which celebrates local food with year-round weekly farmer's markets, harvest celebrations, chefs whose restaurants revolve around local produce, and food tastings at the school, I see students eating fruit that has been shipped from across the globe, such as apples from New Zealand, when a local variety is in season. I sense a general feeling of apathy and a belief that food purchasing decisions do not make a real difference, which I believe stems from a simple lack of knowledge about the food system. In my own experience teaching senior biology, chemistry, and geography courses in the public school system, students who are provided with opportunities to explore ideas about and connections to food gain a varied and rich understanding about the food system.

The biology and chemistry curricula lend themselves easily to discussions about nutrients and nutrient cycling within both ecosystems and the human body, but I often ask much deeper questions of the students. Questions such as "what is food?" and "how do you know?" prompt students to think about food in ways perhaps novel to them. A recent discussion about the texture and flavour of chocolate during a nervous system anatomy lesson on sensory receptors turned into a complex analysis of nutritional and health care policy in Canada related to diabetes. Similarly, the Grade 12 geography curriculum contains numerous references to sustainability of ecological systems and I often engage students with project work that relates a specific human culture to their place on the planet. Students who examine the biome and agricultural systems of this

local culture gain not only a deeper understanding of how other people negotiate the concept of food, but then compare this new knowledge to their own experience and begin questioning their own food networks.

I have been a teacher at Greenside Secondary for over 10 years and have known the research participants personally for several years and although I do not teach in the same subject areas as the participants, I am familiar with their general teaching style, methods and course curricula. I have been the school's unofficial environmental coordinator for several years and am identified in that role by many staff and students. There have already been initiatives in our school to raise awareness about the food system and alternatives to it, many of them organized by me; the participants are therefore aware of some of my personal opinions about this system. The fact that I am a work colleague did not seem to unduly influence them to participate in the study since there was no hesitation on their part to engage in frank discussion about how the project was experienced in their classroom. In initial conversations with the teachers about participating, I was very careful not to impose specific lesson ideas or attitudes about the food system. When asked what kind of data or results I was hoping to gather, I responded only generally in that I wanted to see how the experience unfolded in each classroom; each teacher retained complete control over the planning and implementation of the project with their students. Finally, as each project was occurring and teachers chose to adapt their plan, they often checked in with me to ask if this would harm the project. Again, they were encouraged to make any changes that they felt necessary to meet the needs of their students and be flexible with their planning as they would normally for any other teaching topic.

Where Does Food Literacy Fit in an Academic Curriculum?

Whether education is defined as the enrichment of personal development, learning how to learn, or as a tool for social transformation all students eventually become adult members of society. In order to better prepare them for these rights and responsibilities, the community surrounding each student, including their families, teachers, and schools support them in learning about what it means to be a citizen and how citizens participate in society. In British Columbia, short of one class offered in only some schools, Civics 11, and some general references in Social Studies 11, there is no explicit instruction at the secondary level on the definition of a citizen or what kinds of citizenship participation are desirable for a fully functioning democracy. Despite this lack of defined or stated learning expectations, there is ample opportunity for implicit citizenship education within a wide variety of curricula.

Identifying links in curriculum documents

In British Columbia, secondary school curricula are published by the Ministry of Education in subject specific guides called “Integrated Resource Packages” or IRPs. Within each package there is a course rationale, suggested timelines for completion, a detailed list of Prescribed Learning Outcomes (PLOs), Student Achievement Indicators, and suggestions for assessment of learning. The PLOs for each course list specific content related material or factual knowledge that must be addressed, but also general ideas around relating content to real world situations or having students relate content to their own experiences. For example, the English Language Arts 9 curriculum mandates that students are expected to “identify and use some typical text structures (e.g., flashback, chorus) and rhetorical devices (e.g., repetition, questions) that shape meaning

in texts,” but also “express opinions and ideas and encourage the opinions and ideas of others”(B.C. Ministry of Education). While the majority of this particular curriculum focuses on analysis of text or written expression, there is opportunity for teachers to use non-fiction text such as informational articles to stimulate research, discussion, and presentation within the class. The food system would be an example of a rich and complex topic a teacher could choose to pique student interest. By doing this, the teacher is not only meeting the curricular goals of their course, but providing students with an opportunity to investigate citizenship values in the classroom. For example, as students learn to articulate different perspectives on the food system, they may reflect on how their own food choices positively or negatively affect people in another culture or in their community and generate a plan for change. Similar examples of open-ended PLOs that can engender citizenship values such as respecting personal viewpoints, expressing differences of opinion, debating several sides of a relevant current issue, upholding human rights, or simply relating content to society can be found in all humanities subject areas such as social studies and languages as well as in the sciences and mathematics.

There are a few courses whose curricula specifically mention food, whether in a nutritional, environmental, or socio-cultural context. In addition to Foods and Nutrition 8-12 and other Home Economics-style courses, Sustainable Resources 11/12, and British Columbia First Nations 12 are the only other provincially published courses that specifically contain the word “food” in the PLOs. Individual schools or school districts can create locally developed courses with their own learning outcomes so there may be other expectations for teachers to incorporate food lessons. For example, in British Columbia’s School District 63 (Saanich), each secondary school has a separate senior

level Physical Education course called “Ultimate Body and Mind” within which there is a unit on food and nutrition. The Outdoor Education classes at the Grade 11/12 level also require that students learn to prepare food suitable for a multi-day hiking trip. It is possible, however, for a student to graduate from secondary school in this province without ever taking one of these courses, and gain absolutely no food knowledge, even in a nutritional sense. There used to be a unit on food and nutrition included in British Columbia’s Science 9 curriculum, but this was removed during the last round of curriculum revisions in 2008. If food literacy were an important goal for a teacher or school, it would then also be important to incorporate food lessons at every opportunity: both in those courses that specifically mention food and also in those courses with open-ended PLOs that provide an opportunity for citizenship and food discussion.

Opportunities outside the classroom

So if food literacy can be understood as a valuable tool for enacting citizenship, it can then be incorporated into any mandated curricula that has an opening for implicit learning about citizenship, democracy or social justice, and not just taught in a foods or social studies classes. Many schools also have mission or goal statements concerning student citizenship and many teachers incorporate classroom routines that reinforce citizenship values. Food literacy education could then take place within many contexts in a school building itself, not just in a classroom. One positive example of this in British Columbia schools is the BC School Fruit and Vegetable Nutritional Program that delivers free fresh fruit and vegetables to participating schools. Although designed for elementary and middle schools, there are over one hundred secondary schools that participate in this program (B.C. Agriculture in the Classroom, 2010). When teachers

receive these food deliveries in their classrooms, there is a powerful opportunity to discuss where the food is coming from and why it is being donated to the school, regardless of what curriculum is being taught. School lunch or cafeteria programs that are accessed by a large proportion of the student body could also be a powerful vehicle for education about food as students make their daily choices and purchases.

Food education is citizenship education

In 1998 Giroux argued that, “as market culture permeates the social order, it threatens to diminish the tension between market values and democratic values, such as justice, freedom, equality, respect for children, and the rights of citizens as equal, free human beings” (p.15); and “one of the most important legacies of public education has been to provide students with the critical capabilities, knowledge, and values to become active citizens” (p.12). Providing students with an opportunity to become literate about food in a nutritional, environmental and socio-cultural sense gives them the capability to make better decisions when purchasing or consuming food. Rather than citizenship being simply a political status or list of rights, it can be a personal and collective responsibility, in this case, to enact a responsible food system. Instead of a culture of increasingly obese and mindless eaters whose food choices are driven mostly by pricing and advertising, students could become much more thoughtful consumers. As one teacher participant observed,

It is always empowering for students to have knowledge and I think to have done something like this for some of the students, it may get them thinking a little bit or about what they are doing. That is what I would hope that they would be doing; doing things thoughtfully rather than just mindlessly following (Mrs. C).

A society of mindful eaters might not only be healthier in a nutritional sense but might pay attention to how food is produced in the environment and by whom. An example

might be in understanding the ecological footprint of an imported food such as New Zealand apples. The 14,000km distance and 3,000 kg of CO₂ emitted by air freighting one of these apples to Canada¹ demonstrates a clearly unsustainable amount of transportation energy and carbon waste compared to one grown more locally in Washington State or the Okanagan Valley. In strengthening the understanding that our food shapes both our own lives and the lives of others, students then finally have the ability to make informed food choices.

