



## Original Research Article

# “This brings meaning and purpose to the lessons.” Teachers’ and facilitators’ perspectives on the joys and challenges of school garden programs in south-eastern Ontario

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## Abstract

School garden programs (SGPs) offer students opportunities to experience and participate in the processes of nature and agriculture through hands-on learning in a wide variety of outdoor settings. Although the value of school gardens has been well documented, there is little-to-no concrete support for these programs within the public-school system itself, either at the local or the provincial level. Most programs operate through the vision and dedication of community members and organizations and/or the efforts of individual educators.

The purpose of this study is to investigate how school garden programs are implemented in a variety of educational settings, and to identify the challenges and opportunities that exist within them. Ten semi-structured, open-ended qualitative interviews were

conducted in person or by video platform with teachers and community members who acted as school garden program facilitators in south eastern Ontario. Data analysis shows that SGP facilitators had 4 key motivations for implementing SGPs. These include promoting a connection to nature, fostering values of environmental awareness and stewardship, increasing food literacy skills, and introducing students to broader food system issues of inequity and social justice. The major challenges and opportunities included funding, administrative and operational supports (or lack of), partnerships, and long-term visions. The results point to the need for consistent policies, sustained and reliable funding, and other supports from the Ministry of Education.

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## Résumé

Les programmes de jardinage scolaire offrent l'occasion aux élèves de prendre part aux processus de la nature et de l'agriculture à travers un apprentissage pratique dans une grande variété de milieux extérieurs. Bien que l'utilité du jardinage pédagogique ait été bien documentée, il y a peu ou pas de soutien concret à de tels programmes dans le système scolaire public, que ce soit au niveau local ou provincial. La plupart des programmes qui existent reposent sur la vision et le dévouement de membres de la communauté et d'organisations, et sur les efforts individuels de quelques éducateurs ou éducatrices.

L'objectif de cette étude est d'examiner la manière dont les programmes de jardinage scolaire sont mis en œuvre dans divers milieux éducatifs, et de repérer les défis et les possibilités qui s'y trouvent. Dix entrevues semi-structurées, ouvertes et qualitatives ont été menées en personne ou par visioconférence avec des personnes enseignantes et des membres de la communauté qui

œuvrent en tant que facilitateurs et facilitatrices de programmes de jardinage scolaire dans le sud-est de l'Ontario. L'analyse des données fait ressortir que ces personnes ont quatre motivations clés pour mettre en place ces programmes : promouvoir la connexion avec la nature, mettre de l'avant l'importance de la sensibilisation environnementale et de la gestion de l'environnement, augmenter les compétences en littératie alimentaire, faire connaître aux élèves les grands enjeux d'iniquités et de justice sociale liés au système alimentaire. Les principaux défis et les principales possibilités observés incluent le financement, le soutien administratif et opérationnel (ou le manque de soutien), les partenariats et la vision à long terme. Les résultats mettent en évidence le besoin de politiques cohérentes, de financement durable et fiable et d'autres types de soutien de la part du ministère de l'Éducation.

## Introduction

School gardens were very popular in Europe, Canada, and the United States during the late nineteenth and early twentieth centuries, following the introduction of compulsory schooling. At the time, science education was closely related to seventeenth- and eighteenth-century ideas of natural philosophy, emphasizing principles of interconnection and observation as integral parts of scientific practice (Buxton & Provenzo, 2011). Many early educators and philosophers of education, such as Maria Montessori, Friedrich Froebel, and John

Dewey, were drawn to pedagogical values rooted in natural philosophy, arguing that experiential learning linked to the whole of nature and rooted in everyday life provided students with a sense of purpose as well as valuable understandings and skills (Buxton & Provenzo, 2011). Dewey was especially concerned that increased urbanization contributed to a feeling of remoteness from nature, as well as a lack of meaningful connection to the real world. To remedy this, he advocated for an education acquired by living among, and caring for,

plants and animals (Kohlstedt, 2008). School gardens were also aligned with the philosophy of the Progressive Reform Movement of the late nineteenth and early twentieth centuries, which understood the education system as essential to the development of a strong citizenry, especially for the urban and immigrant poor (Trelstad, 1997). Urban school gardens were used to help children develop both physically and mentally, to beautify bleak environments, and to expose children to nature.

There is little written about the history of school gardens in Canada; however, there is widespread evidence of gardens at early twentieth century schools. For example, in 1916, 1,900 schools in Nova Scotia had gardens, while 18,000 students participated in over 700 gardens in Quebec in 1915 (Spencer, 1916). Provincial directors of education understood that gardens served higher philosophical purposes beyond just food or flower production. The Director of Rural Science Schools for Nova Scotia saw the school garden as “the connecting link between the school and the real world” (Spencer, 1916, p. 20), while Ontario’s Director of Elementary Agricultural Education thought that gardens created opportunities for rich instructional and character formation experiences (Spencer, 1916).

With the onset of each of the World Wars, school gardens took on a more patriotic tone. Gardens were already seen to build character and instill civic values; contributing to the war effort was a natural fit (Kohlstedt, 2008; Mosby, 2014). Children were encouraged to grow food for local consumption, thereby freeing up national food production and transportation systems to support the war effort. However, school gardens quickly declined in number after each war ended.

