

Community-Based Action Research in Vancouver Public Schools: Improving the Quality of Children’s Lives through Secure and Sustainable School Food Systems and Experiential Learning

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ABSTRACT The “key players in a community-based action research project in Vancouver Public Schools study” is a part of the Think&EatGreen@School (TEGS)¹ project that aims to document the experiences of important actors within the movement towards healthy and sustainable Vancouver public school food systems and related learning opportunities. By interviewing key players in the Vancouver school food movement, we found that meaningful collaboration is a critical component in creating rich learning experiences that result in a more holistic and integrated perspective on food systems and improved quality of life. The TEGS Project is guided by principles of community-based action research (CBAR), an iterative process using community-university collaboration to identify opportunities, generate knowledge, and devise and implement locally-appropriate action to create desired change. Capturing the stories and experiences of key players represents an important step in articulating the learning emerging from this collaboration. Key Players commented on important networks, challenges, “success stories,” and styles of leadership that facilitate successes. The Key Players study has assisted the Think&EatGreen@School community of learners to better understand practices that constitute ‘seeds of change,’ to use these seeds to replicate positive actions, and to refine and strengthen the direction of the project.

KEYWORDS food security; community engaged scholarship; quality of life; school food system sustainability; health

This paper is the result of a qualitative study designed to capture and document the roles and experiences of “Key Players” involved in the

¹For a short summary of Think&EatGreen@School, please see a 5-minute video at <https://www.youtube.com/watch?v=7zrb4WDxU4c>

movement towards healthy and sustainable food systems² in Vancouver schools and experiential learning opportunities related to it. The collaborative project entitled Think@EatGreen@School (TEGS), of which the Key Players study is a part, is a five-year community-based action research project in Vancouver public schools, bringing together a community of learners including teachers, chefs, gardeners, urban agriculturalists, students, designers, community nutritionists, academics, and policy-makers dedicated to positive school food system change. The evolution of the project and its multi-layered network is a rich story that can be touched on only briefly here. The core TEGS team (who collectively applied for the SSHRC Community University Research Alliance grant) began with over thirty co-investigators from university, community partner organizations, and education, health, and food policy governance in the City of Vancouver. Through outreach, efforts to connect Key Players and stakeholders to one another, and the snowball effect, the TEGS network eventually came to include teachers, parents, students, and other diverse actors from all across the Metro Vancouver region, and the TEGS has partnered with other academic institutions in Canada and internationally.³

The Key Players study sought to discover what the most salient examples of success look like, and what drives and facilitates those successes, in a local movement aimed at changing the way formal and informal food education takes place. Moreover, identifying and interviewing key players in the Vancouver school food movement was part of TEGS' mandate to listen to voices from the community, draw inspiration and practical guidance directly from those voices, and help mobilize existing assets in the community to spread and scale up positive initiatives already taking place.

TEGS frames its collaborative work as a process of community engaged scholarship (CES), after Ernest Boyer's (1990) call to recognize a diversity of scholarships, including a scholarship of engagement with social, civic, and ethical problems. The TEGS Project methodology is guided by principles of community-based action research (CBAR)⁴, an iterative process of learning and change that requires community and university collaboration to identify and define strengths and opportunities, generate locally-produced knowledge, and devise and

² TEGS has adopted the "Principles of a Healthy and Sustainable Food System," articulated by the Academy of Nutrition and Dietetics (formerly the American Dietetic Association), American Nurses Association, American Planning Association, and American Public Health Association (2010), as an appropriate description of our aim.

³ For a summary of Think&EatGreen@School research projects and databases, see <http://thinkeatgreen.ca/research-projects/>.

⁴ The distinction between community-based experiential learning (CBEL) and community engaged scholarship (which encompasses community-based action research or CBAR) that we propose is subtle: While CBEL refers more generally to learning that is experiential and based in communities, community engaged scholarship has, in addition, the intent of documenting and sharing the knowledge created through experiential and iterative dialogue and interaction between university and community, resulting in the scaling up of positive actions and initiatives for the benefit of all parties (which in turn leads to more experiential learning).

implement locally-appropriate actions to create mutually desired change. Think@EatGreen@School recognizes that collaborations of diverse members of the community lead to rich learning experiences and changes that can have a lasting positive influence on the health and quality of life of children, the school community, and the ecological communities to which schools are connected (Rojas et al., 2011). The partnership between the university-based and community-based teams generates a type of knowledge with unique emergent properties that makes it different from purely academic and purely community-based knowledge (Rojas et al., 2011).

