



DIG FOR YOU RIGHTS!

Exhibition

FOOD AND FARMING STORIES

The Reach

October 2023

**Dig for Your Rights! A Rights-based Literary Program
to Support Food Security and Agricultural Literacy**

Developed by Dr. Michelle Superle: Associate Professor, English department

University of the Fraser Valley; Research Associate,

Food and Agriculture Institute, UFV

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program logos: Camryn Longmuir



October 14, 2023
Community Arts Space
The Reach Gallery and Museum

Welcome to this exhibition of art from the Dig for Your Rights! program and artifacts from the program's Food Museum Challenge collection. On behalf of the whole 20 Harvest Challenge team—we're so happy you joined us!

I'm thrilled to share the art and artifacts with you, but I'm *ecstatic* to share these written stories from so many people connected with Dig for Your Rights. These include my students, the children and teachers I've worked with during pilot programs, my own articles from *edible Vancouver and Wine Country* magazine, and folks I collaborate with on food security projects.

These written outputs from the project are especially near and dear to my heart because I'm a writer and an English professor. As exciting as it is to mount gallery exhibitions (and this is our third show with the Reach this year!), I'm a word person first and foremost.

And there's another reason these stories thrill me, too. As part of my scholarly research into representations of agriculture in children's literature and the efficacy of picture books to help children understand and engage with our food systems, I'm developing a new way to conceptualize the importance of stories about food and farming: narrative agriculture.

My concept of narrative agriculture is inspired by the principles and practices of narrative medicine, an approach that aims to help physicians understand their patients as whole human beings rather than a set of (disconnected) symptoms.

In the same spirit, I aim to help children and people from outside the agricultural sector understand—and empathize with—the farmers who feed us... their challenges, their persistence, their dedication, and their innovation. All this just so we can eat! I also strive to help people understand complexities of the food systems within which farmers do their jobs, not to mention the difficulties inherent within those systems.

Although much of my work on the Dig for Your Rights! project to date has been focused on children's literature as a narrative and ideological vehicle, I've also



been listening to farmers. Really, *really* listening—in addition to the Dig program, I also interact with farmers when I interview them for the Flood Stories project and *edible* magazine. Farmers have a lot to say. What they have to say is interesting and important. People are interested in what farmers have to say—the popularity of *edible* magazine is a testament to this. That’s why I believe developing and expanding my concept of narrative agriculture could result in improved public engagement with our food systems.

Narrative medicine has gained impressive traction over the past decade; that’s good, because it’s responsible for significantly improved patient care and outcomes. In other words, it works. Will narrative agriculture be as effective? I believe so, considering the immense power and popularity of books, shows, and movies focused around what scholars call the “rural idyll”—the public’s imagined ideas about farms and farming (which tend to be *much* more enchanting than the realities). We’ll find out when I start collecting data to test my theory.

In the meantime, I hope you enjoy these stories about food and farming. Most of them will look and sound familiar—just the way you expect such stories to look and sound. A few, however, may surprise you: our “as-told-to” style stories.

For these stories, we’re partnered with the Climate Disaster Project (UVIC) and adapt their trauma-informed methodology by building on their interview questions about climate change to encompass food and farming. We then connect the individual stories to their corresponding human right(s) as laid out by the United Nations in the Universal Declaration of Human Rights and/or Convention on the Rights of the Child, which contextualizes the personal experiences of our storytellers within a legal paradigm. This empowering, cathartic approach results in deeply moving and deeply informative stories that are still quick and easy to read. You’ll love them, we promise.

And if you’ve got a story to share about food and/or farming, let us know! We’d love to hear it.

Happy reading,

Michelle



Dig for Your Rights! exhibition info for the Reach

Michelle Superle

Program description:

This exhibition shares examples of art and artefacts from Dig for Your Rights!, a rights-based literary program that engages children and youth in inquiry-based explorations of food security. The Dig program—along with the Dress for Your Rights! program and A Flood of Stories (formerly the Flood Stories project)—is part of Dr. Michelle Superle’s 20 Harvest Challenge. All three programs combine children’s books, human rights, and artistic projects for climate hope as a way to empower children’s participation in their community’s sustainability endeavors.

Didactic panel:

Dig for Your Rights! is an educational program that combines the power of story and the power of touch with human rights to inspire children’s engagement in sustainable food security initiatives.

The Food Museum showcases tools and techniques that have helped make regional and household food security possible for centuries. The “Challenge” portion of the museum invites participants to connect these items with themselves, their culture, and their rights as human beings on this beautiful planet we all share.

Dr. Michelle Superle has been developing and piloting the Dig for Your Rights! program and Food Museum + Challenge since 2018. Collaboration with children, youth, and teachers in the Abbotsford and Chilliwack school districts, as well as with staff from the Vancouver Food Bank and faculty from the UFV Food and Agriculture Institute, has enriched the program and museum substantively. Much of the research for this project was supported by a SSHRC Insight Development grant.

This Dig for Your Rights! display showcases inspiration for creating a more equitable, sustainable food system based on the principles of food sovereignty. In the Dig for Your Rights! program, our working definition of food sovereignty is “food security + human rights + community”. This definition reminds us that food security alone is



not enough: “conventional” agriculture and the industrial food system wreak immense damage on people and places all over the world. It’s time to imagine better, healthier ways to put food on the table.

This exhibit honours children, youth, and local artists who dream of a healthier, happier world achieved through a form of sustainable local food security in which there’s a place for everyone to participate, contribute, and thrive.

We invite gallery visitors to join these imaginings of our community transformed into a foodscape that nourishes all of us—and every living being that shares the earth with us.

As you depart from this exhibit, imagine one action you’ll start today to nurture your local food system. Will you participate? Support others’ participation? Vote with your dollars? Finally remember to empty the green waste bin? Purchase local lettuce instead of green stuff trucked in from California—or even grow your own? Write a play? Sing a song? Sign a petition? Every action helps!



Towards a Theory and Practice of Narrative Agriculture

Michelle Superle

As part of my scholarly research into representations of agriculture in children's literature and the efficacy of picture books to help children understand and engage with our food systems, I'm developing a new way to conceptualize the importance of stories about food and farming: narrative agriculture.

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This empowering, cathartic approach results in deeply moving and deeply informative stories that are still quick and easy to read. We believe this healing process is crucial to re-envisioning a food security regional food system—collaboratively.

If you’ve got a story to share about food and/or farming, let us know! We’d love to hear it.



Dig for Your Rights! “as-told-to” Food and Farming Stories

Cindy Castro

Abbotsford, Canada | 2005-2011

“There would be days when they didn't have enough money to put food on our plates. They couldn't even speak a single English word.”

By Cindy Castro as told to Madeline Beerwald

UNCRC Articles 2, 4, 24, 26, 27

Cindy Castro is a fifth-year student at the University of Fraser Valley in Abbotsford, Canada born in 2001. Cindy is majoring in English along with minoring in Philosophy, and she is the youngest of three siblings. She is first-generation Canadian, because her parents immigrated to Canada from Mexico in the early 90s.

Her upbringing was a difficult one, but one she has been able to overcome through hard work. Her parents' sacrifices have taught her how to be humble, independent and successful, and she radiates just that. Cindy is on track to meeting her long-term goals only because her parents role modeled how to persevere through difficult times.

I've been exposed to many difficulties since I was a very young age and the misfortunes that my family had to endure are continuous to this day. I come from a family of immigrants, Mexican immigrants. So this is the base bone structure of all the struggles that my family has gone through.

I am the last child to live in my house without my siblings around anymore. It's become a financial struggle to maintain a stable income to have somewhere to live. Both my mother and father moved to Canada in 1992 from Mexico and started from absolutely nothing, no place to live, no job, and no car. They couldn't even speak a single English word. They just had three brothers to help them get going at a small family-owned pizza business in Downtown Chilliwack.

There would be days when they didn't have enough money to put food on our plates. My snacks consisted of crackers and refried beans. My room consisted of chipped paint and molding corners. My entertainment consisted of finding animal shapes on the tile patterns of the bathroom floor.



It was a continuous complication we went through because we had a small shabby apartment with not enough bedrooms. Some years, we wouldn't have a Christmas, some years we would have to walk in the blizzards to get to school because we couldn't afford snow tires on the family vehicle, and some years I lost my friends because I couldn't afford bowling.

Some days when my parents struggled with putting food on the table, I would go to sleep for dinner. My parents let me go to friends' houses a lot for playdates and sleepovers only because I assumed it was one less mouth to feed. I think I knew that, but as a kid I was always excited to go to friends' houses for sleepovers and dinner.

Dinner at another home was always something I thought was so extravagant and something I would never have at home. This includes junk food. And I will say, sometimes junk food was my dinner at home, like half a bowl of Kraft dinner and sliced up hotdogs. But junk food at a friend's house that *wasn't* for dinner sounded alien to me. For example, I've never tried medium rare elk until going to a friend's house, and I learned I liked sauteed Brussels sprouts only in bacon fat with chopped bacon and onion bits. I never knew food could taste so rich.

At home, my parents did their best. Breakfast was usually scrambled eggs, ham and a tortilla. On days when it was hard to come by eggs, it was toast with butter and cinnamon sugar, or beans and tortillas with a cup of milk or water—whatever was in the fridge. My parents couldn't afford hot lunches that all my classmates were part of. It was very rare for us to go out to eat or even get McDonald's Happy Meals. I missed out on a lot of happy meal toys.