Interest in school gardens re-emerged in the early 1970s, driven by the environmental and back-to-the-land movements (Desmond et al., 2004) and a new

appreciation of the value of experiential education. Garden-based education programs are seen to address a host of social, health, and environmental issues, including poor nutrition, lack of physical exercise, food system deskilling, anxiety, the climate crisis, social justice, and connection to nature (Cramer et al., 2019; Gruenewald, 2003; Strohl, 2015). At the same time, growing concerns over the environmental and social impacts of our industrial food systems have led to interest in the value of local and organic foods.

Many teachers, parents, and community members view school gardens as important tools to educate students about sustainable food systems while developing skill sets that promote healthy eating, food literacy, and environmental stewardship. The United Nations recognizes the key role that school gardens can play in the urgent need to educate young people for sustainability, and in galvanizing pedagogical innovation in education for sustainable development (Buckler & Creech, 2014). While some school districts, such as the Vancouver School Board (Black et al., 2015), have enthusiastically taken up school garden programs (SGPs), a national survey found that only fifteen percent of schools across the country offer gardening activities (Browning et al., 2013). The final report on the UN Decade for Education for Sustainable Development (2005-2014) cautions that much more work is needed to prepare teachers to take up the important task of teaching students using SGPs (Buckler & Creech, 2014).

While the many benefits of school gardens for students are well documented (Blair, 2009; Rae Christopher, 2019), there is much less research about the experiences of teachers and community members who make these programs happen. Canadian research around outdoor or environmental learning more generally has found that barriers to teachers’ engagement in outdoor learning include teachers’ lack of confidence in their skills and knowledge, as well as their understanding of

outdoor learning as an “add-on” or extra responsibility in an already crowded curriculum and work week (Dring et al., 2020; Dymont, 2005; Oberle et al., 2021; Zandvliet & Perera, 2022). Poorly designed outdoor space or lack of access to space, unsupportive school administration, lack of funding, resources, and support, and the weather were seen as additional barriers to engaging in outdoor learning (Dring et al., 2020; Dymont, 2005; Oberle et al., 2021).

## Background

The first author (JH) has many years of experience farming market vegetables, leading workshops on vegetable gardening and local eating, and developing and maintaining gardens for schools and community organizations in the Kingston area. She also wrote a book on growing, cooking, and eating organic food (Haase, 2009). In 2011, she was asked by South Frontenac Community Services Corporation (SFCSC) to develop a large garden and greenhouse to supply produce for their food bank in Sydenham, north of Kingston. Among the community volunteers was a local teacher, Alan MacDonald, who wanted his grade seven students in the Challenge Program (for academically gifted students) to participate. Under Alan’s leadership, the students became an integral part of garden and greenhouse operations.

The SFCSC garden is a large project by school garden standards, requiring significant organization and labour. It also provides scope for student- and volunteer-driven initiatives, as well as valuable opportunities for community service and environmental stewardship. It challenges students to work hard physically and cooperatively to grow a

This descriptive research aims to help fill this gap, notably in relation to schools in Ontario, the most populous province in Canada. This study set out to explore and describe the experiences of teachers and garden facilitators who implement school garden programs under current institutional and fiscal constraints in Ontario schools, and to assess the challenges and opportunities in setting up, maintaining, and sustaining school garden programs.

significant amount of food. The first author observed that students eagerly took on tasks associated with planting, tending, and harvesting the garden. She has many memorable stories of student involvement in the garden. One of the best was walking by two boys who were harvesting carrots and overhearing one say to the other, “I’m so proud of the work that we do here.”

The current study was inspired by these Challenge students, who were lucky enough to have a gifted, passionate, and dedicated teacher. Alan MacDonald is committed to the experiential learning that comes with gardening, food production, and environmental stewardship, and he continues to involve his students in this project. JH has since worked with two other schools to develop similar but smaller programs, and is constantly impressed by the enthusiasm and energy that students bring to learning in the garden.

The authors hope that, by illuminating the joys and challenges of school garden program coordination, this research can contribute to efforts to bring the benefits of school gardens to many more elementary and secondary students in Ontario.

## Methods

### Recruitment

Using personal contacts, contacts made at a 2019 *Farm to School* conference in Toronto, ON, and snowball sampling, the first author identified ten people who facilitated school garden programs in southern and south-eastern Ontario. After receiving approval from the University General Research Ethics Board (GREB), potential participants were contacted by email and invited to participate. They were sent a letter of information and consent, along with the semi-structured interview questions. No one refused to be interviewed.

### Interviews

Semi-structured interviews took place in the Toronto, Ottawa, and Kingston areas in the summer and fall of 2019. Potential participants were all located within a three-hour drive of Kingston, with the goal of conducting interviews on-site and in person. Seeing the gardens associated with each program provided the opportunity to assess the size, physical layout, and logistical parameters of each SGP setting. It also allowed each SGP facilitator or teacher to show details of the garden that were relevant to the interview, and allowed the researcher to take photographs, with permission. Seven of the ten interviews were conducted in-person; for these participants, most of the interview took place in the garden. The remaining three interviews were conducted over video platform.