Integration of Food Literacy into a Curriculum

If food literacy is a desired outcome of education at the societal, district, or school level, then it is important to examine the curricular processes through which this occurs. Food is a complex issue that is relevant to individuals for a variety of different reasons such as providing nutrition or enhancing cultural celebration. Therefore, food as a theme within education needs to encompass the multiple perspectives of various disciplines rather than simply being taught in one subject area because “education that focuses on distinct subject areas reduces not only student interest and achievement in those areas, but their sense that school is not relevant for real life” (Wraga, 2009, p.91). In addition to enhancing the relevance of their education, it is even more important for students to be able to cognitively negotiate complex issues in society and make sense of competing interests. Wraga adds a key reason as to why integration of subject material is important:

Social problems and issues transcend disciplinary boundaries and that a major purpose of public schooling is preparing enlightened citizens who

¹ www.organiclinker.com

can make intelligent decisions about public problems; the curriculum then, must provide opportunities for students to integrate and apply subject knowledge so they can understand and confront complex social problems.

(p.92)

A cross-curricular approach to food literacy then, both vertically throughout grade levels and horizontally between disciplines, will provide students with multiple and varied ways to engage in the critical thinking skills necessary to analyze the interrelated aspects of the food system.

Food literacy, or an analysis of any part of the food system, is a richly rewarding but highly complex topic. As secondary school teachers discover and unravel the themes that emerge from such literacy with their students, there are many considerations to take into account when choosing to incorporate this new topic into their teaching. Linking food literacy into the prescribed curriculum of the course, setting aside extra time for planning, planning for student assessment, and perhaps even needing time for personal research all must be taken into account. The time spent on food literacy, however, whether a single activity or a multi-week unit can be incredibly rewarding for both students and teachers as everyone works to make connections between the subject material at hand and the daily act of eating.

Mr. F: I have to say I am really thankful that you came to me to try to work it in even though I think initially, OK, I'll find a way out, figure another way of doing it. Because if I hadn't done that I wouldn't have had the joy of that experience and it really was a really joyful experience as a teacher with the kids.

As a classroom teacher, I am very aware of the time demands placed on teachers to meet curricular goals each semester, and sensitive to the fact that I am asking my colleagues to include a few hours of class time on this project. However, as educators that value

authentic learning and assessment, we are driven to constantly seek new ideas, strategies, and themes to improve our students' education.

Mr. F It [the food unit] ended where I wanted them to be, but I got them there in a different way than I had anticipated. I think the way I got them there using the food was better than I had originally planned.

Food literacy at Greenside school

The goal of this project was to investigate how food literacy can be incorporated into academic curricula at the secondary level. The study took place during the first semester (September 2009 – January 2010) on southern Vancouver Island, British Columbia in a semi-rural, Grade 9-12 secondary school of approximately 750 students. The school is located just outside a small town with a large residential area and forest adjacent to the school grounds, surrounded by a semi-rural/residential area. Historically, the entire area was part of an indigenous First Nation, then converted into farmland, including the land on which the school sits. Although some of the farmland has been converted into residential property, there is still an obvious agricultural and Aboriginal presence in the area. There is no specific agricultural program at the school and most teachers commute from the city of Victoria each day.

After the Human Research Ethics Board of the University of Victoria approved this project plan (See Appendix A), teachers were approached individually and given information about the scope of the study and asked if they were interested in participating. There was no inducement to participate. During this recruitment phase, I intended to attend department meetings to talk about my project. However, because these meetings are irregularly scheduled and the fact that I was hesitant to ask colleagues to participate given their busy schedules, information about this project spread primarily by

word of mouth and through incidental conversations. Once teachers were aware of the project topic and indicated interest in participating, more specific information was provided in a letter (See Appendix B). Because one of the aims of the project is to investigate the cross-curricular applications of food activities, the goal was to include teachers from a diversity of departments that do not have food-related curricula and would never normally use it as a teaching tool, rather than subjects such as the Science or Home Economics classes where food education is more likely already happening. Fortunately, teachers from Modern Languages, Language Arts and Social Studies were among the first to volunteer and were selected as participants. Several other teachers who expressed interest initially felt that they were too pressed by curricular or time demands to participate. Teachers who voluntarily participated in the study worked collaboratively with the researcher to design curriculum connections to food citizenship within their pre-existing units and discuss a timeframe for teaching the material. Through these collaborative discussions with participants, the researcher tailored several activities for each curricular area to best fit the learning style and tone of the classroom. After the food lessons occurred in each classroom, teachers were interviewed individually within one week to give feedback on the content, structure and student response to the activities. The subject and grade levels of the participating classes were English Language Arts 9 taught by Mrs. J, French Language 10 taught by Mrs. C, and Social Justice 12 taught by Mr. F.

There were similar patterns in the way each unit was designed, regardless of the subject area or age of student. Each teacher, when first approached to participate, had difficulty imagining where the concept of the food system would fit into their curriculum.

All three independently described the idea as a “square peg in a round hole” during our initial information meeting. Eventually after more discussion and framing the topic of the food system as about larger issues such as connections between people, citizenship values, and personal responsibility, clear curricular connections began to emerge. Each teacher realized that not only could they incorporate this topic into a pre-existing unit they normally teach; they could see the potential for extension activities and immediately began to brainstorm ideas for teaching and assessment.

Introductory activity for students

In all three of the classes, an initial vocabulary-rich exploratory activity was designed to allow students to assess their prior knowledge and make personal connection to the topic of food and the food system. In the English Language Arts 9 and French Language 10 classes, this activity was a survey with multiple choice and open-ended questions (See Appendix C). Given that the topic of food had not been mentioned in either class yet that semester, the purpose of the survey was to determine prior knowledge of the students and prompt their thinking about food in an environmental, social, corporate and political framework. The Grade 9 students were given a paper copy of the survey to write on and then discuss as a class while the Grade 10 students were presented with the questions on a PowerPoint and raised their hands to indicate multiple choice answers and discussed open-ended questions. Clickers, a type of student-response technology, could also be used to save time in an activity such as this. Mr. F, the Social Justice 12 teacher, chose to begin the unit simply with a vocabulary exercise in which students used the Internet to discover meaning for a variety of terms (see Appendix D).

Mr. F knew that he would be spending a great deal of time on this unit integrating ideas and terms and that student background knowledge would naturally emerge.

Mr. F: I think if it is matter of inundating them with a bunch of facts, that might work but you are going to build up a resistance. The more they can see how they have connected and come to it on their own the more they will buy into it and the meaningful it will seem to them.

After their initial survey, the English Language 9 students also participated in a short vocabulary activity to introduce them to terms they would encounter in their reading.

Mrs. J was surprised at how little the students knew about the food system so this vocabulary activity became an important way to introduce the topic to them. Mr. F and

Mrs. C also noted that students seemed to have very little knowledge about the food system and perhaps were not aware how it conceptually fit with other aspects of their lives.

Mrs. J: They had very little knowledge about food issues, so ethical food production, even health issues to do with food and not only that but I was also surprised that many of the kids said but we don't care, this doesn't really matter to me, it isn't an issue for me. So I was surprised by that because it is an issue for them if they are consuming it and it is part of their family life but they see it as well I'm not the one grocery shopping and as long as I've got my food to eat.

Mrs. C: About 10 percent of them seemed to have a strong background, 50 percent of them had some sense of it. It was a very strong feeling that this wasn't new to them, it was an idea that they had though of before in lots of cases. But it is a lot more in the news and it is a lot more on TV, so there are programs. A couple of them had heard of the 100 mile diet and they talked about that in fact it was a local TV show, filmed locally.

Mr. F: Intellectually they are there; what they don't have is the ability to take A and overlay it on top of B and say oh so that's how those things go together. But if you can show them then it will click in for them.

One interesting vocabulary item was reported in the Social Justice 12 class: the evolution of new vocabulary to understand an abstract concept. Removed from relevant context, the term "food security" was difficult for students to understand and apply to any

previous knowledge, even when they were provided with a definition. During a class discussion, the term “food discrimination” came up and was used for the remainder of the unit as a more meaningful phrase.

Student research assignment

The second part of each unit involved some kind of student research as an assignment. Information was gathered via the Internet, selected videos, and selected text articles with continuous discussion and connection-making between the teacher and students and within student groups. Because of the vast amount of available material on the Internet related to the food system and the potential complexity of interrelated issues, both the teachers and the researcher decided it was best to structure the student research rather than leaving it completely open-ended. This portion of the teaching unit was very different in each class depending on the previous research skills of the students, time-frame for the unit, and general structure of each class.