To this day, they still struggle to pay off debts they owe. They have done everything in their power just so I can understand the importance of dedication and sacrifice. My parents had to use their Canada Child Tax Benefits, after becoming Canadian Citizens, on supplying food for us because their jobs were not able to maintain a stable income to feed us as kids. This is the reason why I needed to pay for my own schooling. So, I got a job really young and worked full-time and overtime as a barista for four years.

The only reason my parents' jobs were low-income was because their Bachelor degrees in Dentistry were denied when they applied for a Canadian Visa to move here. They spent more years than I can count on one hand, and money to get those degrees. But they still abandoned their hard work and success to move to Canada just so their children could have a better opportunity at life.

I definitely feel a lot more independent having gone through a low-income upbringing. I moved out in 2021 with my fiancé, only to move back in with my parents two years later because the cost of food, rent and tuition was too much for my part-time serving job to handle. I am glad I had the experience to move out with my fiancé. Because of that, I have definitely grown a profound sense of independence.

Even though my family lacked some of the luxuries when I was a kid, I owe my life to my parents because they have shown me what true sacrifice and dedication means to them. One of my major goals in life was to pursue a degree in university, and graduate debt-free. I am proud to say, with the help of scholarships and my hard work, I am nearing the finish line to meet that goal.

I couldn't have done it without my parents' example and support.

Joe Falk

Abbotsford, Canada | Avian Influenza Outbreak, 2022

“I had to lay off our whole staff at the plant two weeks before Christmas. There were grown men crying in my office, asking, *How is Christmas going to be this year?* And that was the worst part of it all.”

By Joe Falk as told to Michelle Superle and Sydney Marchand

Universal Declaration of Human Rights Articles 23, 25

Joe Falk is a fourth-generation Abbotsford farmer, descended from Mennonite ancestors who immigrated from Russia. Joe has been farming with the Falk family for his whole life.

Now best known for their Fraser Valley Specialty Poultry business—and the Farm Store they operate in Yarrow, Chilliwack—the Falks have “tried just about everything” in agriculture. According to the family, “the list of things we haven’t farmed is much shorter.” Just a few decades ago, they owned the largest raspberry farm in North America, with hundreds of acres of canes in production, as well as a fleet of buses to transport the laborers who picked every berry by hand.

In 2004 they almost lost everything due a devastating outbreak of Avian influenza. As Joe’s father Ken recalls, “I toured three separate groups through our facility in 2004. I told them it was theirs—all they had to do was take over the debt. There were no takers”.

Through hard work, steady persistence, tolerance for risk, and the willingness to reinvent themselves as a diverse, robust operation, Joe and his family slowly rebuilt Fraser Valley Specialty Poultry as a stable, thriving business... only to be hit by another Avian Influenza outbreak in 2022.



[The virus] had been floating around the US during 2021 and then it made its way into Canada in 2022. It was out East, then it followed with the migratory birds, and it just so happens that Abbotsford—this important agricultural area—is also part of the migratory bird flight path.

BC got hit hard end of 2022, early 2023. That's when we had one farm go down after another. We lost a total of six farms. And over a quarter million of birds de-populated.

We're very densely populated with poultry farms in the Lower Mainland, which makes the threat of Avian Influenza [spreading] that much greater. Farmers practice biosecurity, but we are told that the virus can be carried in on flies, it can be carried in with mice, it can be carried in dust. You can't see the virus, and this time it was particularly strong in the wild bird populations.

Our first farm was our most vital farm...our breeder farm in Abbotsford. That's the farm that produces the eggs—where you get the ducklings. So if we lose all of our breeders, you know, then how do we restart?

That was the first positive. And there's lots of poultry around there. And it's in the flight path of the migratory birds. So there were a lot of farms going positive in that area.

[At Fraser Valley Specialty Poultry] we're growing and supplying, processing and distributing our poultry products to wholesalers and to the end consumer. Being the general manager of Fraser Valley Specialty Poultry, I've seen different levels of food security issues over the past few years. The system has become very efficient, but there's not a lot of excess capacity in the system, so it doesn't handle hiccups well.

We deliver products usually at least twice per week and sometimes even do daily deliveries. When the deliveries stop it does not take long for the shelves to empty. We saw that in COVID. And then we had it when we had Avian Influenza.

In-mid November I got informed at about 7:30 at night that the farm was positive. It was a gut punch because we knew what we were in for. We'd been through this in 2004. It's a very, very complex time. And all sorts of emotions, emotions from feeling sad, angry, frightened, disappointed... you know, *where are we going?* We don't know what the future looks like.

And then events, you know, just taking it one day at a time, and trying to keep your spirits motivated and moving forward. [It's] a situation where you have to work twice as hard mentally and physically to get through it.

The first hour was the shock of it. I texted my family. It was just like psyching yourself up and getting yourself ready for what's to come. That emotional, mental piece. We know what we have to do. The farm that was positive went into a quarantine. Nothing could move in or out without permission or a permit.

From there, it's a bit of a blur. By the end of the day, there was a fear of knowing what's to come. This bureaucratic mess of it all. It takes you from one day running the business to a whole new realm of survival mode trying to navigate this.

I can tell you from my story, personally, it was definitely hard with mental health challenges and struggles through that with depression. Because it's such a long haul, you know, it's hard to see the light at the end of the tunnel. Yeah. And so I had to work and really learn to care for myself during that time so I could lead our team through that, and maintain a strong front and that sort of thing. So that's my story on that.

And I would only presume that others were maybe in that same boat. I'm trying to think of others that were flooded and also hit with avian flu. And I know one that's actually a duck farmer. They're a smaller duck farm. I believe they were flooded and they got avian flu. He was trying to take over his family farm. And it made him debate whether to do it or not, or just get out and have the family sell the farm. Yeah. So he was, you know, farming for three years and didn't ever finish a flock. They kept getting destroyed with disasters.

It's very hard for farmers. We're used to doing our thing and having autonomy. So not having a clear path moving forward, not knowing how things are going to work, or how recovery will happen... that and how much compensation we'll get and how that's going to work out. It impacts everyone. The public doesn't understand the impacts Avian Influenza has on the farmers and families that are involved in this is—even yours.

I had to lay off our whole staff at the plant two weeks before Christmas. There were grown men crying in my office, asking, *How is Christmas going to be this year?* And that was the worst part of it all.

At the end of 2022, we had lost a total of six farms and [had] over a quarter million of birds de-populated. It is traumatizing to have all your birds [go when] the gas trucks come. To be de-populated. That's not what any farmer wants to see. Not at all.

It does make m[e] question, is this sustainable for my family? We can't do this every year. We can't have this kind of disaster every year. How can it work?

The one tool we are hoping to be able to use soon is vaccination. It's just like vaccinating for COVID. You can still get COVID, but it's a tool in the toolbox that we need to be using.

By nature, farmers have to be resilient. Farming isn't for the faint of heart. It hasn't been easy for me or for our family. I couldn't just shut down and just focus only on what was happening here at the farm. I had to stay engaged as a husband and father to my kids and focus on what's important [at home].

There will be disasters and things that happen in the future, and the best thing I could hope for is everyone to learn from the past.



You just gotta keep moving forward. We are farmers, and we're gonna stay farming.

STEVE HARTWIG

Abbotsford, Canada | Yugoslav Wars, 1992

I would go into the garbage and all the food, sometimes bags of flour—complete, closed bags of flour, never opened. You know, eggs, I would pick them out of the garbage. My buddy Andy and I, we would take meat, like cooked meat, ham, bacon, that was just thrown in the garbage, and we would take it all out. We would take it and give it to the locals.

...the criminal organization... sell all the goods and the food on the [black] market. So these individuals like “Mom” [the cook] would have to make money somehow, which turns people to violence, turns people to prostitution, it turns people to survival mode....

by Steve Hartwig as told to Kalie Holford

Universal Declaration of Human Rights Articles 1, 2, 25, 28, 29

Before serving as a soldier in the Yugoslav Wars in 1992, Steve Hartwig grew up in a military family. He describes his youth as “an indoctrination process of sorts” with a normality ascribed to enlistment and an expectation to do so himself, which he did.

Now a student in his final semester at the University of the Fraser Valley, Steve is pursuing a Bachelor of Fine Arts with focuses in Creative Writing and Visual Arts. His primary interests are investigative journalism and video production. Although he says visual art is personally challenging, he has plenty of experience overcoming obstacles and engages with challenges regularly, whether that be in his youth, his time in the military, or his adulthood pursuits in competitive athletics.

A father of four and a Canadian Armed Forces veteran, he brings a unique perspective to his studies and life. He is now a “self and systems advocate for veterans’ rights, mental health,



and PTSD,” and a survivor of “the abusive practices and traditions of the Canadian government.” He highlights the importance of family and a personal “willingness to evolve,” and he speaks candidly about his experiences, offering insights into constructive ways to channel situations and adversity into positive change.