Within community engaged scholarship, community members have an active role in identifying the needs and challenges of the community, directing or developing research objectives, and helping to ensure the Project produces and disseminates practical outputs (Roche, 2008). Capturing the stories and experiences of key players represents an important example of how TEGS values and makes use of culturally situated knowledge (Eversole, 2012, p. 33). Also, because some of the key players were already closely involved in the project when they were interviewed, ‘checking in’ with them was also an important step in the process of articulating the learning emerging from the TEGS collaboration. Key players were also individuals identified as being in uniquely opportune positions to comment on important matters such as networks, connections between different groups of stakeholders, “success stories,” and the different styles of leadership that can support the emergence of those successes. The insights gained from the key players study have assisted the community of learners involved in Think@EatGreen@School to better understand practices that constitute ‘seeds of change,’ as well as the history and development of these practices in Vancouver, and to use these seeds to initiate or replicate positive experiences. The study also provides suggestions for refining and further strengthening the actions and direction of the TEGS project as a whole, and of projects with similar objectives.

Goal and research questions of the Key Players study

The goal of the key players study was to identify patterns in the key players’ experiences, which can then be shared with others and applied to further facilitate the transition to healthy and sustainable school food systems. The Key Players study responds to the following research questions: (What motivates individuals who are identified as leaders in the development of programs and practices pursuing sustainable and healthy food systems in Vancouver public schools? What experiences do key players recognize as expressions of the integration of food, sustainability, and health into the curriculum? What pedagogical innovations do key players adopt to support the integration of food, sustainability, and health into the curriculum?)

Methodology

The Key Players study is a value-driven study that documents experiences that are explicitly considered desirable by the TEGS core team, and which align well with the Project’s goals. Therefore, the methodological steps we followed were geared towards

the objectives of identifying and understanding ways to scale up experiences that embody the objectives of TEGS.

In its second year, the Think&EatGreen@School co-investigators (i.e. the initial team that applied for the SSHRC grant) of the five-year Think&EatGreen@School project made a preliminary list of eighty individuals who were especially active and influential in the sustainable and healthy school food movement in Vancouver. This list included public school teachers, staff and administrators, parents and Parent Advisory Council members, representatives from community partner organizations, academics, and individuals otherwise involved in food-related education and/or policy. These eighty individuals were the ‘nominees’ to potentially be interviewed in the Key Players research study, with the goal of discovering their visions for the future, their motivations for being involved in school food movements, and the most relevant enablers for and barriers to their work. Some of these eighty individuals were already very involved in the Think&EatGreen@School Project, whereas others were known to the Project, but not yet very involved in it. The TEGS co-investigator team voted on the nominees to produce a shorter list of twenty-five Key Players, all of whom were invited to be interviewed.

In-depth interviews with twenty-four Key Players were scheduled, conducted, and transcribed between the fall of 2012 and the spring of 2013—during the third year of the five-year TEGS Project (due to scheduling conflicts, not all individuals were able to participate). The interviewees included ten teachers and past teachers; three Parent Advisory Council members; eleven representatives from various food, health, and environmental organizations; and three researchers, students, and/or employees from the University of British Columbia (UBC). Several individuals fit into more than one category and assumed multiple roles in the community. The first five interviews that took place were also considered a pilot test of the detailed semi-structured interview guide, which was developed by the authors and reviewed and refined through feedback provided by members of the research team, including teachers, UBC faculty, and graduate students.

Research assistants used the guide to conduct interviews with key players, and interviews were audio-recorded and transcribed verbatim.⁵ Most of the data collected is qualitative in nature, although interviewees were also asked to assign scores between one and five to various potential enabling factors, depending on the perceived importance of those factors for the success of their work.

Complete transcripts were uploaded into Atlas.ti, a software program that facilitates qualitative data management and analyses, and interviewees’ responses and comments were categorized by theme and compared to identify commonalities. To view a copy of the interview guide, as well as a more detailed description of the data analysis process and an extended report of the study’s findings, please contact the authors.

⁵ The fieldwork conducted for this research study was covered by UBC Behavioural Research Ethics Board approval (UBC BREB Number: H10-00261).

Findings

Some of the motivators, enablers, and strategies that interviewees encountered in their work towards healthier, more secure, more sustainable school food systems and food system education included food-related activities that are highly conducive to hands-on, engaging learning opportunities on a wide range of topics; the value of the practical skills, confidence, and attitudinal changes imparted to those involved in food-related initiatives; the effectiveness of experiential, holistic and other creative pedagogical strategies (to which food education, as a ‘connector’ of lessons and learners, lends itself); the importance of school-wide teamwork and collaborations among diverse stakeholders in food systems movements (including community-based experiential learning); and the advantages of learning as a community of co-learners.