The English Language 9 class was given three research tasks of a kind not normally assigned by Mrs. J. when teaching English. First, in groups, they were assigned an imaginary lunch and were asked based on the food image or its packaging to determine where the food came from. They were then asked to calculate the food miles of each lunch and given a specific website that automatically performs this calculation². Because most corporations do not post information about where their individual ingredients are grown or processed, and in Canada, food labels are not required to show this information, students had a great deal of difficulty finding specific answers. This frustration was part of the design of the activity and prompted a great deal of student

² www.organiclinker.com/food-miles.cfm

discussion. The second research task for these students was to pick a food item from a pre-determined list and answer questions related to ethical and health issues and the number of people involved in each step from production to consumption. Students were then asked to express in a small group where they saw room for change in the system, what changes might take place if more local food was available, and what actions they might take on a personal or community level to be more aware of the system itself. Finally, students in groups were assigned to read 1 of 6 on-line articles relating to the food system in Canada, labeling laws, environmental aspects of food production, child slavery issues related to chocolate and sugar production, pesticide use, and the economic unsustainability of the global food system in light of the recent recession.

Food literacy was approached differently in French Language 10. For their research assignment, the French students were assigned one project in pairs, but also with some student choice (see Appendix E). The project is about researching family life in a francophone country or region using material on the Internet and in the book *Hungry Planet: What the world eats* (Menzel & D'Aluisio, 2005). This is a project that Mrs. C normally uses with her class anyway so she simply extended existing questions about food preparation, family meals, and culturally specific food choices, to also include questions about how much money families spent on food, was there any food produced for export, and did the production of this food cause any poverty or social inequity. Students then compared their answers to these questions with their own food choices in British Columbia.

The Social Justice 12 students participated in a very different style of research on the food system. Rather than use the school library and Internet, students read a variety

of material in the classroom and watched four documentary films that illuminated the food system in environmental, cultural, political, and economic frameworks. This unit was also different from the Grade 9 and 10 classes in that it took almost four weeks to complete, rather than 4-5 days, and it incorporated two entire units of curriculum, rather than linking to 2-3 individual learning outcomes. The Social Justice 12 curriculum has specific learning outcomes that state “it is expected that students will assess how belief systems can affect perspectives and decisions in relation to social justice issues” (B.C. Ministry of Education) and an entire unit on globalization. Although Mr. F has used the concept of food as a specific example during the globalization unit before, he had never focused on it as an overarching theme for the entire unit. The image below illustrates the flow of readings, and film used by Mr. F. to lead students through the complex links of the food system from many different perspectives. The arrows in the diagram indicate class time used for reflexive discussion of new information or perspectives as they arose.

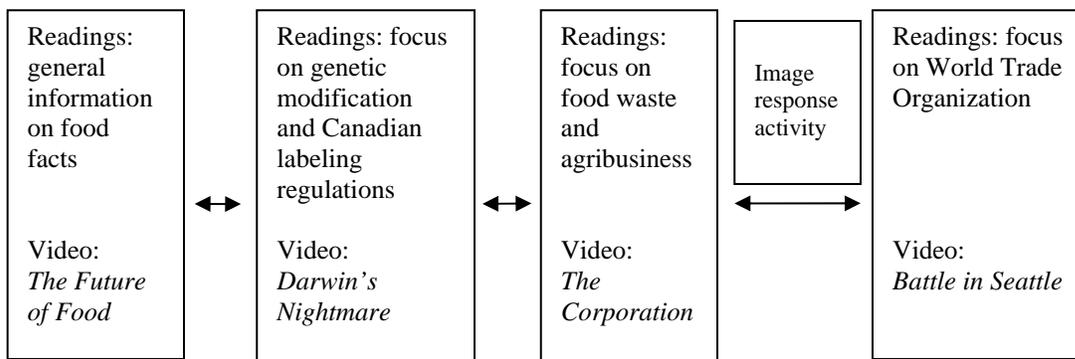


Figure 3. Flowchart of readings and video used for student research in Social Justice 12.

Student presentation of new connections

The final activity in each class was student presentations of their new knowledge, meaning-making, and personal connection to the food system. This took place in a

different format in each class, depending on the desired curricular outcomes and goals of each teacher. Both verbal and pictorial presentations were used with rubric-type assessment. None of the three teachers elected to use a pencil-and-paper test or other fact-based assessment of learning. Because there are no food-related issues in the English and French classes, it is appropriate to not test them on specific facts; however, Mr. F did indicate that if he were to teach this unit again he would use a formal evaluation component because food does relate specifically to learning outcomes of the course (such as those pertaining to the World Trade Organization) and to add academic rigor to the unit.

French 10

Both the English 9 and French 10 students gave short verbal presentations to their classes summing up not only new factual knowledge but their personal opinions on the topic. The French 10 students were also required to prepare a food sample from their research country and bring it in for classmates to taste. During the presentations, one particular example of student learning stood out for Mrs. C:

He and his partner were doing Chad in Africa and he brought in some milk, some mango slices and a bottle of water and he asked the class which of those three things they thought the average inhabitant of Chad would be most excited about, having access to. Like which of those things would be most important to their diet. One of the students went for the mango I think and then eventually someone said the water and he said that is exactly what it would be. So he had actually looked into that and had seen that access to clean drinking water was number one because it was very difficult for the inhabitants to get hold of. So that was a very unique visual that he had thought about that and he had actually put together this process which I thought was interesting.

English 9

In the English 9 class, Mrs. J. felt that the “timing was rushed” as the project was very near the end of the semester. Despite this, student presentations went ahead and revealed increased knowledge and connections to the food system. Many students revealed that before the project they knew very little about the food system: “*I knew nothing*”, “*nothing at all until now!*” And although many students wrote that they did not care where their food came from and might be unwilling to make changes: “*I do care for the local farmers but I don’t want to go out of my way to do it*”, most student comments reveal a complexity of new personal connections to this issue and a willingness to make personal and community change.

What conclusions have you come to about the food system?	Where do you see room for change in the food system?	What actions could you take on a personal level? On a community level?
<ul style="list-style-type: none"> • <i>A lot of food is surprisingly bad</i> • <i>Where is my food grown?</i> • <i>I feel differently about how food is processed. I didn’t know there were so many steps</i> • <i>There is uneven trade</i> • <i>It’s not very structured</i> • <i>Buying local strengthens your regional community</i> • <i>Supporting local farms can help create jobs for your region</i> • <i>This affects me emotionally and I think about how we are destroying our earth right in front of our eyes</i> • <i>I am concerned where</i> 	<ul style="list-style-type: none"> • <i>Less processed food</i> • <i>Have less fake food</i> • <i>Have fewer people touch the food we eat</i> • <i>The way food is transported needs to change</i> • <i>Need way less impact on the environment</i> • <i>Need more balance in the system</i> • <i>Labeling needs to change</i> 	<ul style="list-style-type: none"> • <i>Eat more local food</i> • <i>Have more farms in the community</i> • <i>Buy more organic food</i> • <i>Filter your own water</i> • <i>Buy more organic food and you are supporting your community</i> • <i>Grow food ourselves because there are more nutrients and no chemicals because you know how they were grown</i> • <i>I should be paying more attention and being more pro-active.</i>

<p><i>big companies get products for processed foods</i></p> <ul style="list-style-type: none"> • <i>Companies are trading items that could potentially be harmful for our health</i> 		<ul style="list-style-type: none"> • <i>I have room for change</i> • <i>I'll try to check to be aware of where it's <u>REALLY</u> coming from</i> • <i>I might have to live in a self-sufficient community at some point</i>
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Social Justice 12

The Social Justice 12 students participated in two separate activities to demonstrate their new understandings about the food system. The first was a small group activity in which each group was presented with one of sixteen images relating to food (see Appendix F). Along with the image, each group had a list of questions to answer and then present their findings to the class. The questions for each image were the same: “*How do you think this photo is connected to food security?*”, “*Where is it?*”, “*Who is it?*”, “*What are they doing?*”, “*Who benefits?*”, and “*Is it important?*” At this point in the project, the students had already discussed, read about, and viewed through film, a great deal of material relating to food and were able to articulate general understandings about the system as a whole. The image presented by each group represented a very different aspect of the global food trade, for example, a United Nations plane being loaded with bags of grain, a vast aisle of products in a large grocery store, a family preparing a meal together, and an urban gardening project. As the presentations occurred the entire class was able to start making more specific connections between various aspects of the system. To really cement the understanding of these connections and have students articulate multiple connections and appreciate the dynamic complexity of the food

system, each group then undertook a webbing activity. At the end of the activity each group produced a large mind map-type drawing of the food system with both general and specific connections made and specific examples given. Appendix G demonstrates a sample of a completed web³. These final webs demonstrate a rich and intricate understanding of food in all its many aspects, both in our society and globally.