I was deployed overseas in the former Republic of Yugoslavia right at the start of the Yugoslav Wars. The United Nations wasn't prepared. Canadians even less so. As a young, kind-of-trained but inexperienced soldier on my first deployment, I had really big expectations, and I'd grown up with knowledge of Canada's reputation as peacekeepers and soldiers, and I wanted to do my part.

I was stationed in an area called the Serbian Krajina, which was an enclave within Croatia, and our goal was to protect it. I was part of a group tasked with providing security for a large warehouse complex with the understanding that the United Nations were going to come in and leave their international aid and food, medicine, clothing, whatever's needed. They did so, and we were told to keep that perimeter secure. The local countryside was pretty decimated by the war. And so in a lot of cases, the water was polluted. They didn't have food, all the animals were killed.

Shortly after they left, we were told to withdraw to about a kilometer away to give space, which we all thought was kind of weird because we're supposed to protect it. As we watched a convoy of vehicles come up, we recognize[d] that a lot of their vehicles are civilian vehicles. And they went in and loaded up all of the supplies and left. We'd already been in country for a month or so, and a lot of guys already had incidents with some of the individuals driving the vehicles, and they recognize that they were the local criminal organization. We were told that soldiers are to just shut up and do our jobs. Let the, you know, higher-ups deal with everything. And so we watch them come and go and load up, and everybody was kind of a little at odds with the situation. We didn't know what to do.

And then over the next days and weeks, we started to hear that the mafia has a relationship with the United Nations where they come in and they take all the goods and they take them to the black market, and they sell them to the local population. And the relationship, it's very common now, as we've known with other wars, but at that time, it wasn't very well known. The United Nations would go into an area and choose the crime group, because they already had the ability to control an area.

The idea that we were providing security for the mafia, so that they could steal all the international aid and sell it and make profit and become rich and powerful, was a real problem. We bought into this propaganda that we're this great nation, and here we are, what we thought was committing crime. This situation in particular was probably a foundational fracture, I guess, in the system that was established by us. That started to create a kind of air of rebellion within our Canadian Forces. First on small levels, individuals speaking out, and then the behavior started to increase.

As we became more rebellious and disobedient, we started to notice different things within the operations of our battle group. One that set our platoon [in] particular off was our cook. [He] was a member of the Canadian Armed Forces, and so there were a variety of issues that he brought to our camp. He would, at the end of the day, take all of the food and throw it out. And in most cases, it was, you know, cartons of eggs and butter and flour, and it was perfectly fine food. Knowing that many of the locals from our interactions didn't have much in the way of food, it created a very large divide that soon became violent actually, because the cook was doing what he thought was right, and everybody had problems with that and created this tension that led to kind of several violent incidents between members of the soldiers and the cook.

I was quite vocal about it. And I had had several instances where I was told to basically shut up. And so my first deployment, and here I am causing ripples. I would go into the garbage and I would take all the food, so sometimes bags of flour—complete, closed bags of flour never opened. You know, eggs, I would pick them out of the garbage. My buddy Andy and I, we would take meat, like cooked meat, ham, bacon, that was just thrown in the garbage, and we would take it all out. We would take it and give it to the locals. That allowed us to build a relationship with some of the community because they didn't have certain things and we didn't have certain things. So we learned to barter trade, which was illegal by our standards and by our rules of engagement and employment, but we felt it was very important that we establish positivity in the community. Some humanity had given us humanity.

[The cook] was then removed. We hired a local woman, local mother, that was once a cook. We very quickly adopted her as a mom. She was a single mom. Her husband was killed in the war. She worked in the local hotel, a famous spa actually, but it was completely decimated in the war. She lost her job, became impoverished, like everyone else. She started trying to describe how this process worked.

These people, from our perspective the criminal organization, come in, and they sell all the goods and the foods on the [black] market. So these individuals like Mom would have to make money somehow, which turns people to violence, turns people to prostitution, it turns people into survival mode, which as soldiers we were there to prevent. We had so much money because the UN would pay us, and for us in a country like that, you know, everything was paid for so soldiers would give her fifty, one hundred, two hundred Deutschmark, which would be the equivalent of thousands of dollars here today. And then she would go and make sure her family and friends and everybody in her community could go and buy stuff. In effect, we were supposed to be protecting this international aid that was free to be distributed and once the community, the mafia, takes it[...], then we're using our money to give to people like Mom, who then would go and buy off of the black market what they needed. So it just became this cycle that created a lot of animosity and anger.

[It] created this, for us, kind of a major wound of sorts because we were told we're peacekeepers, we're here to provide security and safety and shelter. And now all of a sudden we're not. The experience taught me at a young age how dishonest our leadership is, elected or otherwise; you know, the economic, ideological, and political goals are often way more important than the environment. We reached a place—I think I did, I can't speak for others—where I learned hate for the first time on an epic level, not on a literal level, but that's probably the first time in my life up to that I ever really experienced hate.

There's all the experiences of being in a war-torn environment, society, or a country breaking down or destroying itself. There's certain sights and smells, smoke and fire, very common. There's, you know, six, eight, ten, twenty houses on fire or large portions of an area are burning. It's a unique mixture of fresh kind of morning air and diesel from our vehicles and our generators and burning things and I can close my eyes and be back there, the fresh air mixing with our diesel engines, the smell of Mom's apple pie, the sweet smell of dead things, all mix into this sort of romantic memory. I always talk about it like it's a curry, like it's just bubbling. And you get a little bubble of one smell. You're like, "Oh, that smells good. Oh, that's horrible." And that—that's kind of what it's like. But it's also thirty years on, it's almost like a portal that I have learned to control. In the beginning, I didn't, but through time and practice, I was able to do that.

Memories and history fade in a way, and it's these little triggers that pop up from time to time, and I have that all the time. I'll hear something. I'll see something. I'll smell something. It takes me back to—as I wrote—a moment of my history, and the foundation of a lifetime of trauma that I wish I could revisit every day. There's not a day that I think I've had in my life since that I haven't wished I was back with my soldier friends in that environment.

I feel like I left a part of myself there.

It's forever changed me. I saw firsthand how we as a species, in our further desire for warfare—like the impact that that has on our planet is massive. You know, the destruction of our environment is a byproduct. But with help, consistent work, and I guess, the willingness to evolve, as I've tried to define it, so that individual incident, you know, it's part of kind of a much greater fabric—so it's become a life-altering experience.

Future generations are also inheriting the planet. So they're inheriting the power—potential to address climate change in a more holistic and more healthy way. That's where my hope is—that the rising generations will continue to learn from the mistakes of the past.

I think when it comes to food security or just safety in general, it's an individual process as much as it is a community or societal process. We can do something about it holistically. But it's just going to be a different kind of war.



Gwen Settle

Abbotsford, Canada | 2001/2023

“A large part is teaching people about the shared value of eating local food. If people could only become more aware of the value of local food; how important it is not only to the economy, but to their health. And it tastes so much better when it's local.”

by Gwen Settle as told to Grace Jager

UNCRC Articles 24, 26, 27

Gwen Settle is 79-year-old woman who can be considered a “jill of all trades.” She has worked a variety of jobs, including the Canadian Navy, freelance legal secretary, HR, and many more. Over the past 20 years she has focused on volunteer work, specifically with the Abbotsford Farmer’s Market. In her free time, she enjoys reading and swing dancing.

Well, in the early 2000s, we had difficult time. My husband had passed away in 2001. My daughter and I were living together, then she ended up expecting my granddaughter. My granddaughter was born in 2003. We were getting some food through the food bank and some of the different community programs, which helped out quite a bit because we just didn't have much money coming in. That's why I always make a point now of donating to the food bank. Every year, if nothing else, I donate there.

On the other side of things, I got involved with the [Abbotsford] Farmers’ Market in 2004 by volunteering there. A pilot program* was started between the BC Farmers’ Association and the provincial government. This is the Nutrition Coupon Program, which is funded through the government and other people or organizations who donate. Each farmers’ market that registers to be part of this program must partner with a community group in their area. In Abbotsford that group is Archway Community Services (formerly Abbotsford Community Services). Participants must be registered with the community group. In Abbotsford we have three groups: Best for Babies, Seniors, and Asian Seniors. There may even be an Immigrant group as well through Archway.

What happens is participants they're given a set of coupons during the season. Each of these coupons is worth \$3. It used to be nice to get \$15 for the coupons each week, but now it's up to \$27 worth of coupons each week. Most of the coupons are for fruits and veggies, cut herbs, dairy, eggs, and nuts. Two of them are also for fish, seafood, and meat. Now they've added one where you can get honey as well. So, it's quite a variety that you can use these at a designated farmers market. That has brought the access of fresh local food to so many people.



When the program first started at the farmers' market, I was the one who managed the program from the market's perspective. That included at the end of the day collecting all these coupons, seeing that the farmers get paid for them, submitting the coupons and associated paperwork to the association, and so on. Now, that I'm retired from the farmers' market, and I am a low-income senior, I'm on the other end of it and getting the coupons myself. So, I'm at the market almost every week again, but as a customer instead of as a volunteer.

Using these coupons to access local fresh produce, meats, honey, etc. is absolutely invaluable. I mean, it's just unbelievable. And it's very important. Especially during these hard economic times, many people are taking advantage of being able to access good quality local food. Also there's a lot of refugee groups, particularly Ukrainian and Afgan groups here in Abbotsford, that are also included in this year's program. It has just exploded so that it's almost overwhelming for some of the farmers with all these people.