The interview guide was developed to be flexible and open-ended, to encourage participants to express their experiences and thoughts as fully as possible (Kvale & Brinkman, 2009). Participants were asked to

describe their involvement in school gardens, supports and resources needed for success, obstacles and challenges for school gardens, and their hopes for school gardening programs. At the end of the interview, the researcher engaged participants in a discussion of the main themes and clarified any discrepancies, to facilitate the interpretation, trustworthiness, and credibility of the data. The researcher drew on her own experiences facilitating school garden programs to draw out responses from the participants, enhancing the specificity of responses and the richness of the data (Kvale & Brinkman, 2009). Interviews were audio recorded with permission and lasted from forty-five to sixty minutes. After each interview, the researcher took detailed field notes, recording observations of the setting and the interview as well as impressions of participants' emotions, including pride and frustration.

### Transcription, coding, and analysis

The first author transcribed audio recordings verbatim, which promoted familiarity with the data (Lapadat, 2000). A digital copy of the transcript was sent to each participant for review and comment. No participants provided feedback.

Transcripts were analyzed using the QUAGOL system developed by Dierckx de Casterlé et al. (2012), which involves becoming familiar with the transcripts, developing an inductive coding scheme, and rigorously applying coding that considers outliers and apparent contradictions to the overall themes. Tracy's (2010) criteria for research quality were considered and taken up to enhance the overall quality, rigour, and trustworthiness of the data.

## Results and discussion

### Participants

All participants were facilitating school garden programs at the time of the study, either at the elementary or high school level. Six of them were directly employed in the public-school system, five as teachers and one as an educational assistant, at six different schools. All but one of the schools were urban. Two of the teachers worked at the high school level and four at the elementary school level. The high school programs were associated with Applied level programs, such as Culinary Arts and Green Industries. Culinary Arts programs offer courses that use commercial kitchen facilities to teach cooking and catering skills; however, some go further and integrate school gardens to supply fresh produce to their kitchens. The Green Industries program introduces students to agriculture, forestry, horticulture, floristry, and landscaping practices; SGPs fit well into the curriculum guidelines.

The elementary school teachers used their personal experience and knowledge as gardeners to actively incorporate garden-based learning into classroom activities and grade-specific curriculum guidelines. All the elementary school teachers who participated in this research received financial and logistical support from outside organizations for the initial development of

their school gardens, but they have gone on to expand and integrate garden-based learning into many aspects of their day-to-day activities with students.

The remaining four participants were school garden program facilitators employed by a community organization or by individual schools as private contractors. One worked for Kingston-based *Loving Spoonful*<sup>1</sup> and another worked for Ottawa's *Growing Up Organic*<sup>2</sup>, both community non-profit organizations that provide staff and resources to develop school gardens and offer garden-based workshops. At the time the research took place, *Loving Spoonful* served twenty-one elementary schools, mostly within city limits but also including some rural schools. *Growing Up Organic* served about thirty elementary and secondary schools within the Ottawa District School Board. A third facilitator worked through a small not-for-profit that served four urban schools, and the fourth had individual contracts with six urban schools. Both visited schools one day per week, offering instruction modules to teachers of all grades within each school.

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<sup>1</sup> <https://www.loving Spoonful.org/grow-project>

<sup>2</sup> <https://www.growinguporganic.org/en/>





Image 1: Garden build facilitated by Loving Spoonful

## Results

This section lays out the key themes of the research analysis, beginning with key motivations for implementing SGPs. These include promoting a connection to nature, fostering values of environmental awareness and stewardship, increasing food literacy skills, and introducing students to broader food system issues of inequity and social justice. We then consider the major challenges and opportunities encountered, including funding issues, administrative and operational supports (or lack thereof), partnership opportunities, and long-term visions for school garden programs.

### Facilitator motivations for school garden programs

Most participants articulated their belief in the intrinsic value of school garden programs as a combination of values and learning outcomes that was not easily reduceable to a single theme or component. Other participants expressed their sense that growing food and being outside were good in and of themselves.

Four major philosophical motivations emerged from transcription analysis; these are a connection to nature, environmental awareness and stewardship, food literacy, and social justice. Many participants expressed this in terms of the inter-related nature of these motivations:

“It was a combination of food, nature awareness, and environmental awareness.” (Facilitator)

“It’s all of those things rolled into one.” (Teacher)

“There’s so many intersections in all of those areas.” (Teacher)

These quotes reflect the holistic nature of garden-based learning and its ability to inform so many different spaces.

### *Environmental awareness and stewardship*

Research participants understood the value of local food production for environmental awareness and stewardship, as well as the empowering aspects of teaching their students how to grow their own food. While they emphasized the positive environmental aspects of the food grown in SGPs, they also noted other positive outcomes, including human health and the aesthetic pleasure of better tasting food. As one teacher expressed:

“You’re going to create food that hasn’t travelled 3000 km like our average produce in Loblaws, and it’ll taste better, it’ll be better for you, and it’s better for the environment.... This brings meaning and purpose to the lessons...working in the garden gives them a chance to actually walk the talk, as it were.”