Implications for Education

Emergent Themes

The incorporation of food system education or food literacy into secondary school classrooms has implications for both classroom teachers and their students. As seen in the class examples here, students can gain not only factual information but a richer personal perspective on food in their own lives, and potentially how food choices affect other people in their community and around the globe. In conversation with each teacher after their class had completed the project, several common themes emerged (see Appendix H for interview questions). Not only did teachers have an overlap in how citizenship education through food could now fit into their classrooms, they had an increased personal understanding of the food system, and a willingness to experiment with further food activities in the future. Each of these themes is discussed in the following section: citizenship learning is an implicit part of education, citizenship learning is not explicitly planned as such, food literacy is unique to each subject area, there is a relationship between student age and ability to articulate food knowledge,

³ Used with permission of the authors

repetition and variety of food teaching is important, and food literacy should not be specifically written into subject area curriculum documents.

Citizenship learning is an implicit part of education

Because a classroom experience teaches so much more than just PLOs, I was curious what implicit learning teachers hoped their students would achieve over the course of a semester. Each teacher agreed that the power of personal relationships and personal empowerment was one of the overarching lessons in education:

Mrs. C ...that they have got structure inside of them that they can deal with that situation. They have the life skills that they are able to not panic so they know they can be spontaneous and they can talk around a problem rather than being limited by the words that they know. That they be enthusiastic and passionate about learning languages going on to hopefully learning other ones and feeling they can interact in a real life situation where they need to speak another language. That they learn about cultures and differences and understandings and similarities looking for patterns in that way and being open to new experiences

Mrs. J: ...wise choices in their lives so that might be relationships or in this case it was for health and ethical reasons but it could be purchasing choices that they have a lot of power at their age to make some changes and show what they want by way of how they are behaving and what they are putting their money toward. So I try to bring that up by what we are doing but a lot of relationship stuff because that is the nature of the beast in English.

Mr. F: ...how interconnected everything really is. I want to get them to be able to express themselves, to engage in research, to be able to argue points constructively, coherently, intelligently, to realize that there is a time and a place virtually for every kind of thought and manner of exposition and demonstration in whatever. That one can get a notion and passion about things but not to always be that way. I guess what I want them to see is how the world in which we live is impacted by so many other variables that you just can't write down in a sequence, that there is just too many of them and they come in too many different ways. But to be able to handle, to be able to have a framework and a paradigm that they can kind of take that in and rummage around with it and then spit something out that has meaning to them.

Although these statements do not use the word citizenship, each teacher does imply general citizenship values in describing respect for different kinds of relationships and

recognizing the interdependence of human relationship. This also echoes the principles of ecological literacy, within which a student would better understand the relationships between human cultures and between humanity as embedded in an ecosystem. Each teacher is also describing in their own language the same goals as the open-ended PLOs in their courses that allow educators the latitude to take on large topics or themes within which to approach more content-driven material.

Citizenship learning is not explicitly planned

When asked specifically whether citizenship was part of their curriculum and did they do any explicit teaching about it, the teacher's responses shifted.

Mrs. C: I don't think so. I mean I think it does if I think about it now but it is not something I have ever thought about before that it would relate to it. Because I think part of it, of citizenship, can be divisive I think because it can potentially have a concept of divisiveness in that you get a citizen against an immigrant and that sort of perception of it.

Mr. F: There wouldn't be much ownership of that concept. But I think that if you can introduce the idea of collective responsibility, global citizenship, food citizenship as kind of a spin off from that, peace citizenship, health citizenship, then it will become meaningful to them.

Mrs. J: My first reaction would be no, not directly, but yes in terms of showing students that they have a choice in their behaviour and how powerful that choice is. Citizenship is the social responsibility to make wise choices for our community as well as globally, to benefit the environment, ethical work conditions, and health.

Researcher: Do you teach it in your class?

Mrs. J: Only by way of natural connection as they relate to what we are doing. I don't go out of my way to make sure it is covered in my planning, but because it is important to me it shows up in little ways.

These responses indicate that teachers themselves may not internally think that they are teaching students about citizenship in their classrooms or make concrete connections between citizenship and their curriculum. However, responses to the previous question

about what it is important for students to learn indicate that teachers implicitly incorporate citizenship education into their students' learning in many ways.

Food literacy is unique to each subject area

Another common theme in each teacher experience was that any externally designed activity will need to be customized by the teacher to not only be meaningful for the students but also pedagogically sound. The planning for each of these three classes started with only a general idea of how to link food to a particular PLO and several conversations occurred between the researcher and teacher to change or fine-tune individual activities. For example, in the Social Justice 12 class, the initial idea was the student image analysis and webbing activity. Mr. F quickly realized that students would not be able to make connections on the web or articulate how a specific image related to a system without a great deal of background knowledge. The film *Darwin's Nightmare* (an analysis of a globalized fishery and subsequent poverty in Tanzania) was a previously planned activity in the globalization unit and Mr. F expanded this to include other documentaries and readings so student background knowledge was sufficiently detailed. Although Mrs. C was provided with a survey to use with her students, she decided to modify the questions and create the PowerPoint survey to have a more interactive discussion to introduce the project to her class. In the end, Mrs. J. found the collaboratively planned methodology too restrictive and confining for her class and decided that if she were to teach the unit again, she would incorporate more personal story-telling and anecdotes, rather than use a formal research-and-report process. The same kind of reflective planning and flexibility would need to be built into food literacy

education in any curricular area to ensure it fit not only with classroom goals but personal teaching styles as well.

Articulation of concepts vs. student age

There seems to be a trend in terms of the age of the students and their ability to express understanding of food system concepts. This cannot be generalized however because of the small sample size of this project. Mrs. C felt that older students would simply have a more sophisticated ability to express abstract concepts in French:

Mrs. C: I'm not sure I would do it again with the Grade 10's again. I do think it was valuable and valid to do it with them but I really think it was beyond them in terms of the French language.

Mr. F commented that perhaps most students at the secondary level would be unprepared to think about the complexity of the food system unless it was specifically taught to them:

Mr. F: Most of the students in grade 12, most of the students in grade 11 are not experienced enough in what they have read, what they have heard, what they have seen, what they have done really to buy into these kinds of things.

Finally, Mrs. J felt that younger students may not have experienced enough range of activity in the junior grades or through their families yet to fully grasp the implications of their food choices:

Mrs. J: So much depended on what their parents had taught them or maybe they [the students] happened to be in a Foods class that did some kind of work on ethical food choices but that was pretty much all they had. So by the time they are in Grade 12 maybe but I honestly feel that 99% of them are only getting exposure through what we are giving them. I remember a few years ago the presentations that came during our Wellness Week and a lot of the kids were enlightened by the information they got there. Some of those kids are in the school so I suspect they would have a better understanding.

These comments suggest that students need a variety of developmentally appropriate experiences about food in order to begin understanding all the complexities of the food system. It is likely that older students would have a greater ability to utilize rich

vocabulary and make stronger abstract connections, but this is the case with all subject material, not just ideas about food. What might be true is that as students progress through secondary school they become not only more involved in personal food buying choices themselves and at home, but they also accumulate multiple exposure to ideas about food that illuminate abstract connections.

Repetition and variety are important

Each teacher commented on this idea of repetition of food literacy as being important for student understanding. When students learn literacy skills of reading and writing, they progress through over a decade of different and layered approaches to these skills, beginning with alphabet printing and basic sounds in Kindergarten to intensively researched and formally structured essays by the time they graduate. Food literacy requires this kind of layering and constructivist approach as well. There are so many facts, perspectives, and connections within the food system; it might not be possible to teach them all in one course. Nor might this be desirable as students would only experience this learning with one teacher. A repetition of food literacy topics at multiple grade levels to reinforce vocabulary and basic facts would allow multiple contexts for student engagement. Mrs. J summarized this idea at the end of her interview:

I see the importance of kids getting the knowledge. I did sense that this is a very important topic to make sure that kids are aware of, which was surprising but the methodology is not something I would practice. I would buy into that if this was a big picture and this was one of [Greenside's] goals. I am always into buying into something like that that would support the kids in their bigger knowledge of the way things work but just on my own here and there it wouldn't feel like I was making a difference that way. If the whole school were doing it and I could take my part then I feel like the kids are getting my part of the whole, the whole is still there. But if I just do my part and nothing else is going on I don't think I would be willing to sacrifice any time in class for that without knowing that the

whole wasn't going to occur. It would be too random and not have as much impact.

If students participated in a food literacy activity in several classes even at each secondary grade level, they would graduate with at least a heightened understanding of connection between food, themselves, and the wider world. Even without a teacher making these connections explicitly with them, students would have the chance to perceive that food connects to almost every aspect of their lives in some way, not just a fuel for their biological selves. Conversely, it might be very difficult for students to conceptually make those connections without some kind of guidance:

Mr. F: In the past it had been this piece, then this piece, then this piece, but the food put them altogether in a nice pattern of information. And the kids were seeing it, "Oh well we saw that in...or we talked about that when..." so for them it was now holistic. The whole thing came together. It was marvellous.