When I started assisting with the first year of the program, there was something like \$12,000 worth of coupons that we received. When I retired [about a year and a half ago], I think it was over \$65,000. It's well over that now. There's such a demand because people can't afford food now.

We have to educate people too. Just because, say, a carrot doesn't look perfect, that doesn't mean it's not as delicious as ever. You're not going to like everything you get. I mean, nobody likes everything. So, it's like, if you get a vegetable you don't like, instead of getting rid of it, just donate it or give it to somebody who can use it.

What I loved about the market too was seeing little kids going along, just munching away on carrots or other veggies just raw. They had the chance to talk to the farmer and find out okay, how is this grown?

A large part is teaching people about the shared value of eating local food. If people could only become more aware of the value of local food; how important it is not only to the economy, but to their health. And it tastes so much better when it's local. It really does. Also, try and buy things in season. It's understandable if you don't have the money. I mean, sometimes you don't have a choice. But if there's some way that you do have a choice, then try and go for the local and the healthy food, because it makes such a difference.

It's just what we eat and our attitude. I say it's attitude as well because so many people just sit by themselves. They don't get out, they don't socialize, they don't eat properly, even myself. Sometimes I think, "Oh, it's just me here. I don't really feel like making a meal." And that's a hard thing to combat. But if you can even pick up a carrot or a piece of celery, nibble on that. Throw a little peanut butter on the celery. You know, you get your protein and your veggie and eggs. I love eggs, fresh eggs, and I get them from the farm. So, it's all knowledge. Education.



* “The Farmers’ Market Nutrition Coupon Program began in 2007 as a pilot project operating in each of the regional health authorities. The Ministry of Health began funding the program in 2012. The program successfully expanded from 2012-2014 and has been in full operation since 2015. It has continued to grow since and now serves over 85 communities and reaches over 18,000 families, seniors and pregnant people from over 10,000 households in BC.” <https://bcfarmersmarket.org/coupon-program/how-it-works/>

Kris Foulds

Abbotsford, Canada | 2023

“As a child who had never been without [food] in any way prior to that, I thought, *Wow, this can happen?*”

by Kris Foulds as told to Grace Jager

Kris Foulds is the curator of historical collections at The Reach Gallery Museum in Abbotsford. She grew up in Vancouver, moving to Mission when she was 13, and Abbotsford when she was 19. She has a passion for history and is a mother and wife.

When I was still living in Vancouver with my parents, I would have been about nine, I think. My dad was injured at work. And in those days, the protections for workers were not as great as they are today. We were living in a one family home in East Vancouver, my mom was a stay-at-home mom, because my sister was only three at the time. And my dad was the sole breadwinner in the family. So, when we had to live on workers’ compensation – that’s what it was called at that point, we didn’t have very much money.

My mother really did her very, very best to make sure that we had enough to eat, but it was... it was scary. Sometimes you know, on a good day, we got hamburger in our pasta. It was not great, you know. My mother did things like instead of the fresh milk, you know, milk from the milkman that we had always been used to, she got those giant boxes of powdered milk.

First she tried to make us drink straight up powdered milk. And that didn’t work because that’s just atrocious. Then she tried sneaking it into milk, mixing it. We still figured it out. But yeah, not to be able to have milk. It was terrible.

I can remember the smell of the powdered milk. It just doesn’t smell like milk. It smells tinny. That smell of it just triggers me. Like there was some recipe that I tried as an adult that they suggested using powdered milk in, and I thought no, I don’t want to do that. But okay, I’ll try it anyway. It was one of those wartime cookbooks that I found at work in the museum. I’ll try it. I’ll try. It’s supposed to be wonderful. Well, as soon as I opened that box of powdered milk, it was like, No, we’re not doing that. Nope, nope, nope, nope.



The things my mother did to contrive meals that were slightly different... One of the first cooking shows I ever remember was the “*Galloping Gourmet*”, and it was this weird Australian man. She would watch the show and then try to make things out of almost nothing and pasta. Some of the strangest things came out of her kitchen then.

As a child who had never been without, in any way, prior to that, I thought, wow, this can happen, you know, we can worry about whether we can get a cereal I like or I have to have the puffed rice again. I'd always come home from school, and I could always have a glass of milk. And I could always have some bread and peanut butter, you know, and I could just get those things for myself.

But then the rule became, “No, you can't because your sister needs the milk. She's little.” You know? And there isn't peanut butter. “You have to save the bread for your dad's lunch tomorrow.” Those kinds of things. There was management on everything. It became very different.

Well, it was just... you know... I guess I was a spoiled kid. I mean, he [my dad] made a good living otherwise, but just honestly, you know, the, the powdered milk and the puffed wheat and just eating the same thing over and over again, because it was cheap.

It lasted I can't remember exactly, but between six months, six months, and a year. So, it was a good long time that they were trying to work out managing to support a family of four on his disability [money]. We kind of got used to it. You know, I kind of got used to it, at least. Sometimes I said “I just don't need dinner tonight” rather than eat the same thing.

You know, they [my kids] had the ability to say, “No, I don't want to eat liver.” “No, I don't like peppers. I don't want to eat those.” “No, I don't like mushrooms.” You know, they could each pick three things that I would never make them eat, and they could have something else instead. But for me, that wasn't an option.

I'm really worried about it. I have adult children. Two of them now are homeowners, one of them isn't. And, you know, I don't know that he'll ever be able to get into the housing market unless, my husband and I say, “Well, we'll buy a camper and go travel, and we'll give you money for a house, and we'll just come by the wintertime when it's too yucky to camp”. [This generation] really needs help from our generation.

Then the amount of [debt] from student loans. I have a grandson who's probably got \$90,000 in student loans—just to be able to have a career. So, when he starts, and his earning potential is pretty good, he's going to have that huge debt behind him. So that's going to take years before he can be advancing. So, he's going to be in his 30s. I would hate to be 20 today, I really would. I really would hate to be.

Something needs to change. Yeah, you know, as a matter of need, you know, rather than, them paying, \$1,800 to have a basement suite, just a decent basement suite. So technically, then, you know, they could be living with us and not paying anything and saving for a house. Like I just I just think that maybe we need to examine how we work as families as societies as communities, right?

I think it's also kind of a western mindset. You know, the first thing I wanted to do when I could was leave home. And our kids did that as well. But they, most of them, have been back at some point, one reason or another. I'm surprised the number of people that disparage the big multigenerational homes.

I just think that would be perfect, you know, have a house big enough to have my son and his partner and their daughter living with us. I just think that's the best idea on Earth. I don't know how to make it better. Yeah, we just have to acknowledge it and then change what we're doing. Because it's not working.

Stephen Evans

Abbotsford, Canada | 2020-2023

Regional Food Security in Abbotsford: Feast *and* Famine

“They need to be able to eat, for God’s sake.”

by Stephen Evans as told to Rya Owen

UNCRC Articles 24, 26, 27

Stephen Evans has a long history working in both food security initiatives and the agricultural sector. He holds many titles, including Executive Director of Mission Community Skill Center, and Chairman of the Mission Food Coalition. In addition to these roles, Stephen is also founder and developer of the Fraser Valley Artisan Food Hub in Abbotsford, and the BC representative for a national venture capital investment program by small-scale food processors that helps women-led ag-food businesses obtain investment capital. Before those endeavors, Stephen ran Abbotsford Growers for seven years, brokering Fraser Valley raspberries internationally.

Through the Mission Community Skills Centre, Stephen provides labour market and employment programs relating to food and agriculture that help young people and newcomers attach to the agriculture sector. This benefits both the individuals enrolled in these programs, as well as the agriculture industry, which suffers from an inherent skill and labor shortage.



Though Stephen grew up in Newfoundland, he has a strong connection to the British Columbia agriculture community. He has been a solution-oriented, and driven person for as long as he can remember. In 1985, at eighteen years old, Stephen travelled to Ottawa to attend a National Anti-Poverty Organization (NAPO) meeting, as an appointed delegate; he carried a food security protest sign for the first time, prompting passion and change to follow.

In this piece, Stephen shares his expertise and insights on the food security epidemic that has been plaguing our nation for decades, the food supply chain, and what we can do now to make a difference for the future.

This problem of food security or insecurity, whatever you want to say, has been with us a long, long time. I've been concerned about our future as a nation around food independence, and food sovereignty since forever. But I've never been as determined to see change as I am right now. I think about the communists just after WWII, you know, when they had to line up for bread. And in the [19]30s, after the economy collapsed, everyone had to line up at soup kitchens. We're doing the same thing now, but this time some of us have money in our pockets. Just not enough money. That's a significant difference.

My degree is in community studies, my major is problem centered studies, and my interest has always been in trying to solve problems. So, I have focused on what rudimentary local solutions we can come up with to help tackle food insecurity.

Growing up, I had a stay-at-home mom, and a dad who was professional. So we generally always had enough food to eat. But when I was a young person, freshly minted out of college and in university, I went without food. When I traveled, when I was a young man [traveling] to Toronto and Halifax to go to work, I went without food. When I started out here in BC, I was food insecure. That had an impact on me. When I experienced food insecurity at that level, when eating Kraft Dinner wasn't a choice, that's when I felt food insecure. And I don't want that for anybody.