Using Food as a Connector: Integrating Themes and Topics within the Curriculum

Many interviewees reported that food is a useful tool for teaching about various subjects in an engaging manner: cooking, growing, and composting activities, besides teaching important practical life and career skills, lend themselves to a variety of subjects and lessons in math (e.g. ratios, fractions, measurements, graphs); science (e.g. ecology, food webs, plant and animal reproduction, pollination, microorganisms, decomposition, botany); creative writing, art, history (e.g. First Nations studies, colonization, the agricultural revolution), and Physical Education (e.g. ‘biocycling’—a creative combination of bicycling, community service, and the collection of valuable compostable materials from the surrounding neighbourhood). Rather than establishing school food programs and initiatives *in addition to* and separate from the existing school curriculum, most of the teachers interviewed emphasized the importance of using food-related activities in various lessons to develop students’ skills and knowledge. One teacher commented:

People need to get their head around the fact that it’s valuable; it’s not an extra, it’s not an add-on, but you can do so many things with those experiences that people shouldn’t be frightened that it’s adding more. Like, ‘Oh I’m so busy, how am I ever going to get my kids out in the garden?’... But if you think creatively about it, it’s doable and it’s manageable... [the prescribed learning outcome⁶] kind of takes care of itself if you plan the activities well.... The compost bins used to be—maybe won’t be now that the city is doing compost collection—a good way of incorporating woodworking and building, measuring, etcetera [for the] application of those skills.

⁶ The prescribed learning outcomes are statements of what students are expected to know and do at the end of a particular grade or course. Schools have the responsibility to ensure that all prescribed learning outcomes are met; however, schools have flexibility in determining how to deliver the prescribed learning outcomes most effectively (The Province of British Columbia, 2013).

Food was described as a ‘connector,’ in that it pertains to myriad related issues (such as health, the human body, the environment, animal welfare, social justice, history, local food systems, and food sovereignty) and can therefore be used to demonstrate the interconnectedness and relevance of various topics.

As a garden program coordinator at one school noted,

Every single classroom has their own [garden] plot and is engaged in growing food, harvesting food, food preparation and salad preparation, composting, so the whole food system, including the composting and salad bar, they are all tied into each other and it’s just about learning and supporting and promoting local food techniques and why it’s good to use them.

Food-related activities such as gardening and cooking helped students to appreciate and apply lessons about what is involved in growing and preparing food, as well as implications for human health and for the natural world. Several educators remarked that since participating in school food systems activities like growing, preparing, and eating foods while learning about where they come from, students had begun to encourage their parents to purchase more local and healthier food.

Several educators noted that experiencing the complete food system (from planting seeds, to harvesting, preparing, sharing, and building soil for planting again) has important learning outcomes for their students’ sense of connection. For example, by understanding the food system as a whole, students come to realize that they themselves are part of that food system. This learning, in turn, has countless implications for how students will interact with food and with the natural environment, and how they will perceive their roles and responsibilities within communities and ecosystems. Thus, hands-on food education has the potential to enlarge the learner’s capacity to situate real-life decisions and tasks within a larger and more complex picture. A food educator remarked that learning holistically and experientially is, in fact, the way that learning is *supposed* to take place—otherwise, the ‘big picture’ lessons are lost, and many of the disparate segments of information are quickly forgotten. Further, quality of life (as well as quality of education) can be improved by envisioning and embracing a lifestyle that enhances the holistic wellbeing of the learner within the context of his or her environment.

How, where, and when learning takes place: holistic and experiential learning

In order to effectively embed food systems learning in the informal and formal curriculum, several interviewees agreed that it was necessary to adopt creative and critical systems thinking approaches, and to adapt ‘where, when, and how’ learning that takes place. Correspondingly, incorporating food-related activities into the curriculum was seen as a first step or gateway to re-examining and revising pedagogical approaches more broadly, and thereby meeting Prescribed Learning Outcomes and other personal teaching objectives in more effective ways.

Food education was valued for being highly conducive to experiential learning and teaching methods, and experiential learning was recognized as being more effective and more enjoyable for students. A program facilitator commented on the fact that when students learn in the garden, the lessons are embedded in a particular place and context. Learning in an outdoor classroom, for example, is rooted in a seasonal, contextual, and evolving reality, rather than consisting of individual 'one-off' fragments of information that remain isolated from each another in learners' minds. When it came to using the garden to inform and inspire children's writing assignments, an elementary school teacher reported: "It's totally meaningful. The writing comes out of the kids, they have an experience ... and they have a lot to talk about. Now they have the knowledge and understanding and it's real to them."

Experiential learning was recognized as having a major role to play in shaping the 'informal' curriculum that instructs student thinking and behaviour. One interviewee with a background in human nutrition commented that teaching students about good nutrition involves much more than just conveying information about vitamins and minerals; rather, students must develop healthy decision-making practices and attitudes around actual foods, as well as an understanding of what constitutes healthy eating on a day-to-day basis.