Further research will be needed to determine how secondary students can best make these conceptual connections and begin to think about the food system in a holistic and ecological way.

Food literacy should not be mandated

Interestingly, despite this ideal of multiple exposures to food topics, none of the teachers believed that food literacy or food citizenship should become a mandated part of their curriculum as a PLO. Mrs. C and Mr. F both commented that enough of their course curriculum is already written with enough latitude to allow for multiple ways of teaching:

Mrs. C: I think it is open enough. It would be odd, it would look really strange if it was in there because there is nothing else that is that specific. Everything is very, very open so it would look very peculiar if it was there.

Mr. F: I think if you are a really good teacher and you have a good, broad background set of knowledge you can teach anything to anybody anytime and justify it in whatever

curriculum documents you want to use to be perfectly honest. I think once you start doing that you need to select people to teach those courses who are perceptive enough to realize what's there. I mean that is the beauty of the Social Justice curriculum. While it is quite discrete in terms of some learning outcomes and I think that may be where the dilemma is. Because it is a new curriculum people tend to want to look at it under a microscope and as a result you miss the big picture.

Mrs. J felt strongly that topics such as food needed to come from the teacher's experience and perspective to be genuine, although it might be helpful to have a curricular link to ensure that teachers did in fact teach the topic.

Mrs J: It feels good in the sense that it is not hit and miss so you've got objectives, you cover them, and you make sure that by the end of it that you understand what you covered and what you didn't cover as opposed to by the end of the semester you go oh yeah this came up or this didn't come up. So self-awareness of the teacher to know exactly what is being covered and probably a little bit more structure for the kids. I don't know if that correlates to them getting more out of it because they really do like the personal stories that the teacher brings to the classroom too. And I certainly did that with this unit. But the as and when stuff that just pops up I think they really appreciate that because it shows you are a person. Whereas when something is planned out like a lesson, it is less spontaneous, perhaps less genuine in their mind.

Challenges for thematic study in secondary classes

One challenge for food literacy in schools then might be the lack of personal awareness or interest among staff to include food-based lessons or themes within their classes. Despite a variety of curricula that allow for food related topics and a school goal of student social responsibility, outside of the three classes participating in this project there is little food education at Greenside Secondary except the Foods 9-12 and Cafeteria 10-12 courses. Mrs. J felt that thematic education on food would be best done in small pieces from year to year, and especially outside of class time during events such as the school Wellness Week when a variety of guest speakers were invited to talk about all aspects of physical, mental, and environmental health. Mrs. C commented that food was

an important part of culture and she could see it being incorporated in multiple small ways throughout her course. For example, she was planning another activity where students planned a party, including ordering and costing out all the food. Mr. F began to think about other Social Studies courses and discovered curricular connections in the human geography units of Social Studies 10, 11 and Geography 12. If only these three academic teachers may be actively thinking about food connections, would that be enough to stimulate conversation among more staff so the topic eventually became pervasive in classrooms?

Schools might need to take a more structured approach and explicitly have food literacy as an example or extension of their social responsibility/citizenship goals. As sustainability education or environmental awareness becomes a more prevalent teaching theme and more teachers begin to have conversations about water use and recycling, food production and choices could be added to the list as an important example. Upon close examination, it would be possible for a school staff to find many curricular links in which food could be used as a topic to investigate citizenship, social relationships, environmentalism, etc. and agree that certain courses would include food-related activities or conversations.

Teacher preparation is one final challenge to the successful implementation of food literacy. Although there is wealth of information now in the media about food issues, and catchphrases such as “food security” or “The 100 Mile Diet” have become common, teachers may not feel they have enough personal knowledge about the subject material. Also, teachers may not feel qualified to teach the subject or understand how to

teach it to their students. Mrs. J, however, offered an effective way for any teacher to approach the topic with their students:

I said to the kids right away I am not an expert on this; let's learn this together and see what we find and be interested. So it's more of an exploration together as opposed to a top down kind of a thing. I think that is just the best approach for something like this when it [food] is in a subject area where it is not necessarily that subject you are teaching.

There are also many, many resources available for teachers that could at least be a starting point for thinking about conversation topics or planning an activity. Appendix I lists some of the resources used by teachers in this project and others that focus on food education in a general way. The key seems to be willingness on the part of the teacher to experiment with the idea and create an opportunity for students to learn something new and share their experience.

Generalizability

There are so many differences between class composition, student experience, and school culture from one context to another that it may not be possible to transfer specific results of this project. However, within the province of British Columbia, teachers of a particular course use the same written curriculum to guide their teaching and often use the same texts and teaching resources available through their Provincial Specialist Associations or the British Columbia Teachers Federation. It is not transferable, however, in that teachers in general with the same teaching resources and background knowledge would have similar delivery style or student response to the food project.

Useful further research on food literacy would need to include a variety of work on student perceptions and responses about classroom activities but also if their learning translated into any lasting change in behavior. Mr. F and Mrs. J both noticed some immediate change in student language and behavior outside the classroom:

Mr. F: I have three students who reacted at home with their families. [Students said to their parents] “Do you know that this is going on out there? We have got to do something about it!” I had a couple of phone calls from parents thanking me for making their two daughters and one son more aware of the world.

Mrs. J: You could see they wanted to talk about stuff they had learned in Foods and how they made some changes because of that; not necessarily because of we said but because they had experienced it this year.

Longer term longitudinal studies over the secondary years would also be helpful to determine if and which food related activities students related to the most and in which subject areas they were most effective. Finally, community research around sustainable food could help determine not only other food education opportunities for students, but also make strong links for secondary students to participate in food activities such as farmer’s markets, urban agriculture, food banks and more. Dobson (2007) argues that through active project work all citizenship education could be taught through an environmental lens because every relevant theme such as “critical thinking, understanding human values, formulating policy, problem solving, political literacy, and human interdependency can be studied” (p.284). If this assertion is extended, environmental citizenship, and thus food citizenship, actually becomes the ultimate thematic unit for education across many curricular areas. It is in this participation, whether in the classroom or community that learning becomes a real and “truly lived curriculum that exudes the generativity, movement, liveliness and difficulty that lies at the heart of living our lives” (Jardine, 1998, p.73). While schools may not be able to teach every skill or idea students need to fully enact their citizenship rights and responsibilities, through food literacy schools can certainly introduce the perspectives and complex connections needed for students to make informed choices. By better understanding the environmental, social, economic, and political aspects of food,

graduates can continue learn about and consume food with intention and be more mindful of their interdependent place within the system.

Recommendations for Educators

The process of planning a new teaching unit or even creating a single new activity is exciting and can spark a great deal of energy in teachers and students. The synergetic energy of an inspired teacher and engaged students can create lasting learning experiences that open minds, shift perspectives and potentially change lives. Food literacy activities not only have the potential for students to link disparate ideas and subject material into a more meaningful understanding of reality, but may also inspire students to realize an aspect of life in which they can effect positive change. If food literacy education is appropriate or desirable in a particular educational setting, I recommend the following factors for consideration: the importance of making curricular connections whether in the classroom or school at large, time needed for personal preparation and background research, assessment of student background knowledge, determination of student achievement and assessment goals, creation or adaptation of activities, and the need to remain flexible when implementing thematic work.

Recommendations for schools and classroom teachers

One initial consideration for most educational environments is finding appropriate connections between pre-existing curricula and the food system. Simply inserting a lesson on the food system without careful consideration of how the lesson relates to previous topics or student learning may leave participants wondering why this new information is important or diminish the potential for real engagement. Curriculum documents should be examined for opportunities to incorporate lessons about food or

aspects of the food system. Food specific topics that may already be taught around nutrition, agriculture, fertilizers, food cultures, etc., could be extended to include a greater understanding of the larger system. In the sciences, topics such as genetically modified organisms, ecological cycles, organic chemistry and fossil fuel use can also easily include activities that relate to food. In Social Studies, conversations about poverty, democracy, human rights, or international trade can relate directly to food. Other teaching areas may include curricula that ask students to examine current events from different perspectives, express an opinion with clear evidence, or examine the motivations behind human decisions. Specific examples from the food system could be used for any of these items.