Participants hoped to empower students, giving them a sense that their individual actions in their everyday lives can make a difference and helping to overcome anxiety about climate chaos and environmental degradation:

“It empowers students, so by empowering them, they don’t feel anxiety [about climate change]. They feel more motivation and they’ve got the skills to make a change. And it also imbues to the kids the idea that one person’s small actions, acting locally really can make a difference.” (Teacher)

A few participants also saw the gardens as a way to integrate broader lessons about composting and the ecology of closed cycles in nature as well as waste in the food system overall:

“Hopefully this year it will be more about trying to get away from the waste stream that we’re generating. And so, in that it’s also looking at it from the garden side of things, how can we start to make that into a process where waste that is coming from the kitchen...not just the food waste but then also the plates and anything that we are using that are disposable, so those are also compostable. So, kids are seeing that we are keeping it within the system here.” (Teacher)

In line with ideas about meaningful environmental education (Clayton & Myers, 2009; Hungerford & Volk, 1990), research participants understood that the development of awareness and knowledge (the standard goal of classroom education) about environmental issues is not enough. They believed that students are better able to integrate knowledge into their lives when they are given opportunities for practical skills-based learning and the chance to see for themselves the results of their work. The opportunity for students to grow food can help to reverse the social and ecological harms that arise from our disconnection from the food system (Clapp, 2020). Food production can contribute to the



development of insights and ways of working that can be meaningful in addressing bigger issues, such as the climate crisis (Harvey et al., 2020).

### *Connection to nature*

Many participants expressed concern that their students live in urban settings, spend too much time on screens, and have very little exposure to nature. Participants noted the positive aspects of re-connecting with nature through the school gardens, including relaxation, grounding, interacting with classmates differently, and interacting with the natural environment differently:

“Our kids are removed from the outdoors. They go from school to home to screens and so just to spend a bit of time slowing down and connecting with nature.... I think that’s the main thing, getting their hands dirty, wet, picking something they grew.” (Teacher)

“You see them interact with each other in a different way and they can relax, maybe be themselves a bit more, a little more grounded. They pay attention to the seasons more and they are connected to the land.” (Teacher)

“Some of the kids don’t have a whole lot of access to nature. Getting them holding worms and getting them excited about bees and bugs and seeing those connections between the bugs and our food [gives them an experience of nature].” (Facilitator)

Another participant saw the integration of SGPs into the school day as adding the opportunity for more regular interaction with the natural environment:

“Creating a space that’s part of their school day that gives them that option [of exposure to nature] rather than just a field trip out to the country or their aunt’s backyard that they only go to twice a year....” (Facilitator)

A growing body of evidence suggests that time in nature supports mental, physical, and spiritual health (Louv, 2008; Soga et al., 2016). Regular childhood nature experiences have been shown to have life-long impacts that lead to positive feelings about the natural world and a desire to protect it (Soga et al., 2016). Participants clearly understood that SGPs are one small but significant way that schools can support student health and education through positive experiences of nature.



Image 2: Students harvesting kale

### *Food literacy*

Many of the school garden educators who participated in this research saw an important connection between growing food and food literacy, a proficiency in food related skills and both critical and functional knowledge that informs everyday personal behaviours, food and health choices, culture, and food systems (Truman et al., 2017). From their experiences within the SGPs, participants saw that growing food helps kids understand and relate to food in new ways. Growing food in the SGPs supported students in knowing that

food comes from nature and is not just something that has been manufactured, packaged, and purchased at the grocery store. These school garden educators appreciated the growing of food as one aspect of a healthy foundation for food literacy knowledge and skills, providing students with greater options for feeding themselves within the dominant corporate food system:

“To me, for students to understand where their food comes from, to understand how to grow food, to care about all that, is something that

impacts us on so many different levels.”  
(Teacher)

“Everybody needs to understand more about their food and their food sources.” (Teacher)

“If we don’t understand where our food comes from, what are we teaching these kids?”  
(Facilitator)

“It’s so fun working with them because they have no idea where a lot of these vegetables come from or any concept of gardening because they don’t often do it at home.” (Teacher)

With some exceptions, much of the published literature around food literacy does not include growing food as an element of food literacy. This is consistent with the observation of Truman et al. (2017) that the majority of food literacy definitions emphasize information and understanding, rather than the functional knowledge that comes with skills development. It is also consistent with the emphasis in food literacy on promoting nutrition and health through “good” food choices and preparation of healthy meals (Truman et al., 2017).

However, based on their research, Carlsson et al. (2016) conclude that school gardens can contribute to food literacy. Ontario’s [\*Bill 216: Food Literacy for Students Act\*](#) (Kramp, 2020) identified food literacy as “experiential or hands-on skills learned in gardens and

kitchens” (para. 2) and specified that Ontario students, from grade one to grade twelve, must be given opportunities to grow food. It also directed school boards to provide “training and support for teachers and other staff” (Kramp, 2020, para. 7) regarding food literacy. In its policy briefing note to support Bill 216, Sustain Ontario (2021) incorporated gardening as an important component of food literacy. A first of its kind in Canada (Martin & Ruetz, 2021), Bill 216 will stand as a potential model for future provincial governments in Ontario and elsewhere. While the bill died on the order paper without being passed after the 2022 Ontario provincial election was called (O’Neil & Martin, 2022), lessons on food literacy, mainly relating to food systems, were incorporated into the new Ontario science curriculum for grades one to eight released in March 2022 (Sustain Ontario, 2022). Perhaps this curricular change will add to momentum to integrate school gardens more fully into the Ontario elementary and secondary school systems.