Having healthy foods consistently available at school (made possible with the help of Farm to School programs, salad bars and dishes incorporating garden produce and/or herbs, and programs such as BC Agriculture in the Classroom), as well as facilitating opportunities for students to participate actively in growing and/or preparing healthy options for themselves and their classmates, helps to reinforce health-related messages and make healthy eating part of the school culture. A teacher noted that at her school, the establishment of a garden for educational purposes went hand-in-hand with trying to find ways to incorporate fresh, organically-grown produce into cafeteria meals, salad/sandwich bars, and foods prepared in Home Economics and Foods classes.

Experiential learning was also important because, as it was noted by a few interviewees, in order to understand humans' relationships to food (and to the natural world in general) students need to learn how to relate to food, plants, and the living soil through touch and direct experience. Thus, teaching strategies that encouraged *interaction* between students, plants, animals (including worms, bees, butterflies, and chickens) and natural systems was regarded as being particularly innovative and/or effective. An elementary school teacher commented on the usefulness of composting and gardening for teaching and learning about the needs of soil, plants, and humans relative to one another, by "linking it into plant nutrition and plant growth. For the younger kids, what are the needs of plants? ... We did a lot on compost and soil, so that linked to growing potatoes, and eating potatoes." Another teacher remarked that touching the earth, and "being outside and handling plants, caring for living things, makes you kinder, gentler." Thus, learning about food included refining one's relationships with other organisms, and coming to a better understanding of

interactions taking place in natural systems.

Active and meaningful student involvement in school food-related initiatives was recognized as fostering leadership skills and other important transferable skills. A food educator noted that a didactic approach, in which teachers lecture students about the impacts of their food choices, would not help students to develop the skills, confidence, or even the will to effect positive changes in the realm of food. In short, this didactic approach is not empowering for students. By contrast, supporting student opportunities to experience and experiment with food growing, preparing, sharing, and composting can help them develop an interest, curiosity, and appreciative attitude towards food, as well as enhance students' capacity to make positive and lasting changes in their schools and their school culture. A secondary school teacher described hands-on or experiential learning as 'learning for the real world.' He noted that in order to succeed in real life, students absolutely must learn practical skills, as well as the confidence and independence to be creative, lead teams, and problem-solve. He remarked that real learning is not all about obtaining "93% in calculus." This observation is fundamental to the concept referred to as 'Learning with Life' (Rojas, 2009), in which education is a mirror of the complexity of life.

Learning as a Community

Several interviewees emphasized the importance of genuine collaboration in which teachers, staff, students, community members, and volunteers engage in a shared learning process in such a way that all participants' capacity and knowledge are enhanced as a result of their collaboration.

Teaching younger peers, participating in community service learning and real-world research activities, as well as supporting or leading food-related initiatives at the school were seen as effective ways of encouraging older elementary school students and secondary school students to become more deeply invested in their own learning.

An elementary school teacher remarked that having secondary school students teach or lead initiatives in elementary schools is beneficial for both the older and younger students:

Secondary [students] could teach our older elementary school kids, and [older elementary students] could teach younger ones ... we use that model a lot ... so my guys might learn a whole ton of stuff about compost and soil but then I want to see if they consolidated their learning, so one of the ways that I assess, is I have them go out and teach to the younger kids.

At the same time as students are being encouraged to play active roles in teaching their peers, some interviewees also highlighted the importance of teachers taking on a 'co-learner' role. One interviewee with teaching background expressed his approach as follows: "For me ... it's about transitioning from teacher as master to teacher as facilitator and co-learner. Teachers should be learners themselves." He further explained that being part of a larger movement or team means that even if you don't

know some particular piece of information, you do know where to look for answers or solutions; it's about being 'plugged in' to a network, and also about being curious and willing to learn.

An elementary school teacher's comments echoed this sentiment, and encouraged teachers to experiment and try new things when the specific material is relatively new to them: "If it doesn't grow or doesn't work, we'll just fix it next year. That's part of the whole process. And that's what's kind of neat about it is it's an observation too." Several interviewees remarked that in order to incorporate food systems learning into one's lessons, a teacher doesn't need to be a master gardener or chef; rather, the most important thing is the interest in food systems, and the ability to inspire curiosity and enthusiasm in the students.

By embedding the learning experience in tangible, real-life work or research, lessons and courses were imbued with greater significance, and were seen to enhance social and ecological citizenship among students. An interviewee remarked that incorporating food systems learning in the school curriculum creates opportunities to accomplish many things: for example, to build thriving, safe, healthy communities, to form multi-cultural and multi-generational connections, and to steward the land and honour First Nations. Several interviewees expressed the hope that by building vibrant school food systems, schools could become a hub for community engagement and learning, creating a trickle-out effect that would benefit surrounding neighbourhoods, while at the same time having positive impacts on students' learning experiences.