If an educator is unable to find a curricular link for classroom based activities, connections to school culture as a whole may be possible. School composting programs, special events that bring food into the school such as corn roasts or hot dog days, or extra-curricular groups such as environmental clubs are all avenues to start conversations about student connections to the food system. There are often members of the community who are happy to attend schools as guest speakers to help engage and motivate both staff and students in social or environmental projects; food could become a focus for these conversations. Schools also often collect food or raise funds for local food banks as a way for students to engage with the local community. Individual teachers or the school as a whole usually take this opportunity to talk to students about the links between poverty, hunger, and food insecurity at the individual or family level. It may be appropriate to extend this conversation to a community, regional, or societal level and examine issues of food security in one's own country and abroad. For example, in 2008, a disparity between world rice supply and demand resulted in food riots in both

stable (Philippines) and unstable (Haiti) economies. Students who understand both the local and international effects of food security then have a much better understanding of the larger system. Finally, the planning and construction of a school garden is one way to have students learning first hand about food plants in a variety of ways such as growing, harvesting, distributing, cooking and eating their accomplishments.

Once a decision has been made regarding the context of the food learning, educators should consider the extent of their own personal knowledge and comfort level teaching this material. Although it is not necessary to become an expert with hundreds of facts at one's fingertips, a general understanding of how the modern food system works and functions in the local context is very important. The Center for Ecoliteracy⁴ has an outstanding collection of on-line and print resources designed specifically for educators who want to explore concepts of sustainability with their students. There are also many community development organizations who have published lesson plans with curricular connections already made. For example, the Lifecycle Project Society⁵ has grade and subject specific lessons that include background reading, activities, and assessment suggestions. One of the Lifecycle Project lessons was the inspiration for an activity with Mr. F's Social Justice 12 class within this project. A simple on-line search will also reveal an enormous amount of information about the food system and how educators are using it as a teaching topic. The challenge will not be finding enough information, but how to present a broad overview and choose or develop a specific angle through which students can engage.

⁴ <http://www.ecoliteracy.org/>

⁵ <http://lifecyclesproject.ca/resources/>

An effective teaching strategy for any new topic is to determine student background knowledge. Not only does this give an educator a sense of how general or detailed a lesson can be, but also allows students to examine their knowledge and perceptions before new information is integrated. Food is a topic that lends itself to a wide variety of possible activities. In this project, teachers chose to use a verbal survey with questions designed to make students think about personal, community, and economic connections to food. Other possibilities might include assigning a specific question to small groups and then sharing information with the class. As more and more food information is available in the media, students may have their own questions that prompt a class discussion and potentially direct the flow of learning for the entire unit. Concept mapping is another teaching strategy that would allow students to brainstorm about food knowledge and then organize their facts or examples into both broad and narrow categories. This kind of mapping, especially when done on large sheets of paper or a board in the classroom allows students to make visual connections between ideas, but also potentially identifies areas where new knowledge is needed. Finally, a pre-quiz with no formal assessment tied to correct answers, similar to the survey given to the English and French students in this project can provide both teachers and students a clearer understanding of both knowledge and misconceptions about the food system.

Once a classroom baseline of shared knowledge is achieved, educators will need to decide what specifically they want their students to achieve by the end of the unit. Educators in different subject areas will have clear goals about what they want their students to achieve by the end of the activity or unit. Accumulating factual knowledge about the food system for a pencil-and-paper test, creating a mindmap of overarching

food issues, producing individual written or oral work, or devising a community food plan are all very different goals that will require a different educational path and differing amounts of time to achieve. An English student whose goal is to describe the characteristics and motivation of a protagonist might mentally assume the role of a migrant farm worker and write about their life experiences. A biology student whose goal is to demonstrate the scientific method might develop an experiment to compare water samples from local farms. A social studies student with the goal of integrating general concepts in a specific location might present an analysis of how export of cash crops affects the education and economic potential of children and families in a developing country. These are important questions to ask and answer as a unit is developed. The food system is incredibly complex and students will need guidance about which aspects on which to focus their learning.

Finally, and most excitingly, educators have an opportunity to either choose or create activities for students that link food to their classrooms. A brainstorming session with colleagues or students could yield an interesting set of activities. Educators will find that at this point they need to provide either an opportunity for research or a series of readings, questions, or other information so students can gain some factual knowledge. The introduction to these activities is also an opportunity to talk to students about the fact that no one person will be an expert on this subject, but during the unit students will be making connections between many disparate ideas. It is in understanding these connections that students reveal real knowledge of the food system. For example, a student may already know that bananas only grow in tropical climates and must be shipped great distances to the grocery store. But the same student learning then about

carbon dioxide emissions in transportation, toxic fungicides, health effects on workers in the plantations, and wastage in grocery stores, may start looking at a banana differently and start asking questions about how and why the system functions as it does. Moreover, the students might even begin to ask why in British Columbia or the Northern Hemisphere we even eat bananas at all!

As a food system unit or activity progresses and nears completion, it is important for educators and students to remain flexible in their thinking. Time or curricular constraints and engagement level of the students may precipitate the need for an activity to shift focus or shorten, depending on the needs of the class. It is also key that students not feel they are being indoctrinated into thinking or believing that the entire global food system is negative. Students and educators might instead consider that this system, just as our use of water or any other resource, has been evolving over thousands of years. There are aspects of food production, distribution, and consumption that are culturally relevant, economically sustainable, and very positive for communities and political entities. There is also an expanding body of research arguing that food production must become more globalized and dependent on technology in order to feed the growing human population. Regardless of the educational goal or chosen activity, it is important for educators to choose information that represents a variety of perspectives; each student will find their diverse connections between food in their own lives and new information or attitudes gained during the class activities. It is in this varied ecology of food knowledge that students will become more informed as members of their own community, but also as food consumers in the global community.

Recommendations for professional development and community educators

Food literacy education outside traditional classrooms is potentially more flexible in terms of context, curricular demands, and timing but I would suggest a similar planning process for implementation of any program. Interested individuals will need to decide why they are engaging in a food project and decide what is important for their group to learn, know about, or do. These could be practical skills such as learning to prepare soil, plant seeds, and nurture plants, or more abstract goals such as unraveling the political and economic interests in the local food system. The answer to this question of what is important to know will be completely context dependent on the place and in which the activities will take place and the various interests of the participants.

Participants will also need to decide how they will gain more knowledge about food. Will they engage in personal research through multiple texts, the Internet, and video, will they apprentice themselves to a local food grower, or find some other source of information? Throughout this process, the central question of *what is important to know* may shift as interests or talents emerge from the group.

Finally, the group will need to negotiate and establish a goal and criteria for evaluating or deciding when this goal has been met. Will a food garden be built and vegetables donated to a food bank? Will a municipal planning council analyze sources of local food and make recommendations for creation of a local market? Will a community institution plan a series of culturally-related activities involving specific foods and their preparation? Each of these unique questions will have an equally unique set of circumstances, variables, and plans needed to achieve a food-related goal. Regardless of the location of food education, the people involved have an opportunity to

support or restore community connections between each other and their foodplace: their unique overlap between culture and environment.

Ultimately, a more food literate community has an increasing ability to disrupt ingrained notions of how food is supplied and consumed within a local area or region. As citizens gain more understanding of both local and global production methods, they gain a stronger voice in expressing what kind of food system they want enacted in their area. Food conversations about consuming food can also lead individuals to reconnect with food culture: how we grow, think about, prepare, and eat our food. Communities with strong food systems that take into account ecological, economic, and social needs could be considered more “food secure” and resilient in the face of global shifts in climate or economic recession. If our lives are shaped by food, then a truly food literate person needs as much critical information as possible about the daily act of eating in order to make an informed decision. A critical engagement with our daily food choice empowers us not only nutritionally and economically but also brings into focus our individual and communal place within the biological and social systems of the planet.

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Appendix A - Invitation to Participate

[UVic letterhead]

September 15, 2009

Hello, my name is Erin Stinson and I am a graduate student at the University of Victoria. Thank you for allowing me to take up a few minutes of your department meeting to talk to you about my research.

I am working on a project for my Masters of Education degree that deals with the concept of food citizenship. This topic involves understanding how the current global food system is organized and how we participate in it on a daily basis. The way that we purchase and grow food has impacts not only in our own community but also around the world. Both on a local and global scale, there are people with too much or too little food, areas that cannot produce their own food, and environmental destruction. As a society, I believe that we need to think about food choices as being citizenship choices: that to be a good local citizen of our community and global citizen of the planet, we need to educate ourselves about various aspects of the food system.

There are Prescribed Learning Outcomes (PLOs) from the British Columbia Ministry of Education in the curriculum for your classes that use words like “citizen”, “fairness”, “member of society” or ask students to be able to explain various perspectives on issues or compare and contrast different viewpoints. Often, teachers use current events from the news or other timely materials to explore these requirements with students. Participation in this project would have you choose articles, activities, or other teaching materials that relate to the food system to use as you normally would with your students.