Building on the perspectives of the participants in this research, we agree that school garden programs could be a vital component of developing food literacy among young people. This is especially true of the critical food literacy knowledge and skills that students need to navigate a capitalist food system that obfuscates nature as the source of food, manipulates consumers for profit-seeking, and hides the real purpose of food as *nourishment*, while contributing to the destruction of the planet and undermining the health of its human and non-human inhabitants (Clapp, 2020).





Image 3: This student definitely knows where her carrot came from!

### *Social justice*

Some participants understood school garden programs as contributing to addressing broader social justice issues. Participants at both elementary and secondary schools identified food insecurity as the primary social justice issue that SGPs addressed. This is not surprising, given the daily contact that some educators have with students living in poverty. In 2018, approximately four million Canadians, including one and a half million children, lived in households that had inadequate or insecure access to food because of lack of income (Tarasuk & Mitchell, 2020). Households with children, especially those headed by single mothers, have higher rates of food insecurity than the general population (Tarasuk & Mitchell, 2020). SGP facilitators who regularly interacted with students living in poverty felt

they could support students immediately, with food, and also provide the students with some useful, transferable food skills that held the potential to make a difference in their lives overall:

“We have a lot of kids that live in poverty...and so, we’ve provided food almost without question, as many days of the year as we possibly can...and I think they can walk away feeling like these are skills [growing and cooking food] that are directly applicable to their lives.” (Teacher)

“There is a social justice piece just because of the student body we teach, a lot of them have come from subsidized housing, life has not been good for these guys.... It is trying to prepare them for the work world but it’s also trying to break the

cycle and give them some autonomy, like I can go home and grow tomatoes in my yard, kind of thing. And I can't tell you the number of kids in the last couple years that have said 'yeah I grew mint' or 'I grew whatever' at home." (Teacher)

Given the increasing attention in school curricula to the pervasiveness of systemic racism, particularly anti-Black racism (Chiasson, 2021), the ongoing impacts of settler colonialism, and the Truth and Reconciliation Commission's (2015) call to "build student capacity for intercultural understanding, empathy, and mutual respect" (p. 11), it is fruitful to consider how SGPs might also contribute to education around other social justice issues. SGPs have the potential to help implement anti-colonial pedagogies, pedagogies of radical relationality that attend to more-than-human relations, and pedagogies of reciprocal relationships (Nxumalo & Montes, 2021), as well as pedagogies that foster solidarity consciousness (Pieroni, 2021). The potential contributions of SGPs to anti-racism and decolonization efforts in schools did not emerge in the

interviews, perhaps because of timing, limitations of the sample, or white privilege (Alkon & Guthman, 2017; Elliott et al., 2022). However, since these data were collected, Black Lives Matter, COVID-related anti-Asian racism, anti-immigrant sentiments associated with the rise of the Alt-Right, and the ongoing horror of the discovery of Indigenous children's bodies at sites that purported to educate children, have lent new urgency to consider the ways in which education can promote social justice by fostering transformative learning—or, alternatively, how it perpetuates the status quo of white privilege, racism, sexism, and colonialism. SGPs could help to facilitate discussions of the central roles of land, immigration, and agriculture in the colonization of Canada (Martin & Ruetz, 2021). The inclusion of local Indigenous traditional foods in SGPs would provide opportunities to learn about local Indigenous peoples' cultures, traditions, and ways of knowing. There is also a rich variety of possibilities for teaching and learning by growing foods that immigrant groups have brought to Canada.



Image 4: Students bring their produce to the food bank



## Key constraints and opportunities

### *Funding*

Obtaining stable and adequate funding for school garden programs was a major concern and challenge for all participants, beginning with the need for initial funding to get the program started. Start-up funds were required to build raised beds or open up new ground, as well as to purchase soil, compost, tools, irrigation equipment, and, occasionally, a storage shed. Participants also described yearly expenses for items such as seeds and compost, as well as for occasional repairs or expansions. Unless gardening is part of the curriculum, as in the Green Industries stream in high school, these expenses had to be covered by various forms of fundraising.

There was a significant difference in programming costs between the programs run and delivered by teachers versus those delivered by garden facilitators. One facilitator estimated that it costs about \$10,000 per year for her to deliver one full day of programming per week to each school that she works with. Individual schools are not allowed to hire someone who is not a certified teacher, so, in order to have access to an external garden facilitator, schools, community organizations, and/or garden facilitators must access a number of funding streams, such as external grants, school board grants or programs, and parent council support. Reliance on parent council support can be especially problematic because there is a wide range in fundraising capabilities among schools, depending on the socio-economic demographic of the school population (Winton, 2018).