One elementary school teacher commented specifically on the importance of getting students involved in the *local* community so that the effects could be directly experienced and witnessed by the students:

We talk about that a lot as a staff. We want the kids to become socially aware, so we have kids involved with ... trying to raise money to build a well somewhere. But you also want kids involved on this [local] level too, so one of the things we are going to do is grow some food and prepare it for the food bank or for some sort of kitchen.

A teacher suggested that this model for teaching and learning could be more fully supported through for-credit coursework in secondary schools, "so it's not solely volunteer hours, or it's not a little section of science class ... maybe there [could] be a course in high school that is building community links around food systems and sustainability." Similarly, a secondary school teacher expressed the hope that in the future, community service learning will be better integrated into regular curriculum, "because doing everything after school is a lot of extra work for the students," as well as the teachers, club hosts, and community partners that facilitate after-school volunteer and club involvement.

Overwhelmingly, interviewees emphasized that collaboration is especially important for the successful integration of themes and topics across the curriculum,

for reducing ‘burnout’ among teachers, staff, students, community partners, and volunteers, and for increasing the available pool of knowledge, perspectives, and skills to draw from. Interviewees were asked to assign ratings from 1 to 5 (1 being least important and 5 being most important) to various factors that potentially enable their work in promoting the transition towards more sustainable and healthy school food systems. The 8 (out of 17) enabling factors with mean scores over 4.0 are shown in Table 1 below. Being part of a supportive team and having sources of support within the school had the highest mean scores and are at the top of the list of important enabling factors. (Some of the other enabling factors that interviewees reflected on will be addressed in the following section.)

Table 1. Enabling factors with highest mean scores (as rated by interviewees)

Enabling Factor	Mean score out of 5
Being part of a team	4.79
Support within the school	4.60
Money	4.34
Support from agencies	4.28
Time	4.24
Technical support	4.16
Policies	4.16
Integrating food within formal curriculum	4.10

Engaging in teamwork and having sources of support were seen as very important from a practical and psychological standpoint. As one elementary school teacher stated:

If you were one person or two people at a school trying to get something off the ground, it’s hard. And you would have that feeling of “well that’s huge—how do I want to do that? How can I do that on my own?” But if you talk about it as a group and it’s important philosophically within your group, then it can become part of the school culture, and I think that’s key.

Thus, school-based teams not only enhanced the capacity to create experiential learning opportunities, but also increased communication and cooperation among teachers and within the larger school community.

Communication within and between schools, and the sharing of successes and setbacks was cited as important in order to avoid missed opportunities, ‘reinventing the wheel,’ or repeating mistakes that could be costly in terms of lost resources or alienated colleagues. Collaboration was also seen as essential for ensuring that teachers and staff feel and act as though they are united in their efforts, rather than being in

competition with each other for limited financial or other kinds of support.

Furthermore, as one secondary school teacher remarked, when teachers of different subjects and grade levels work together as official collaborators on projects, such as TEGS initiatives, this alliance ultimately helps to integrate the curriculum: “They are ... putting teachers together rather than everyone in their own separate classroom ... so the teachers are forced to look outside of their sole subject area and to incorporate and take a wider view of everything and make it relevant.” An elementary school teacher commented that in the absence of collaborative projects, teachers normally create their lesson plans in isolation, and that as a result, “there’s no scope and sequence across the grades. ... I could do bean seedlings with my grade one [class], and they could go on to do the same activity next year [with another teacher]. It’s not coordinated across the grades and classes.”

In many cases, guest educators or program facilitators from outside of the school (including University of British Columbia students engaging in Think&EatGreen@School community impact projects as part of required course credit) were highly valued as sources of expertise and knowledge, especially where teachers were not yet confident in their own gardening, food preparation, composting, or other food-systems-related skills and/or knowledge. Having additional help (for example, from outside organizations, Parent Advisory Councils (PACs), community volunteers, University students, or older public-school-aged youth) was also extremely useful when dividing large groups of students into smaller, more manageable groups for gardening, cooking, planter/compost-bin construction, and other activities.

An issue related to ‘real-life learning’ and the impact of school food initiatives is the degree of connectedness (or disconnectedness) between the school and students’ homes. Dialogue between families and schools was recognized as being very important for effective food education, since children and youth bring various elements of their home food culture with them to school, reflecting the cultural diversity of the city. However, parents may hesitate to get involved if they do not feel that they have a role to play in their children’s school, if they face language or cultural barriers, or if they are not familiar with how the school system or particular school programming works. This disconnect could prevent parents from making an enriching contribution to the school’s food culture, even though they may have vibrant culinary traditions and practices at home.