This will not mean extra work for you as I have already selected or designed materials that will work within your existing teaching structure and meet the PLOs for your course. If you choose to participate, we will have a short meeting so you can review the materials and you will be able to make changes to the material to best suit your students. You will also choose a time frame during this semester that works for your class. Once the activities have been completed with your students, we will meet again so you can provide feedback on the material itself, how students received it, and how you think it could be improved if you or another teacher were to use it again.

It is your choice to participate in any part of the project and you may choose to withdraw at any time. I do not believe that there is any risk in participating. Our existing professional relationship also must not unduly influence your decision to take part in the study. By choosing to take part, you may learn more about the food system and how issues of democracy and citizenship can be better incorporated into your classroom.

If you do participate, your name and the name of any student you mention will be changed. Our two meetings will be audio taped so I can use notes or quotations in my

project. The audiotapes will only be heard by me and possibly my supervisor at the university, Dr. David Blades, and will be stored on my computer at home. With your permission, I may present the findings of my project to this department once the project is completed.

Thank you very much for your time and please feel free to ask me any questions about the project or my research.

Sincerely,

Erin Stinson

Appendix B – Initial Survey for Students



What do you know about your food?

1. How far has most food travelled before it reaches the supermarket?
A. 100 km B. 50km C. 500km D. 1500km
2. What percent of their total income do most Canadian's spend on food? (we are the second lowest in the world)
A. 15% B. 5% C. 20% D. 50%
3. How many Canadian children do not get enough to eat each day?
A. A few thousand B. Over a million C. half a million
4. What percentage of our food do we grow on Vancouver Island?
A. 2% B. 10% C. 40% D. 60%
5. If there was a natural disaster, such as an earthquake, and food could no longer be shipped here, how many days of food are stored on Vancouver Island?
A. 2-3 days B. 5-7 days C. 10-14 days D. 15-20 days
6. In the space below, list three food items that you eat every day. Next to each item, write the name of the country where the food was grown.
7. List the names of the food plants that you know how to grow.

8. How is the production of food linked to a healthy environment?
9. How many companies control most of the food in the world?
A. 2 B. 6 C. 50 D. over 100
10. Which of the following countries have recently had conflict or war because either there was not enough food to feed everyone, or the people growing the food were not being paid fairly?
A. Haiti B. China C. Guatemala D. The United States
11. How often do you try to buy fresh food that does not have too much packaging, is organic, or is produced as locally as possible?
A. Often B. Sometimes C. Never

Appendix C – Introductory Vocabulary for Junior and Senior Students

Food literacy vocabulary used with English Language Arts 9 students	
Sustainability Food miles Biodiversity Fair Trade Consumer/producer Food security Food system Globalization Interdependent Industrialization Processing/packaging	
Food literacy vocabulary used with Social Justice 12 students	
Available Accessible Adequate Acceptable Agency Agricultural diversity Biodiversity Cash crop economy Community Consumption Conventional agriculture Corporation Cultural resource Development aid Domestic/Imported Displacement Ecological Fair Trade Food miles Food security/food insecurity Food system Globalization Greenhouse gas emissions Homogenization	Industrialization Interdependent International development Landfill Local Malnutrition Mono-cropping Non-governmental organization (NGO) Obesity Organic Pesticide/Herbicide Pollution Processing/packaging Quality of life Small scale/Mass Production Sustainability Traditional food knowledge Transportation Urban agriculture World Trade Organization

Appendix D – French Language 10 Research Project

Qu'est-ce qu'on mange??? (Projet à 2)

« La sécurité alimentaire est l'affaire de tous, de la fourche à la fourchette ».



Objectifs:

- Découvrir les habitudes alimentaires du monde francophone
- Comparer ces habitudes avec nos habitudes sur l'Île de Vancouver
- Comprendre d'où vient la nourriture, et les conséquences de la globalisation sur notre environnement
- Perfectionner sa compréhension et communication en français
- Faire une présentation simple en français
- Faire de la cuisine francophone et déguster des plats différents

Organisation :

Mardi 29 février : Questionnaires et sélection du partenaire et du pays (max une paire par pays !!)

Mercredi 30 février: à la bibliothèque – recherches et organisation de la présentation (poster/brochure et notes)

Jeudi 1 octobre : à la bibliothèque – recherches et préparation de la présentation (poster/brochure et notes)

Vendredi 2 octobre : à la bibliothèque – on finit les recherches, on pratique les présentations, on organise qui va préparer quoi pendant le weekend

LUNDI 5 octobre : présentations en petits groupes avec dégustation du plat

Description :

On fait des recherches pour trouver...

1. Comment s'appelle le pays/la région et où se trouve le pays/la région (+ **carte**) ?
2. Quels sont des ingrédients les plus utilisé/typiques ?
3. Quelles épices est-ce qu'on utilise ?
4. Quelles sont des boissons typiques ?
5. Normalement, **où, avec qui et quand** est-ce qu'on mange et qu'est-ce qu'on mange à chaque repas ; comment s'appellent les repas ?
6. Quelles sont les jours de fêtes les plus importants et qu'est-ce qu'on mange et boit ?
7. Combien est-ce qu'on dépense sur la nourriture (typiquement) comme % des revenus, comparaison avec la C.B. ?
8. Est-ce que ce pays produit des aliments pour l'exportation ? Est-ce que ça cause des problèmes de pauvreté ou d'inégalité ? Des conflits ? Est-ce que les producteurs locaux sont payés adéquatement ?
9. Est-ce que ce pays produit des aliments pour la consommation locale ? Quel pourcentage des produits alimentaires reste au pays ?
10. Des différences et des similarités avec la Colombie Britannique
11. Des images du pays/de la région et de la nourriture et des boissons typiques (n'oubliez pas d'avoir une carte)

N'oubliez pas de préparer une bibliographie !

Choix :

Pays

- | | | |
|-----------------------|-----------------|--------------|
| - Algérie | - Belgique | - Bénin |
| - Burkina Faso | - Burundi | - Cambodge |
| - Cameroun | - Côte d'Ivoire | - Comores |
| - Djibouti | - France | - Gabon |
| - Haïti | - Luxembourg | - Madagascar |
| - Mali | - Maroc | - Niger |
| - République du Congo | - Rwanda | - Sénégal |
| - Suisse | - Tchad | - Togo |
| - Tunisie | - Vanuatu | |

Régions :

- | | | |
|-----------------------|-------------|-------------------|
| - Polynésie Française | - Louisiane | - Québec (Canada) |
|-----------------------|-------------|-------------------|

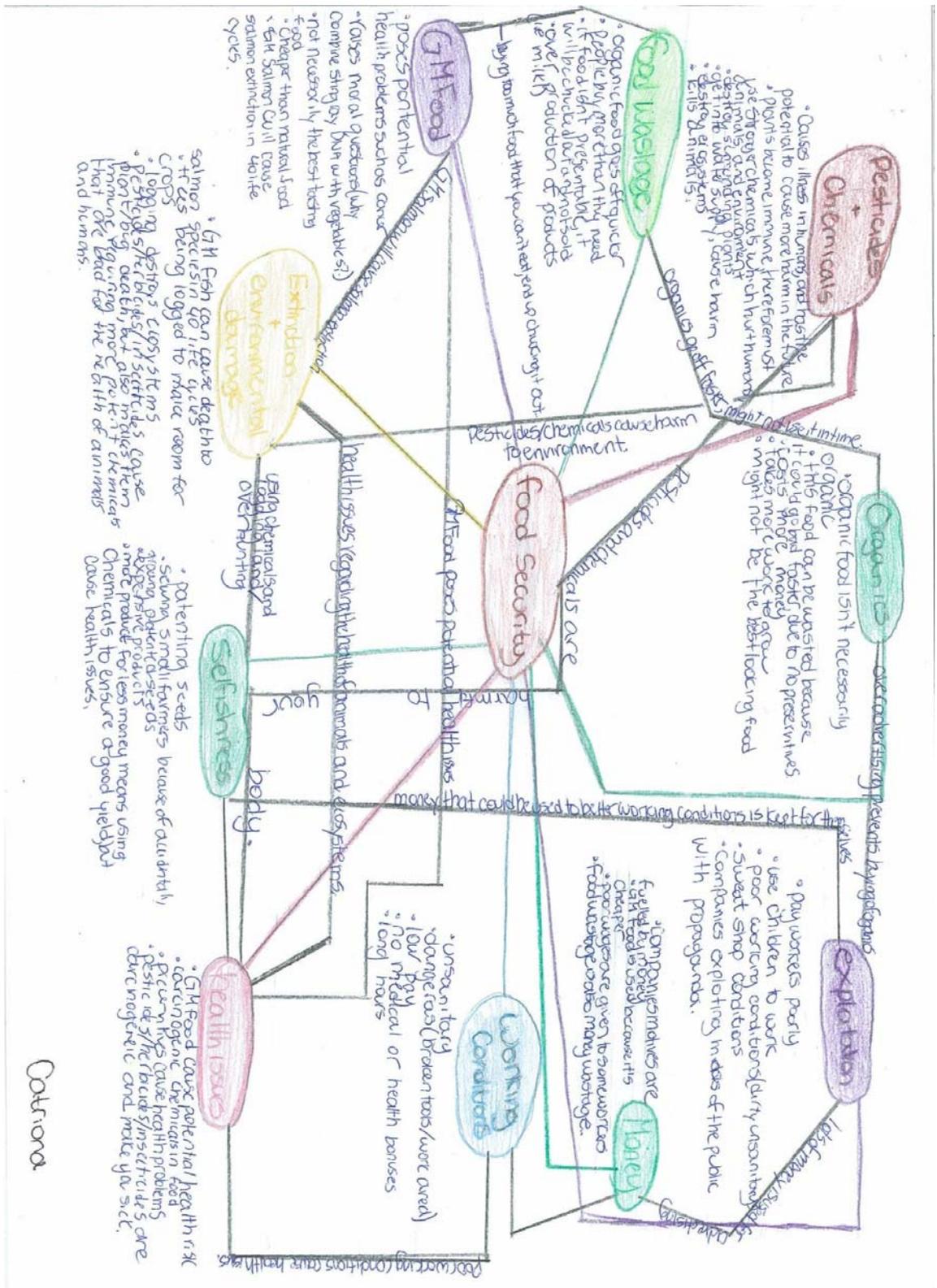
Exemple (pas complet...):