The pandemic and the global supply chain issues brought home to people in Canada what it feels like to be food insecure, but for me, it was like a great big exclamation point. We've got to uncouple ourselves from this global food supply chain. We have got to become more food independent and food secure as a nation.

We used to be, we lost that. We've got to get back to it. We used to have a dynamic food manufacturing sector in Canada. We've gutted it out through international trade and offshoring. We now just have primary processing, and some lip service to manufacturing. If you look at the epicenter of food in Canada--Abbotsford--there's 3.8 billion in revenue generated from agriculture. But when you count the number of manufacturers, there's a dozen. The rest are all farmers that supply the global supply chain, processors that supply the global supply chain, and distributors that ship our commodities internationally.



During the pandemic, the atmospheric river, [and] the global food supply chain issues that came home to roost, I was right here in British Columbia. You know, that epicenter of food in Canada, with its 3.8 billion in sales. I'm looking at no food on the grocery shelves, panic buying, and milk being dumped down the drain by farmers while there's no milk on our shelves.

I was right here, and I was shocked. I thought, how vulnerable are we: how *really* vulnerable are we? So, I became an angry consumer. I went to my grocery stores and noticed that there are all these multinationals or large national corporations in control of our food. And I also noticed that there's not enough meat, or we're overpaying for these steaks. Yet we live right next to Alberta – the capital of beef production in Canada. It made no sense to me when we have such bounty in this country. I became very pissed off at the institutions that we buy and get our food from.

I actually believe it's a structural issue that stems from our decision, as a nation and as a region, to link ourselves to this global food supply chain. We've moved ourselves away from local food manufacturing and food innovation. And we've given in to a system of corporate control that demands our ingredients at the lowest price and then ship our ingredient to a preferred nation to be manufactured and value added. We are a nation dependent on foreign governments and corporate international food monopolies, which makes us even more food insecure, as a nation and as a region.

When I was at Abby Growers, I shipped pails of raspberries to Dawn foods in Kentucky. They thawed the pail, they added stuff to make jelly, raspberry jelly, doughnut fillings. They put it in different pails, put it on a different truck, and trucked it back to Toronto and Montreal and Vancouver. Why can't we do that manufacturing right here? Let's save all those trucking costs and get all those value added jobs, and save all that carbon. But nobody seems to get it. It just drives me nuts, absolutely nuts.

Here's another issue: across Canada, there are multinationals that own cold storage. To get access to these cold storages, you've got to have a million dollars in sales and 100,000 pounds of product. If you're a microenterprise and need five semi-trucks to open a cold storage account, that's not okay.

If you think about the global food supply chain from a carbon perspective, an average semi-truck drives 120,000 kilometers a year, [and] produces 223 tons of carbon per truck. If you replace the number of trucks with local food manufacturing, tied to local cold storage, say by building a 20,000 square foot cold storage, then you would take out enough carbon to equal 50,175 metric tons of carbon per year. Because you took the trucks off the road. Local food production takes those big trucks off the road.

There's lots of help for the big boys, like the really big boys, [and] there's lots of help for the micro food startups. It's that intermediate infrastructure support that's missing. I'd love to see a regional ag-manufacturing shared-use public access facility in the Fraser



Valley. That [would] help ag-food entrepreneurs scale and grow. It would help these businesses out, create local jobs, diversify our economy, replace imports, and save carbon.

Most startups get to about a half million in sales, and then either die or stay there, [and] become stagnant. Most entrepreneurs don't have access to the millions of dollars needed to build their own processing facility. There's no public asset for them to go and scale their food manufacturing business. I would like to see those assets created, linked with sufficient cold storage to be able to push food manufacturing sales out for them as well.

We've got to uncouple ourselves from the industrial global supply chain. We're limiting our crop production. We're not doing crop rotations. We're completely and utterly dependent on certain commodities. We never grew all these blueberries like we're doing now. And the blueberry market is going to go in the toilet. We have seen this happen with strawberries and now raspberries. We'd be better off if we were growing a variety of crops, but we need [local] food manufacturers to demand a variety of crops, rather than selling a concentrated commodities to some broker down in China or the United States, right?

Look at Italy, there's a section of Italy... they grow the commodity, they primary process the commodity, and then they got food manufacturers that manufacture the final food product. I think particularly about tomatoes, they grow tomatoes and make tomatoes sauce... You think about milk too, they make their own cheese. All that happens within their geographic region. If you go there, you get to enjoy locally grown tomatoes and milk and enjoy tomato sauce and cheese at a local restaurant. So, the Italian grower gets a better price because they're connected to the food manufacturer who's connected to the local grocer and restaurant. You don't have these economies of scale demands from corporations shipping all their raw ingredients to a multinational manufacturer who's looking for just the lowest price. We have caused ourselves this problem because we don't do our food manufacturing here, and we don't have the facilities to do our manufacturing here to scale up.

Even the food banks don't even have enough infrastructure, cold storage, and dry storage to handle the local demand for food. So, we need to invest into local capacities for a food emergency management plan.

I'm working on emergency management plans. Most cities have never considered food security and agriculture. Yeah, some local farmers were able to give away some local milk [during the flood] but compared to the volume of milk that they produce for the international supply chain, it was but a pittance of milk they gave away—because they can't manufacture it all locally. They don't have the containers or the manufacturing capacity. So, if we were to encourage cities to work with food security agencies to have rapid response around food related issues, be it crops or protein. If we had rapid response to do immediate storage, immediate slaughter, immediate temporary holding



pens and those types of things, we could react better to environmental catastrophes that affect our food supply chain.

Canada's going to heat up, like the world is going to heat up. Water is at a premium, Canada has water. We need to get better at storing our water and holding our water to get us through the summers. And we need to get better at food manufacturing right here.

[I] work with my Mission Food Coalition to do a needs analysis on food security in Mission. I got my young people in the Food Skills BC program to go on the line, in the food bank line, and survey the 150 people that use it. We got 67 surveys completed, and now we're expanding that survey out beyond the food bank, because we know there are people who are food insecure that don't go to food banks, so we're tapping into those as well. We're going to try to get a picture of what food security looks like in the North Fraser catchment area.

People are food insecure not just because they're homeless. They're food insecure because Canada doesn't pay enough old age pension to make them comfortable. I can't speak to other regions, but I know in the Lower Mainland it's very expensive to live. If you're a senior, or you're a person with a disability, or you're an independent parent, or anything like that, you are food insecure. These are fundamental issues with food security, structurally.

It has become more evident that people don't have enough food. And so there needs to be a systemic change, our welfare and social safety net needs to change, to make sure that people get enough frickin food to eat. I looked at the survey results, what we've got so far. And I realized that 85% of those in line at the food bank really do not have enough money to feed their kids. And that really pisses me off. I think this country with such bounty and so many wealthy people here, and so much great opportunity—to see people go without... kids going without food, seniors go without food... just drives me crazy.

Could you imagine going to your tap, turning on the water, and there's no water? Everybody thinks that's their right. It *is* their right. Well, it's the same with the fridge. When you open up the fridge and it's empty, that's not okay. It's the same as tap water. It needs to be full. We need to be able to eat, for God's sake!



Student Projects

Dinner on Mars graphic novel chapter adaptation for English 215, 2023

“Pesky the Scoundrel”, by Bonnee Dullaard

Character profile--Techno Lenore (superhero):

Techno Lenore is tall and formidable looking. She has dark frizzy hair, brown eyes, and strong muscles. She was a loner as a kid, but she didn't mind that, since she didn't share the same interests as her peers. She spent most of her time performing experiments in her room. She enjoyed researching plants, as well as building new technology. Being rather eccentric and a risk-taker, she did some gene-editing experiments on herself. These experiments gave her superhuman abilities, such as speed, along with an incredibly high IQ. She can read books in seconds and build/fix new technology in mere minutes. Still, she has her flaws, such as becoming obsessive. Despite her high IQ, this tendency to fixate too strongly sometimes makes her miss crucial pieces of information. It is useful for her to have a friend like Evan, who helps bring her “back to earth.” She wears a stylish light green pantsuit with a white blouse, and her cardigan transforms into a cape when she needs to be speedy.

PAGE 2: Defeating Perky (6 panels)

Panel 1: The jar of swamp water is drawn large and in the center of the panel. Techno Lenore and Evan are hunched over on either side staring at it with wide eyes.

EVAN:

It's called cyanobacteria, an organism that makes all the green goop you see in swamps. While it may not look pretty, I have a theory that if placed in the Martian atmosphere, it could help create organic matter.

TECHNO LENORE:

But how will we test that?

EVAN:

That's where you come in. We need to somehow simulate the Martian atmosphere right here in the lab.

LENORE:

I'm on it!

Panel 2: Techno Lenore's jacket has turned into a cape, and she is wearing lab goggles. She is using her powers, creating new technology at lightning speed. Her vague, almost ghostlike form is drawn in a few different places throughout the panel, to indicate her speed. Her different forms hold various things, such as metal bolts, glass panels, and a bucket of red soil. A more solid form of Techno Lenore is shown at the front, and she is wielding welding equipment and wearing a welding mask. This is the figure that speaks.