Other Factors Enabling the Transition to Healthy and Sustainable School Food Systems

Key players’ creativity, collaboration, energy, and motivation are evidently crucial in the transition to sustainable and healthy school food systems and food education. However, some enablers of and barriers to achieving lasting and meaningful change were recognized as being outside of key players’ direct scope of influence as individuals, indicating a need for changes to policy, infrastructure, or broader social/political environments. For example, while creativity and resourcefulness were recognized as

essential for success, access to a certain amount of funding and/or resources was recognized as a necessary prerequisite. Funding was seen as important for obtaining supplies and materials where suitable donations or repurposed materials could not be sourced. As one food educator put it: “You can’t ask teachers to take on so much that they bend and break. We have to give them—it’s like how can you do art unless you have the art materials?—I mean you have to give them the tools to do their job.” ‘Core’ funding that can be used to compensate individuals or community partners for the crucial hours they spend initiating and coordinating various food-related programs was recognized as being particularly important for project sustainability.

One of the challenges of experiential and outdoor learning was the physical layout of school spaces, as well as the policies and guidelines shaping the usage of that space. It was noted that schools aren’t typically designed for growing and cooking food (in terms of ability to sanitize equipment, available counter space, available tools and storage, and schoolyard layout). For these and other reasons, many interviewees (and almost all of the teachers and educators that were interviewed) remarked on the importance of being creative, sharing spaces, and using community spaces when necessary by partnering with community centres, nearby churches, and community greenways or gardens. Nevertheless, some obstacles cannot be overcome through creativity alone, and there was an expressed need for new schools being planned or renovated to make use of appropriate designs.

Policies were seen as important potential enablers of success, and overly restrictive or rigid policies were perceived as barriers to achieving goals. An interviewee involved in several garden and food-preparation initiatives at a particular elementary school remarked that policies (at the time of the interview) “seem to be hurdles that we need to jump over—big ones—and they keep getting bigger. So I’d say if there were good policies in place then all of this would run more smoothly and it wouldn’t have to be a battle to get gardens in schools and good food in schools.” Several teachers and parents noted that technical support (often from outside of the schools’ staff/student body) and funding for specific supplies and materials are necessary in order to meet policy requirements regarding garden box and compost bin construction, representing a barrier to access. By contrast, some interviewees from community partner organizations (and a few school teachers) noted that without policy-backed standards for the establishment and maintenance of gardens, the planning and effort necessary to ensure success might not be consistently invested, and this could result in more ‘failed’ gardens that become derelict over time.

Initiatives that had been unprecedented until recently, such as the establishment of large-scale market gardens operating on school yards, were recognized as being highly challenging since they required the establishment of new policies, and brought with them concerns and uncertainties about how to proceed in the most effective manner. Therefore, the availability of clear lines of communication between teachers/school staff and the school board, grounds, and policy-makers was cited as being critical to success. Since navigating the policies, regulations, and



*Elementary School children working on Think&EatGreen@School hands on projects in their schools.
Photo Credits: Think&EatGreen@School*

advisable practices relevant to new school food initiatives can be very challenging and intimidating, several interviewees working ‘on the ground’ within schools stated the importance of having access to a liaison or contact person who oversees school food initiatives and who is knowledgeable about (and influential regarding) relevant policies.

Several teachers and educators expressed the concern that food systems initiatives might turn out to be merely another ‘fad’ or ‘flavour of the month,’ which would receive funding and/or support only until the arrival of the next new popular issue or topic. One concern expressed was that although many administrators and decision-makers were currently ‘on board’ with the transition toward sustainable and healthy school food systems, if policies reflecting that support are not put in place, initiatives might fade over time.

Some interviewee responses to our questions about ‘innovative’ strategies served to remind us that the term can assume several different meanings. A few interviewees representing schools and community partner organizations perceived a certain amount of pressure to start new projects that would seem ‘innovative’ or novel to the public in order to attract attention and funding for their school. They predicted

that this strategy could be problematic, since it might promote competition among schools for the (temporary) funding of projects that may not even be feasible in the long-term, rather than fostering collaboration and information-sharing in support of realistic and effective initiatives (some of which might be regarded as ‘traditional’—or as one interviewee described them, “tried-and-true”—rather than ‘innovative’) that can be maintained indefinitely.