(1) Nous avons choisi la France. La France est en Europe de l'ouest. Il y a beaucoup de différences régionales. (2) En France on mange traditionnellement du pain avec chaque repas. On utilise beaucoup de laitages, de viande et de légumes. Dans le sud de la France on utilise de l'huile d'olive, dans le nord on utilise plus de beurre. (3) On boit beaucoup d'eau minérale, du vin et du café. (4) On utilise des herbes comme le persil, le thym, le laurier, le romarin. On utilise des oignons et de l'ail....

Appendix E – Social Justice 12 Images



Appendix F – Student sample of webbing activity from Social Justice 12



Catrina

Appendix G – Semi-structured interview questions

1. In addition to the written curriculum for this course, what else do you hope or want your students to learn?
2. What does the word citizenship mean? Does the idea of citizenship fit in with your curriculum at all?
3. Current research uses the term “food citizenship”. What do you think of this phrase?
4. Would the term food citizenship mean anything to your students?
5. What would students have taken away from this project?
6. How did the activities fit within your current teaching in this subject area?
7. Did your students have the maturity level to be able to discuss the food system?
8. What was the students’ previous knowledge?
9. Did you feel you knew enough background information about the current food system to implement the activities? Did you have enough material or resources to feel comfortable teaching?
10. If you were going to teach this material again, what changes would you make in the content or sequencing of activities?
11. What surprised you as the students worked through the material?
12. Should the food system become a mandated part of your curriculum?
13. Is there any other information you would like to include in this study?

Appendix I - Resources for Educators

Lesson Plans about Food and Globalization

Lifecycle Project Society <http://lifecyclesproject.ca/resources/>

Through this organization there are two lesson guides available for purchase: one targeted at middle level learners and one for secondary schools. Each guide comes with a rationale for why food learning is important, background reading and scaffolded lessons that engage students in critical analysis of the food system from multiple perspectives and global locations. This organization will also provide detailed assistance with the creation of food gardens at schools and community sites.

Centre for Ecoliteracy www.ecoliteracy.org

This organization recognizes the importance of education in the creating of sustainable societies and provides many resources for community and school-based educators. Many of the contributors to the website are recognized experts in curriculum and education, specifically as they relate to teaching about the environment, culture, and society. Lessons and practical resources are available as well as information about philosophical frameworks related to food and ecological education.

Tools for Learning www.toolsforlearning.ca

These downloadable lesson plans cover a variety of international development issues, many food-related. Lessons are already correlated to the curricula of several Canadian provinces.

Sustainable Food Systems www.round-river.com/curriculumhome.html

A series of lessons about food literacy and sustainable development designed for farmers to take into classrooms and deliver to students, age 12 and up. Although these lessons were designed to be implemented in a specific place, they could be adapted to any location.

No Impact Project <http://noimpactproject.org/educators-middle-high-school-environment-curriculum-html/lesson-plan-3-of-5-food/>

This is one lesson on food of a set of 5 sustainability lessons from the “No Impact Project”. A family in New York City decides to examine their living habits and tries to make environmentally-friendly changes while documenting their process. The website and specific lessons include extensive links to other on-line resources.

Print Materials

All of these titles have been published as popular non-fiction within the last ten years and are available in bookstores and public libraries. Although each author has a different perspective or focuses on a different aspect of food, they *all* emphasize the need for changes in the way Western society conceives of, creates, and consumes food.

Title	Author
<i>Collapse</i>	Jared Diamond
<i>The Omnivore's Dilemma</i>	Michael Pollan
<i>In Defense of Food</i>	Michael Pollan
<i>The 100 Mile Diet</i>	Alisa Smith
<i>Animal, Vegetable, Miracle</i>	Barbara Kingsolver
<i>Fast Food Nation</i>	Eric Schlosser
<i>Ecological Intelligence</i>	Daniel Goleman
<i>Slow Food Nation</i>	Alice Waters
<i>Why Your World is About to Get</i>	
<i>A Whole Lot Smaller</i>	Jeff Rubin
<i>Ecoholic</i>	Adria Vasil
<i>The Atlas of Food</i>	Erik Millstone and Tim Lang

Curriculum guide

<i>Environmental Learning and Experience: Guide and Curriculum Maps</i>	B.C. Ministry of Education
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This resource can be found on the British Columbia Ministry of Education's website at <http://www.bced.gov.bc.ca/irp/resdocs/> and provides suggestions for implementing environmental education in provincially run public schools. Four major themes are addressed: complexity, aesthetics, responsibility and ethics. The guide does not contain specific reference to food but educators may find the overall framework as a useful philosophical guide or evidence of curricular connections. Specific learning outcomes from K-12 in various subjects are identified as possible links to environmental education.

Documentary Film

Power of Community: How Cuba Survived Peak Oil

A brief overview of The Special Period in Cuba's history is provided and a detailed analysis of how Cuban society adapted to reduced oil consumption as trade embargos with the United States were established.

Darwin's Nightmare

The overfishing of one fish species for European consumption in Lake Victoria, Tanzania, leaves the local population dealing with more severe poverty and hunger. This

film concretely demonstrates the globalization of food and its effects on the people in the country of origin.

Food, Inc.

Personal interviews with authors, farmers, community members, food workers, and corporate members reveal the corporate control over the food industry in the United States.

The Future of Food

Similarly to *Food, Inc.*, this video provides concrete examples of how intertwined political and economic interests control power within the North American and global food systems. Also included is information about the science behind common food pesticides, genetically modified organisms, and the politics of patents on seeds.

The Corporation

Not focusing only on food, this video documents how corporate entities are formed and why they have such a growing influence in societies around the world, particularly in North America.

The Garden

This video documents the creation and use of a large food garden in an empty lot in downtown Los Angeles, California. The community protests through various means and various Hollywood actors become involved when the land is sold to a developer and destruction of the garden is imminent.

Internet

Capital Regional Food and Agriculture Initiatives Roundtable (cr-fair)

www.communitycouncil.ca/crfair_nl/crfair_nl_index.html

This is an organization in Victoria, British Columbia that analyzes and helps develop food policy in the city and surrounding area. Readers will find links to how the organization is structured and works with the local governments as well as specific information about local food production.

Each of the following is a short public lecture from the Technology, Environment, Design (TED) Talks series. Experts in various fields provide animated talks of 20 minutes or less and often provide evocative images to stimulate public discussion and debate.

Carolyn Steel: How food shapes our cities.

www.ted.com/talks/lang/eng/carolyn_steel_how_food_shapes_our_cities.html

Jamie Oliver : Teach every child about food.

www.ted.com/talks/lang/eng/jamie_oliver.html

Mark Bittman: What's wrong with what we eat?

www.ted.com/talks/lang/eng/mark_bittman_on_what_s_wrong_with_what_we_eat.html