Image 5: Plant sale fundraiser

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Many participants, both teachers and facilitators, expressed frustration with the grant writing process. A major concern was that granting agencies prefer “new projects,” which are expected to become financially self-sustaining, as opposed to renewing funding for projects they have funded in the past. For example, the [Ontario Trillium Foundation](#)<sup>3</sup> has three main granting streams: one is for pilot projects, another to expand already existing programs, and the third is for capital projects. There are no options to simply fund the maintenance of an already existing and successful project. Some comments that reflect these concerns include:

“It requires a lot of work, you know, applying for grants. And once it’s not new anymore, then it’s even harder.” (Facilitator)

“[We have to] cast the program in a new light rather than being funded for doing something that is good.” (Facilitator)

Another concern was the lack of long-term vision within the school system, which meant that teachers sometimes had to take advantage of available school monies even if they did not fit with the current needs of the garden program. Teachers described this as “catch as catch can” and as “ass backwards,” noting that they can’t really budget because “when the money is there, we have to use it.” Often, school funds must be used within a very limited time frame, which, in one instance, meant that materials such as lumber were purchased and put into storage with the hope that they could be used at another time. Several participants noted that a great deal of the monies raised by parent councils are put towards technology initiatives within

the school system, but very little goes to garden programs:

“There’s a lot of support right now for coding and robotics and tech-based programs. Why is that? Because there’s demand, it’s popular, it’s become a buzz thing right now. I think what you need is the same thing to happen around food literacy.” (Teacher)

In summary, funding for SGPs came from a combination of outside granting agencies, school-based fundraising initiatives, and programs and grants that are available within individual school boards. This has led to a very haphazard and unreliable funding structure that does not allow for consistency, and often threatens the sustainability of school garden programs. This fits with a 2019 survey of food literacy programming in Ontario which concluded that “food literacy programs require stable funding and support in order to be sustainable” (Roblin et al., 2019, p. 11). Similarly, in their research in New York City, Burt and colleagues (2018) found that adequate funding was the most important factor in ensuring the success of school gardens.

### *Administrative supports and challenges*

All participants talked about the importance of having supportive teachers, school administrators, caretakers, and staff. Participants felt that, for the most part, all members of the school community considered gardens to be an asset at schools:

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<sup>3</sup> www.otf.ca

“Yes, it is essential [administrative support] because in a school if you don’t have your Principal on board...it’s pretty much no.” (Teacher)

“I mean the biggest thing to make it work initially is just sort of support, like supporting the idea from the Principal and from the teachers.” (Facilitator)

“I think for a Principal to say they’ve got a garden is like a feather in their cap.” (Teacher)

However, a common complaint was that a lack of clear direction from the Ministry of Education results in inconsistencies with regards to school policies and safety guidelines for the gardens. As one facilitator explained, “come 2018, the province changes all their rules, and everything has to be accessible. So now all of the garden beds have to be accessible to all of the children regardless of whether there is an accessibility need in the school or not.” Notably, the change in regulation did not come with any additional funding.

Similarly, high turnover of both teachers and principals increases inconsistency and uncertainty for school garden program facilitators; this can necessitate constantly re-engaging with teachers and explaining programming and workshops:

“They [Principals] change all the time and whether that’s a priority for Principals or not...the school board supports school gardens but that’s not the same thing as saying—hey teachers—this is important.” (Facilitator)

“My second Principal was anti-garden. She was worried about drug paraphernalia, what if someone taints a tomato and a kid eats it...and then [Growing Up Organic] came in and they pointed out that some food from school gardens were being used by this community organization. Well, she did a 180 and suddenly she was a huge champion.” (Teacher)

SGP facilitators also noted that the heavy workload that teachers carry is a major challenge to the implementation of school garden programs. Many teachers simply don’t have the time or energy to take on another project, whether by themselves or in partnership with a community-based organization. Facilitators heard repeatedly that teachers were just too busy, had too many special needs students, or had too many students to manage participation in a garden program:

“The basic answer from teachers is that teachers feel overwhelmed and they don’t want additional responsibility. They just don’t want to take on something else.” (Facilitator)

“Some teachers are reluctant to work with *Growing Up Organic*; they already have too much to do.” (Facilitator)

As food studies scholars and educators, it seems sad that teachers, and the school system overall, are so overwhelmed and burdened that they have such limited capacity to work with skilled and passionate SGP facilitators to incorporate growing plants and food into their curriculum. This systemic overwhelm is likely a result of many pressures and demands on the education system, including underfunding, reliance on the school

system to solve larger social problems, and unwillingness to embrace different educational philosophies within the public-school system.

Perhaps we could consider the philosophy of the Finnish education system, also known as “the Finnish Paradox,” or *less is more*. This is a key component of Finland’s educational success, as measured by its top scores in the OECD Programme for International Student Assessment (PISA) (Sahlberg, 2015). Finnish children spend far less time in class than their North American counterparts (an average of 600 versus more than 1,000 hours per year) and have little or no homework. Teachers spend an average of four hours per day in class and have significantly shorter work weeks (an average of thirty-two hours per week versus forty-eight in Canada). They also have the freedom to create their own curricula within broad municipal guidelines (Sahlberg, 2015). If Ontario adopted a similar approach, our education system could significantly relax its curriculum expectations and lessen teacher workloads, thereby opening up space to deliver a wider variety of programs and, at the same time, potentially improve the quality of its education.