Numerous interviewees felt that experiential food systems education should be a mandatory part of schools’ formal curriculum, backed by school board policy. This would allow for universal adoption of beneficial food-related programs and initiatives, leading to much broader and longer-lasting change. However, teachers made a distinction between the specific lesson plans that they develop themselves and the formal prescribed learning outcomes (PLOs), which set the learning standards for the provincial K-12 education system. Several interviewees stated that the professional autonomy (or ‘pedagogical freedom’) afforded to teachers in British Columbia is an important asset, since it allows them to form their own lesson plans according to their personal capacity and interests, thereby promoting more creativity in meeting the prescribed learning outcomes. Several interviewees nevertheless acknowledged the importance of teachers sharing ideas with each other and keeping informed of what others are doing, regardless of whether they actually choose to borrow and/or adapt one another’s lesson plans.

The Role of the Think&EatGreen@School Project

Interviewees were asked to comment on the impacts of the TEGS Project specifically. Importantly, Think&EatGreen@School was seen as increasing communication between schools and with various organizations, and as having the potential to create a hub through which school representatives and other participants could come together to share successes and challenges, collaborate, and become familiar with available resources. This resonates with findings from other projects that “community engaged scholarship enables the facilitation of networks where information and resources can be exchanged, as well as the connection of individuals and organizations that otherwise would not be connected” (Korzun et al., 2014, p. 110).

Numerous interviewees remarked that the Think&EatGreen@School Summer Institute (an intensive three-day opportunity for professional development, networking, and resource sharing hosted at University of British Columbia) was a particularly effective and useful forum for dialogue as well as reflection on progress made, and that it “helped to create space for sitting down and planning” and forming a longer-term (several-year) vision. A teacher shared that this type of networking promoted a sense that, “there’s people out there and there’s a lot of resources out there.... I think this is doable if you talk to the right people.” Similarly, the formation or growth of small school-based teams that applied for TEGS small grants and carried out food-related school projects using the funds obtained, acted as an important catalyst for planning and putting plans into action. Many key players became better

connected with others within and outside of their schools and organizations through their involvement in Think&EatGreen@School.

One of the ways in which Think&EatGreen@School (and educational institutions like University of British Columbia) was thought to have an important impact on school food system movements is through supporting teachers-in-training and other future educators. Several teachers interviewed remarked on TEGS' Community Field Experience opportunities (previously known as the Enhanced Practicum). This initiative allowed student teachers and teacher candidates at UBC to fulfill part of their practicum requirements by doing food systems education related work within the scope of the TEGS project under the guidance of Think&EatGreen@School staff and partners. These interviewees remarked that having experience in food systems education before starting one's professional teaching career is a crucial opportunity for capacity-building, and for developing the necessary confidence to contribute to or initiate food systems change in schools.

All university (undergraduate) students in the Land Food and Community course series at University of British Columbia carry out community-based experiential learning projects affiliated with Think&EatGreen@School. Many teachers remarked on the positive impacts of the presence of these university students, who have conducted site analyses for garden planning, as well as workshops around gardening, composting, food choices, food preparation, food-systems related art projects, and other topics with public school students. One interviewee remarked that the most effective of these workshops were those that could be repeated or adapted by older public school students, so that skills, confidence, and knowledge were transferred first from UBC students to older public school students, and then further disseminated throughout and between schools through peer teaching and mentoring by the students. The positive Key Player feedback regarding the involvement of University students in the public school classrooms is contrary to some researchers' suggestions, as noted by Stoecker (2009), that community engaged scholarship is really just for the benefit of the students rather than the community.

Additionally, it was recognized that UBC students who will occupy influential positions as educators, policy-makers, planners, or nutrition experts benefit from their hands-on experiences conducting the workshops in schools and engaging in the food system in different capacities. As one teacher remarked, "They [university students] can see how it works here and then they can go forward and either change policies, they can learn from our mistakes and learn from the things that are and aren't working, and then go ahead and start making some changes for the future."

Many interviewees representing schools and community partner organizations commented that being involved in Think&EatGreen@School lent legitimacy to their initiatives in the eyes of the public and within their own organizations and schools, since it made them part of 'something bigger,' and also because their activities were seen as being affiliated with university research and evidence-based projects. For example, one teacher made the following remarks about the project: "I'm really

appreciative ... because I really feel like it's going to take an outside influence like an academic institution ... to ignite the fire that needs to be ignited in order to afford change... . We don't have a lot of clout, but other institutions do." This observation has interesting implications about the valuation of university-based research, and how the public perceives food, sustainability, and health initiatives differently when these initiatives are backed by academic institutions. Some interviewees were also hopeful that research carried out as part of Think&EatGreen@School would contribute to literature supporting effective pedagogical approaches and curriculum involving the food system, potentially influencing relevant policies and convincing more people to get 'on board' and involved.

Five Year Vision: A Common Vision for TEGS Stakeholders to Work Towards

Interviewees were asked to reflect on where they expected or hoped schools (or the school system in Vancouver overall) to be five years in the future. While different interviewees focused on different scopes or priorities, many common or shared goals and visions emerged. Some of the visions or hopes for the future pertained to expanding the scope or level of success of existing initiatives in schools, such as ensuring that the existing opportunities to garden, prepare and share food, compost, and learn about food systems are made available (for course credit) to all students in all schools, grades, and classes.