TECHNO LENORE:

Swamp water at the ready! I have created a tank which contains a Martian-like atmosphere and it's almost finished!

Panel 3: A glowing tank full of red soil now sits on the desk in the lab, with a pool of oozing green in the middle. On the side of the tank, a screen displays data, such as the temperature.

Techno Lenore is standing behind the clear tank and is furiously writing down data, still in her cape and goggles. Evan is on the right side of the panel, with an awed expression on his face.

EVAN:

What's happening? Is it working?

TECHNO LENORE:

Aha! Marvelous! I have fed the cyanobacteria with the nutrients and minerals found on Mars.

Would you believe it? The cyanobacteria are growing, fixing nitrogen, producing oxygen, and leaving behind nutrient-dense organic matter! Just what the regolith needs!

Panel 4: The tank is no longer shown, and the panel focuses on Techno Lenore and Evan standing next to each other. Techno Lenore is back in her regular attire of a light green pantsuit with a white blouse, still holding her clipboard, staring down at it with a furrowed brow. Evan looks excited."

***Dinner on Mars* graphic novel chapter adaptation for English 215, 2023**

“Small is Beautiful”, by Kalie Holford

STORYBOARD

1. As expectations battle COVID-19 realities, Newman and Fraser’s summer consists collectively of small trips, scientific inquiry, and the effects of climate change rather than grand escapes.



2. Fraser rants to Newman about the importance of the micro, specifically the microbiome, and a “thrifty” (Newman & Fraser 43) approach to both Earth and Mars.
3. Newman and Fraser contextualize and explain nanotechnology in the present world and history, introducing its backstory with current and past examples.
4. The future implications of nanotechnology are described with a focus on its medical advantages that segways into its agricultural possibility.
5. Fraser discusses the intersection of nanotechnology and farming alongside a neighbor and expert, and they conclude nanoparticles as “delivery capsule[s] for fertilizer and pesticides” (46) may aid efficiency in farming.
6. The possibility of hooking even plants up to Wi-Fi is offset by concern over the potentially negative environment-altering effects.
7. Newman and Fraser consider Mars a perhaps “more biosecure research facility” (48) to explore nanotechnology possibilities paired with extensive research continued on Earth.
8. The importance of a digitized library of micro and molecular instructions to send Mars is emphasized alongside the life-sustaining elements Mars already possesses.
9. An understanding of Earth may hold the key to an understanding of Mars and vice versa!

SYNOPSIS

As the threats of climate change increase following a summer of extreme weather, Newman and her sidekick Fraser must come up with an innovative solution to Earth’s eventual depletion of resources. In the effort of legitimizing everyone’s theories about sustaining life on Mars, Newman and Fraser explore nanotechnology. They know that we cannot go living on Mars like we do here on Earth. Amongst all the questions about living on Mars, Newman and Fraser are particularly pressed by the ones around agriculture. To better understand the technology that can

lead to better farming efficiency, the two of them shrink down to size. Here they meet the nanoparticle and the plant, and expand on how their collaboration can lead to a sustainable life on Mars.

CHARACTER PROFILES

Newman: Lenore Newman should be referred to as Newman in the adaptation. She is a Canadian with an interest in food and agriculture, and she balances out her partner's tense nature with her rational point of view and assertive personality. With her soft eyes, studious glasses, and well-kept, shoulder-length dark blonde hair, she looks very qualified and put together.

She tends to take the lead in most situations, which usually places her in the spotlight. However, her positive attitude and motivation make her and Fraser a great team. That being said, emphasis is placed on Newman without completely outshining Fraser due to his important contributions.

Her personality causes her to jump on the idea of Mars straight away, so her superhero outfit will follow the style of a spacesuit, fully equipped to conquer Mars. Given the plot, her superpower is shapeshifting, allowing her and Fraser to shrink and explore nanotechnology at the same scale.

Fraser: Evan D. G. Fraser should be referred to as Fraser in the adaptation. A Canadian academic with a focus on food, he is skeptical with sometimes lofty ideas and a tendency to ramble that is a stark contrast to his partner's pragmatism. Fraser is a middle-age, white man and father of three with reddish-tinted hair that varies in hue from reddish-blond to reddish-brown depending on lighting, a smile that utilizes his entire face, and a penchant for button-up shirts.

Fraser plays the role of a superhero sidekick, and should be drawn in a way that makes him a key member of every scene but gives emphasis to Newman. His sidekick attire consists of

a button-up shirt, pants, and astronaut boots to display stylistically the wary battle between his excitement and hesitancy. In this way, he is minimally outfitted and equipped for Mars. He may don more astronaut gear throughout the overarching narrative as he begins to accept the premise of dinner on Mars more.

His character carries a backpack-like bag, nicknamed a fact-pack, that has the opalescent quality sometimes attributed to space-wear. He can pull props out of this to emphasize his tangents. Blueprints peek out from beneath the flap in this chapter. His superpower is unlimited background information, since he's always supplying stories and tidbits throughout the text!

PAGE ONE (three panels)

Scene Description: Newman and Fraser struggle to approach their Earth-saving sustainability mission from home in this new normal that includes harsh climate change and COVID-19!

Panel 1. Drawn as a split panel with an upward diagonal slash from left to right. The exterior border of the panel is modeled to look like a Zoom screen. The caption spans the entire top of the panel and is not divided as the rest of the panel is. Newman sits at a computer with a visible extra tab open to SuperFlights. Fraser also sits at a computer with the aesthetic of a rustic cottage surrounding him.

CAP:

Expectation versus reality! Heroes, sidekicks, and citizens are housebound during the pandemic.

Newman and Fraser approach saving the planet (and cultivating a new one) from home!

NEWMAN:

Let's continue our mission. Do you have anything that can help us today?

FRASER (pulls something indecipherable from fact-pack and holds it up to the camera):

I think I have the perfect thing!

NEWMAN:

I can't see it.

FRASER:

Exactly!

Panel 2. Fraser's dialogue bubble displays rambling through at least two lines of squiggles that follow the dialogue preceding. Newman is pensive.

FRASER:

I've been talking to my neighbor and we came across some interesting parallels in our work...

NEWMAN:

So, our key here is to think small and efficiently. We can do that.

FRASER:

We just need nanotechnology!

Panel 3. Both characters are in a new location. Fraser is outside of the cabin, and Newman is in a room filled with books. Fraser is searching through his bag for something else. Newman has a stack of books on the desk beside where she stands, and she's fully in her superhero attire.

NEWMAN:

It's time for us to explore this. We need to really understand what nanotechnology is to use it.

FRASER:

How do we do that?

NEWMAN:

Well, we need to take a look at the medical possibilities being explored and extrapolate the potential to agriculture. Are you ready?

FRASER:

I think so.

NEWMAN:

We'll have to meet in imagination.

PAGE TWO (six panels)

Scene Description: Both characters meet in a distressed location on earth, exploring how nanotechnology can relieve this distress and be utilized to save resources.

Panel 1. Both characters are in a new location but are now together. They are at a berry farm, and it appears to be summer where rainfall is at its annual low and the crops are nearing harvest.

Newman and Fraser are in awe of the rows and rows of crops.

FRASER:

It's so hot here. Those crops must be parched.

NEWMAN:

Agreed. I wish the plants could just tell us when they need something. But that would be so complicated!

FRASER:

It's not as complicated as you think, if you think small.

NEWMAN:

Wouldn't it be easier to think small if we were small? Buckle up Fraser!

Panel 2. Shows the silhouettes of both characters surrounded by white and blue extravagant flashes. Newman has a confident silhouette, while Fraser's silhouette looks startled. They are shrinking.

Panel 3. Shows both characters floating around nothingness. It should represent the gaps between nanoparticles in a scientific diagram with a dark blue background. In the top right corner appears a friendly-looking nanoparticle. It could look like a light blue lumpy sphere. Fraser goes to pull a book out of his “fact-pack.”

FRASER:

Where are we, Newman? Did you shrink us?

NEWMAN:

Yes. I’m hoping we can find something here. Maybe we can actually see the nanoparticles now that we are the same size.

FRASER:

Woah! Look over there!

NEWMAN:

Is that --

FRASER:

A nanoparticle.

Panel 4. Split diagonal panel with line going upward left to right. Top half shows Fraser and his monologue. Bottom half shows a nanoparticle in a doctor’s outfit aiding a sick plant in a hospital bed.

FRASER:

Just like we are prescribed pills to cure our ailments, nanoparticles can be used as capsules to deliver medicine and nutrients to plants in a more precise way. More precision will lead to less waste, leading to a happier planet. They also can have diagnostic qualities, where using bluetooth technology, they can alert farmers of stress caused by pests or droughts.

Panel 5. Split diagonal panel with line going upward left to right. On the top half, at this point, both characters have returned to the berry farm in a scene similar to the original farm. Bottom half shows the irrigation system starting, beginning to soak Newman and Fraser with water. Both characters are running away.

NEWMAN:

Wow Fraser! That's so interesting. When can we start to implement this?

FRASER:

It will take a lot more development. We still need to create genetic instructions and turn them into blueprints to take to Mars.

NEWMAN:

Right. There's still lots of room in that fact-pack of yours! Hold on. Is it raining?

FRASER:

No, it's irrigation time!