### *Operational supports and challenges*

Garden programs pose a number of unique problems in the school setting. The first is maintenance of the garden during the summer months, when teachers and children are not in school. Most teachers and facilitators employ a combination of strategies, including parent and community volunteers, student involvement, and their own volunteer work. Other operational challenges include the availability of water and the presence of a storage shed. Some schools have accessible outside water taps, while others rely on large storage tanks for water which can be filled a

few times over the summer. Accessing hoses and tools is also an issue; if these items are stored inside the school, summer crews must coordinate with caretaking staff to open the school for them. An outside shed allows for greater flexibility and independence. However, inconsistent, nonexistent, or inadequate guidelines can create problems for SGP educators.

Many ordinary purchased sheds were visible during on-site interviews; however, one teacher remarked that her principal had ordered the removal of a purchased shed on the grounds that it was not safe enough. Finally, after many years of fundraising and advocating for a shed, the same Principal approved “a concrete bunker.... It’s the only thing we could have that was fire retardant and strong enough if anybody were to climb on the roof.” This is an example of how the lack of guidelines resulted in the imposition of arbitrary constraints.

The operational challenges faced by this teacher are reflective of a lack of specific Ministry policy and guidelines and the general invisibility of SGPs at the Ministry level. Administrative support is essential but also highly variable, depending upon the views of individual Principals and school boards. This impacts not only the long-term sustainability of SGPs but also the willingness of teachers and facilitators to create and maintain a garden.

### *Partnerships*

Partnerships with outside organizations are an important part of many school garden programs. These partnerships include those with community volunteers and community

organizations, such as food charities, as well as those between individual schools and organizations, such as *Loving Spoonful* (Kingston) and *Growing Up Organic* (Ottawa):

“Each year we have partnered with *Loving Spoonful* and we take part in three or four educational workshops—everything from food security and growing garlic and making salsa and understanding where our food comes from.”  
(Teacher)

“I’ve been working with *Growing Up Organic* for a lot of years and if it weren’t for them, I wouldn’t be doing what I’m doing. It’s hard. I mean as enticing as it is, as interested as the kids are in gardening, it’s hard to run a garden with one teacher and twenty-five kids.” (Teacher)



Image 6: Students participate in a Growing Up Organic workshop



Both teachers and facilitators expressed appreciation for community partners such as Master Gardeners, farmers, and beekeepers who either come to the school or host visits to their farms:

“All of those connections [local farmers] are really important too because they are part of our community and they are supporting the larger community around us. But then you know they [students] are seeing these people year in and year out and kids are starting to get to know them and they are getting to know the kids and it seems like the farmers are having just as much fun being here with the kids and working with them.” (Teacher)

Food security organizations are often important partners for school garden programs. In the case of the Sydenham initiative described in the introduction, there is extensive collaboration between students and the South Frontenac Food Bank. *Loving Spoonful* in Kingston is a food security organization that, at the time of this study, ran garden programs in twenty-one schools, and participating schools were encouraged to donate surplus produce. Several other teachers donate produce and make regular visits to nearby food charities, highlighting commitment to the social justice component of their garden programs.:

“So when we harvested the Swiss chard, we took it over there [Parkdale Food Center, Ottawa] and we had a tour around the facility so we could see where it was going and then we returned yesterday for a follow up workshop and we took what little more we had from the garden. So, it’s

the relationships too, it’s building relationships with places that have been, you know— somewhat marginalized.” (Teacher)

Community and parent volunteers are also an important part of some school garden programs; they can help with managing the large number of students and are invaluable to perform all of the little tasks that teachers often don’t have time for. They also afford students the opportunity for intergenerational mentoring. One facilitator promotes a wide variety of innovative partnerships and noted that partnerships within walking distance are much easier to maintain as there is no need for outside transportation. Currently, several Public Health nurses are joining her garden programs to teach healthy eating to students, while partnerships with municipal programs have allowed students to participate in tree planting programs:

“Community partners are sort of the secret sauce and community agencies can bring in a multitude of resources, both HR and financial to make school gardens successful.” (Facilitator)

Partnerships between teachers and garden facilitators and community organizations add a great deal to the quality and sustainability of garden programs through support for initial garden builds as well as through provision of comprehensive programming and workshop modules. Community volunteers, visits to farms or by farmers to the classroom, cooking opportunities, and connections with food security organizations all broadened the scope of garden programs and brought added richness to the learning.

### *Program sustainability*

At the high school level, teachers who participated in this research centered their garden programs around Culinary Arts and Green Industries programs. This means both that teachers and students can and do work in the garden while in classes that are specifically linked to this work and that the teacher does not have to spend a significant amount of time outside of class working in the garden. It also means that, if a teacher were to stop teaching their respective courses, another teacher would be hired with the expectation that they have the interest and expertise to continue to maintain the garden.

At the elementary school level, school garden programs are integrated into the relevant grade curriculum. All of the teachers used their own professional discretion and creativity to connect experiential learning in the gardens to curriculum objectives such as science, biology, ecology, and healthy living. For all of these teachers, the garden is very much a personal passion, requiring varying degrees of personal expertise and volunteer time. The ability of another teacher to carry on their programs would depend on the interests of the teacher, the complexity of the program, and the support of the principal.