Many interviewees noted the importance of transferring the primary responsibility of leading these initiatives to the public school students themselves, in order to embed the initiatives into the schools' culture, to ensure that they are meaningful and rewarding to students, and to enhance students' success in general by increasing their leadership capacity and confidence. Peer mentoring and greater communication between different schools' student populations were highlighted as important strategies for allowing more effective student leadership to take place.

Some interviewees' five-year visions recognized a need or desire to have an impact on communities and/or the environment beyond the school system. The hope was that making school food systems in Vancouver healthier and more sustainable, and thereby improving student learning and quality of life, would provide an example or model for other school districts to follow. In addition, it was suggested that the school board, by forming partnerships with various community partners and local food producers, could contribute to broader food systems changes that align with the goal of making Vancouver the Greenest City, and potentially impact provincial and national targets regarding sustainability, health, and quality of life. A continual community-driven exploration of creative and attainable models for making school food systems sustainable and healthy (including how to raise funds, obtain necessary resources, and maintain partnerships) would contribute to this broader-systems-change.

Discussion and reflection on emerging themes: the contribution of this study

We have identified and learned about key players' roles, experiences, motivations, and style of action. In Community Engaged Scholarship literature, a sense of

community—being part of a team or network working together to make the best use of the skills and resources available—is an important precursor for community-desired change (Foster-Fishman, Pierce, & Van Egeren, 2009). Consistent with this principle, the key players emphasized the value of belonging to a strong and capable network. Yet, the initial importance of the key players in the development of healthy and sustainable food systems in the schools partly resides in their pioneer role, which often unfolds despite important institutional and structural barriers. As pioneers, some key players feel that they have not been adequately encouraged, supported, and valued by some institutions and members of the public, or that they had insufficient influence to effect change on their own. In this sense, the dynamics created by Think&EatGreen@School appeared to be a very positive factor that enhanced feelings of being supported and increased confidence in the value of the work Key Players do in schools in Vancouver. Also, the project has brought the schools closer to the broader influence of the environmental movement, and the interest in high-quality, healthy, and sustainable food in the City of Vancouver. A crucial step in the development of the project was the identification of individuals who were working for sustainable and healthy food in the schools of Vancouver and to provide them with a platform of support, coordination, and advocacy that increased the impacts of the entire community of practice and benefited both university and community partners.

The study found that the key players' motivations to incorporate food systems into their teaching and work on healthy and sustainable food vary widely: For example, some are compelled by its importance as a means of re-connecting with nature and non-human life on the planet as a key to attain a better quality of life; others are motivated by the opportunities for more effective education by integrating subjects using the connecting theme of food. The richness and breadth of food systems provides ample space for a wide range of interests and levels of socio-cultural, health-related, and environmental impacts. The agendas of teachers, social activists, food practitioners, policy makers, and academics may differ, but can also be, and often are, mutually supportive.

Key players reported that many teachers who would like to include the food garden, kitchens, cafeterias, lunch program, and composting and waste management in their teaching feel that they are not fully equipped to do so. Thus, important barriers and fears must be overcome, and collaboration across different organizations can provide support and legitimation which in turn encourages further action for change, and a continued willingness to venture into unfamiliar territory, or outside of one's comfort zone.

Key players also commented on the importance of the role of institutions such as the university in providing support and legitimacy, and more generally of the inter-organizational collaboration within networks and among schools doing similar work, as well as the critical importance of team support. The study also highlighted that knowledge generated by community-based action research is equally important for

academics and for partners. The positive testimony from key players is consistent with the Canadian Alliance for Community Service Learning's observation that community partners experience various benefits from participating in Community University Research Alliances, including enhanced program delivery, empowerment of agencies, more effective operations, increased research capacity, and an enhanced commitment to the volunteer and non-profit sector through student participation (Gemmel & Clayton, 2009). CBAR takes seriously what community-based experiential and practical knowledge can teach scholars, who can then enlarge, systematize, and discover potential for scaling-up and replicating that knowledge, which in turn will influence policy and institutional change—the essence of Community Engaged Scholarship.

This study has reaffirmed the importance of investigating the experiences and motivations of key players in order to understand the value of diverse leadership styles and the variety of ways that different aspects of the food system can be used in the learning process. It has also shown that Key Players are indeed planting seeds that if properly supported can grow into significant improvements in public education about food, environment, and health by making the educational experience more meaningful and relevant for school communities, and transforming schools into places that provide students with the tools to enhance their long-term quality of life.

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