NEWMAN & FRASER:

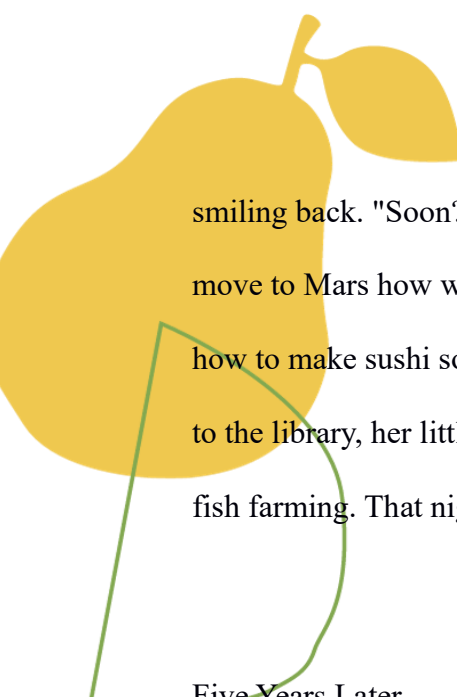
Ahhhh!

Panel 6. 'The End' with a creative, on-theme background

***Dinner on Mars* story adaptation for Young Author Contest, 2023**

"Sushi on Mars", by Nina Froese

The wind was blowing rapidly in Annie's face when she thought of a question. "Mother" she said. "Yes darling?" Annie's mother replied looking her in the eyes. "Are we going to have to move to Mars one day?" Annie inquired with a smile. "Maybe one day" her mother replied



smiling back. "Soon?" Annie inquired. "Soon enough" her mother answered. "Wait, if we must move to Mars how will I have my favorite food, sushi?" "I don't know, maybe you should learn how to make sushi so you'll be prepared" her mother suggested. "Okay!" said Annie as she ran to the library, her little red wagon behind her. She borrowed every book about growing food and fish farming. That night Annie read them all and by 3 in the morning she was finished.

Five Years Later

Annie was now 12 years old. Annie and her mother had still not needed to evacuate earth and move to Mars. Then one Saturday afternoon, everyone got an emergency message on their phones telling them that they needed to drive to the nearest space station because a large asteroid, 12,800 Km (about 7953.55 mi) wide at its largest point, was about to reach earth. The entire world needed to evacuate to Mars. It would have contact with earth in 35 hours.

"Annie!" her mother said frantically. "What mother?" Annie asked. "We need to go!" her mother yelled, grabbing Annie and stuffing her in the car. They drove for hours until finally they got to the Canadian Space Agency in Longueuil, Quebec. They bolted into the agency. At the counter there was a man who told them where to go. Annie and her mother ran to the spaceship. They grabbed spacesuits, put them on, ran into the spaceship and hoped for the best. No one had ever successfully flown to Mars. It was extremely dangerous.

"Wait!" Annie yelled suddenly, making her mother jump. "What?" her mother inquired, looking serious and worried. "I need my sushi supplies to make sushi on Mars!" she remembered frantically. "What will you need?" her mother asked. "I will need portable greenhouses, big pools, lots of salt, fish, and seeds." Annie explained. "Where are you going to get that?" Annie's

mother asked. “The hardware store!” she blurted. “But we need to leave in 2 hours!” her mother yelled. “I know, it is not too far away.” Annie said. “Okay, very quickly though” her mother agreed.

1.5 hours later

Annie and her mother had finally arrived at the spaceship just in time for departure. Annie had a large shopping cart with all her stuff in it. “I can’t wait to make sushi on Mars!” Annie exclaimed. “Yeah,” her mother said, panting from all the running. Then the ship took off with a loud countdown. “10, 9, 8, 7, 6, 5, 4, 3, 2, 1, BLAST OFF!” Annie was flying. Annie was going up and up! Finally, they were in space. It had been about 1.5 hours. From there it would take several months to arrive on Mars (if they survived).

Several Months Later

Annie and her mother had actually made it to Mars. When they arrived everyone was given with wood to build a home. Annie and her mother found a nice spot and started to build a small log cabin. Annie set up her ocean pool. It would take 503 pounds of salt to make the pool as salty as the ocean. Luckily Annie had read about that too, so she had come prepared. Once the pool was full Annie poured 503 pounds of salt, which was very heavy, into the pool. Annie added the fish she had brought to the pool. There were Salmon, Tuna, Squid, Japanese Amberjack, and lots more. After she was finished making her “ocean” she set up the greenhouses. They were large domes with many bantam windows. “That’s looking good Annie” complimented her mother. “The house is looking good as well” Annie commented to her mother. “Yep” her mother said looking proud, her hands on her hips. “By tomorrow we will have a beautiful log cabin” she finished. “Yay?” Annie said, not knowing what to say.

2 years later

It had been 2 years now since the world had to move to Mars. Annie's farm was doing so well she decided to build a sushi restaurant. Her restaurant was immensely popular. She planted many seeds in the ground and kept her ocean healthy.

The End

***Dinner on Mars* picture book adaptation for English 388D, 2023**

“Cow on Mars”, by Linda McRae and Samantha McIntyre

It was a hot Saturday afternoon when Lenore got an idea.

[Note to illustrator: Evan and Lenore were sitting on a bench at the water park where there is a rocket shaped sprinkler, drinking milk and eating a snack. Lenore's milk needs to be oat.]

“We should build a rocket ship,” said Lenore.

“Yeah!” Evan replied, “Let's go to Mars.”

“That sounds fun. What are you going to eat there?” asked Lenore's mom, Donna.

[Illustrators note: In car going home]

“Cheese!” said Evan.

“But Evan, cows can't live on Mars,” replied Lenore.

[Note to illustrator: Cows on Mars, Zero Gravity]

“We'll make oat milk instead.” Lenore stated.

“Maybe”, Donna said, “but oat milk doesn't make cheese.”

“I can't live without cheese!” Evan said.



“So many varieties of cheeses are well loved around the world.” Donna said.

[Note to illustrator: Two-page spread, Lenore Draws a world map and notes where specific cheeses come from.]

“Let’s figure out how to get cows on Mars for the cheese”, Evan pleaded.

“Even if you could, Mars doesn’t have grass; how would they eat?” asked Donna.

“Plant grass.” Evan continued, “I wonder how Mars cow cheese would taste?”

[Illustrators note: Arrive home]

“The cheese will taste unlike what you’re used to because the grass would taste different because the soil is different. The process would be altered.” Donna explained.

“When I make peanut butter and jam sandwiches, and when Evan's mom makes the same, they taste different. That’s because we have different specific ingredients and processes.” Donna said.

“They can make vegetarian food from plants; can they do that with cheese?” asked Lenore.

“Yes, with plants through a process called Cellular Agriculture” replied Donna, “We take a piece of the plant and put it into an oversized petri dish and help it grow.” Donna explained.

[Note to illustrator: Both Lenore and Evan imagined a giant oversized dish with cows and chickens swimming in a broth.]

“Another method”, continued Donna, “Is a fermentation process with yeast and bacteria like when your dad makes beer”.

Lenore groaned, “Ugh!”

“OK”, replied Mother, “How about a chicken burger without the chicken or maybe a big juicy beefless burger?”

“Mmmmmm, yum” Evan said, “They can make that?”

Donna stated, “Companies are already working on it”.



Lenore asked, “What else is on the Cellular Agriculture menu?”

[Note to illustrator: Lenore is making up a menu on a sheet of paper]

Evan said, “Milkshakes! Just grow together yeast and bacteria in a petri dish, right?”

Mother nodded, “To create the proteins needed then we add that to plant fats and water to start.

Add your sweetener and flavour and ...”

“Boom” burst Evan with a smile, “Martian Ice creamand cheese and..”.

“And no cows in sight”, laughed Lenore.

“Maybe we should focus more on Cellular Agriculture.” Evan mused.

“Much better for our environment”, agreed Lenore.

Mother said, “So what about your rocket to Mars?”

“No,” said Evan, “We’ll learn how to make Martian milkshakes first”.

Lenore finished, “After perfecting that, we’ll take it to our home on Mars”.

Think Like a Martian over *Dinner on Mars*: Students Imagine a Hopeful Vision for the Future of Food

Michelle Superle, October 10, 2023, [Write of Passage](#) (UFV English department blog)

At UFV I strive to increase learning opportunities for students—especially those related to food security, sustainable agriculture, and human rights. The *Dinner on Mars* thought experiment brings all three of these focal points together in a triple threat,



making it the perfect foundation for involving students to imagine the future of food. I issued invitations to do so to every young person I worked with during the Winter 2023 semester.

In the Dig for Your Rights! program pilots I was supervising, I invited Kindergarten children in an Abbotsford elementary school to draw pictures of how they imagined dinner on Mars. Grade Five through Seven students participating in the Chilliwack Young Authors' Conference had the opportunity to enter a contest I developed for them: tell a story about how to make sure you could get your favourite dinner if you moved to Mars—but without causing harm to people, animals, or the environment. High school students in the W. J. Mouat Extended Day Arts program, as well as UFV students in the Visual Arts program, were invited to illustrate stories that my own students had adapted from *Dinner on Mars*.