The position of garden facilitators varied considerably among participants. *Growing Up Organic* has a long-standing relationship with Ottawa-Carleton English and French language school boards, who, in 2019, were covering the costs of their programming for the first time. On the other hand, *Loving Spoonful's* school gardens were most recently funded by a three-year Trillium grant, and, as of the writing of this article, their website states that “a lack of funding coupled with the realities of the pandemic environment, has restricted our ability to deliver the program as we have in the

past.” Similarly, for smaller facilitator-led gardens, the future is not as secure:

“A lot of school gardens come and go because they don't have a community partner. A community partner can add a sustainability component, but of course the downside of that is that the community partner has to keep going.”  
(Facilitator)

The importance of partnerships and outside programming was well documented in this study; they can be valued not only for their immediate benefits in exposing students to diverse community members but also for their roles in reducing teachers' workloads and managing large numbers of students. This is important in ensuring the long-term sustainability of SGPs.

### *Long-term visions for improved delivery of school garden programs*

Towards the end of each interview, participants were asked what kinds of supports would improve the delivery of school garden programs. All participants advocated for adequate and stable funding within the school system itself, including a paid facilitator. All participants thought that having a paid facilitator who is not directly teaching the class would provide much-needed support in terms of helping with the management of large class sizes, preparing and delivering materials, and generally caring for all of the odds and ends that don't get done within class time. This person could be an employee of a community organization or a Board employee, similar to those who provide school meal programs or librarians:



“Breakfast coordinators—they get paid, so I could see a similar thing where you would have a school garden coordinator.” (Teacher)

“The garden as a facility and them as the facilitator. In the same way that the library is not something that is sometimes arbitrarily staffed and sometimes not.” (Teacher)

Hiring garden coordinators, as these teachers propose, and integrating them into the work force, means that SGPs would have to be prioritized for funding and curriculum development by the community, the school board, or the provincial Ministry of Education. Several participants thought that school garden programs should be incorporated into the curriculum, potentially as part of healthy eating, food literacy, or environmental literacy curricula:

“I think you have to go back to the curriculum because curriculum is policy essentially...so naming it, naming school gardens as part of food literacy, as part of environmental literacy.” (Facilitator)

To me food literacy should be coming from top down. I feel like that type of over-arching theme should be something that is not just for the schools that figured out how to cobble this together or even the board that kind of cobbled it together, it should be that everyone has access to that. (Teacher)

These participants understood the value of the SGP curriculum and supported policy development so that SGPs could be consistently integrated into the

curriculum, rather than on an “ad hoc” basis. In an appendix to support *Bill 216: Food Literacy for Students Act, 2020*, Sustain Ontario (2021) has an extensive list of opportunities to link food literacy, including gardening, to the existing curriculum. Rae Christopher’s (2019) book offers a comprehensive framework for developing and maintaining school gardens, with over 200 lesson plans that could be adapted to Canadian contexts. Perhaps the introduction of food literacy into the science and technology elementary school curriculum will further the development of SGPs at Ontario schools.

One teacher, who had a great deal of professional freedom and gardening experience, spoke of seeing the SGP not as an additional burden but as something that could be used to teach aspects of the curriculum that are considered more essential:

I want to say that other teachers would do more if they felt they had creative license. Teachers should not feel like “oh, I am getting away with doing that special activity [gardening] but I have to get back to that literacy and numeracy.” I think, in fact, they need to feel that as they are doing these other enrichment activities, they are doing their literacy, they are doing their numeracy.

This teacher espoused a more creative and integrative approach to curriculum, and understood that SGPs could be used to *support* the “basics” of literacy and numeracy, rather than being an extra that needs to be squeezed into the already overfull day, or simply a “fun” activity. Generally, only someone who already possessed gardening mastery and understood the pedagogical possibilities offered by gardening would be able to integrate curricular lessons from other subjects into the SGP without additional training or supports.

## Conclusion

All participants in this research project valued school garden programs and the opportunities they provided for a different type of learning, one that is experiential and that balances knowledge and skills as well as teacher-led and student-driven learning. Participants understood gardens as facilitating student opportunities to engage with nature and to connect students to ideas about food security, food literacy, environmental stewardship, and social justice. In an era of increasing anxiety and concern about climate chaos, and BIPOC demands for justice, school gardens offer potential opportunities for experiential and transformative education that can speak to these issues. All participants also agreed that school gardens need more support, including more funding and more stable sources of funding, administrative support from school boards and the Ministry of Education for policy and

curriculum development, and skilled, paid garden coordinators.

The results of this research project lend support for the inclusion of gardening in food literacy programs and education for environmental stewardship, sustainability, and social justice. The results are limited by a focus on school garden programs in southern and southeastern Ontario, and by the convenience-based sample. Future research could support integration of SGPs into the Ontario school curriculum by surveying Ontario school boards to provide a comprehensive picture of SGPs in the province and highlighting successes that could be emulated. Similarly, it would be useful to develop a more comprehensive and detailed national picture of how SGPs are being used to support food literacy, healthy school food environments, environmental education and sustainability, and social justice.

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