In the classes I was teaching, my creative nonfiction students in English 215 worked in small groups, each developing one chapter of written text for a graphic novel adapted from the book, featuring Newman as a superhero with Fraser as her sidekick. My children's literature students in English 315 worked in small groups to create the written text of a picture book adapted from the *Dinner on Mars* chapter their group had been assigned.

Examples of the results are on display at The Reach Gallery in my Dig for Your Rights! and Food Museum + Challenge exhibition from October 14th through November 18th. Here's a sneak preview.

These invitations encompass so much more than merely a fun thought experiment. They offer a way to think flexibly about the future of food, as well as an explanation for why we need to do so. Who knows what kinds of helpful solutions our youngest, most creative thinkers might come up with? And what if they could be put to good use improving our own food security in sustainable ways?

After all, much of the agricultural technology that Newman and Fraser describe in their book about what might be involved with feeding a human colony on Mars is already in development for real, right here on earth. We're moving in the right direction, and that's important because, "this food revolution will have the biggest impact [on Earth]. Many of the tools and technologies described in this book, and designed to sustain the hypothetical Martian community, should immediately find



their way into our economy and become incorporated into farming and food systems here on Earth” (*Dinner on Mars* 201).

This is the message I’m sharing with children through the Dig for Your Rights! program, since they will soon comprise the voting public and influence—perhaps even develop—the “public policy to ensure there’s a fair price put on things such as biodiversity, climate change, human labor, and animal welfare” that Newman and Fraser describe as fundamental to the coming agricultural revolution (206).

We can do this, and when we do, we’ll only eat our dinner on Mars if we want to.

Check out *Dinner on Mars* yourself to find inspiration for your own future of food vision.

While you’re at it, check out my Dig for Your Rights! program and exhibition to find inspiration for kids participating their local food system.

Michelle Superle’s favourite picture books about farming are *The New Baby Calf*, *Right this Very Minute*, and *Zora’s Zucchini*. Farmers are her heroes.

Dig for Your Rights! + Food Museum Challenge Exhibition

The Reach Gallery, October 2023

Artist statements and gallery labels

Michelle Superle and Barrowtown Elementary, *Vertical Growing Tower Cornucopia*, 2023. Mixed media.

This vertical growing tower was used during the Dig for Your Rights! program I piloted at Barrowtown Elementary School in the Spring of 2023.

Inspired by my research into the future of food—and especially food security—I was enthusiastic about testing my idea that every classroom and library in the Lower Mainland should contain an indoor growing



tower. The teachers, staff, and students at Barrowtown gamely agreed. It was a timely experiment, since the price of leafy greens was skyrocketing—and the school had just obtained two bunnies as part of their goal to create and implement an elementary school program focussed on increasing agricultural literacy through inquiry and hands-on learning.

We all learned a lot. One of our key takeaways is that growing veggies inside the classroom is harder than it seems! (This is just one more reason to be thankful for our farmers and their expertise!)

We have decorated the tower installation with fresh herbs, glittery “jewels”, pretend birds, and handmade food art to show that abundance is achievable through small changes and big commitments.

Hopefully this installation also provides a reminder that agricultural technology such as indoor growing towers can help support household and regional security, biodiversity, and soil regeneration... all of which, in turn, will support climate stability and ecosystem health.

Michelle Superle, *The Pantry Treasury*, 2023. Mixed media.

This assemblage celebrates food security as it was practiced by our ancestors in climates with distinct seasons and short growing periods (such as Northern Europe)—until as recently as our grandparents’ generation. The approach generally frees people from reliance on a global, industrial food system.



Such freedom is a core value of those who strive for “food sovereignty”, a set of principles and practices that I define broadly in the Dig for Your Rights! program as “food security + human rights + community”.

The word “sovereignty” is purposeful for its emphasis of the movement’s commitment to rulership: sovereignty means supreme authority and connotes a connection with royalty. In doing so, the word conveys the importance of self-governance in both agriculture and food culture.

I have played on this nod to royalty by mixing staple pantry items with jewel-like crystal beads in miniature jars. Through juxtaposing food and “jewels”, I suggest the value of accessible, abundant, nutritionally rich food (like the kind preserved in a pantry to support survival throughout a famine, siege, and/or long winter). Every food in every jar is—or could be—cultivated right here in the Fraser Valley.

The result is not merely a pantry, but rather a *treasury*. Today, a treasury is no longer exclusive to royalty: it’s where a government’s funds are stored and dispensed. I wonder... if we understood food as treasure, could this shift in perspective lead us towards more respectful relationships with our farmers and environment?

Michelle Superle, *Seven Pillars in the Round*, 2023. Mixed media.

When first developing my Dig for Your Rights! agricultural literacy program, I anticipated challenges with finding picture books portraying accurate, captivating representations of food sovereignty values and practices. As well, I recognized the importance of creating engaging



activities that connected the stories with children’s rights in ways that inspired children to participate in their local food system. I dedicated several years to these initiatives. The result is the only agricultural literacy program in existence combining human rights, narrative, inquiry, artistic projects, and collaboration in a child-centered manner.

But my most valuable and “unique contribution to knowledge” (the goal and definition of scholarly research) ended up being a complete surprise: opening up the concept of food sovereignty into real, tangible, actions that even the youngest children can understand, appreciate, and implement.

This was incredibly challenging, since food sovereignty was primarily defined and disseminated in complex ways by a tiny group of academics and activists. Then I found Food Secure Canada’s Seven Pillars of Food Sovereignty. Boom! Problem solved.

The result is my child-friendly adaptation of their seven pillars. While I’m eager to share the Dig for Your Rights! program and Food Museum with the world, I’m *ecstatic* to share my Seven Pillars Food Sovereignty cards and bingo game. (You’ll find them in the “Food Sovereignty Tool Kit” on my 20 Harvest Challenge website.)

For this exhibition, we* have adapted the “flashcard” version of the Seven Pillars into charming vintage-style seed packets to highlight the importance of seed collection and preservation— especially the precious “heirloom” seeds that help protect and preserve agricultural diversity.

The food sovereignty cards are hanging from circular installations that I designed; each reflects an idea, feeling, or image that one of the seven



pillars conjures up for me. After so much book learning in the ivory tower, it has been a tremendous joy to play around freestyling my associations with the concepts that anchor my program.

The round shapes that comprise these hanging installations (and are echoed throughout the entire exhibition) represent two important ideas. First is “circular farming”, a process in which food waste is eliminated, soil regeneration is supported, and household food security is improved. We partner with ReFeed Canada, a circular farming operation in Langley, to deliver Dig for Your Rights! food sovereignty field trips.

Second, these dangling circles are reminiscent of the mobiles suspended above a baby’s crib. This draws attention to the importance of helping even our youngest community members understand how important farmers and farmland are to regional food security.

Thank you, farmers!

*Many thanks to Camryn Longmuir, 20 Harvest Challenge Social Media Coordinator and Graphic Designer, for designing these beautiful cards—both the flashcards and the seed packet cards.

Food Art, assorted examples from Dr. Superle’s personal collection

When I was sourcing artifacts for the Dig for Your Rights! Food Museum, I was determined to include examples of “food art”. I love food art... because I love food! As well, I believe that food is a genuine source of beauty that we’re fortunate enough to engage with many times every day.



Although not every art critic takes it seriously, food has been depicted (and used) in art from every civilization and culture, from ancient times through today. According to the *Smithsonian Magazine* article “A Brief History of Food as Art” by Sharon Butler (2017),

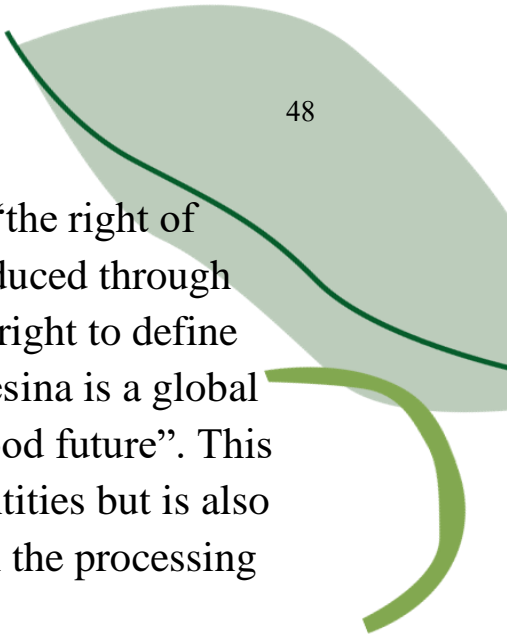

*Contemporary artists have used food to make statements: political (especially feminist), economic, and social. They’ve opened restaurants as art projects, conducted performances in which food is prepared and served in galleries, and crafted elaborate sculptures from edible materials like chocolate and cheese...
...food has always played a role in art: Stone Age cave painters used vegetable juice and animal fats as binding ingredients in their paints, and the Egyptians carved pictographs of crops and bread on hieroglyphic tablets. During the Renaissance, Giuseppe Arcimboldo... painted whimsical puzzle-like portraits in which facial features were composed of fruits, vegetables, and flowers.*

One of my core goals with Dig for Your Rights! has always been to help people outside the agricultural sector understand how important farmers and farmland are to our survival. That’s another reason I love art commemorating the foods (and farmers, and farms!) that nourish and sustain us as though they’re as important as jewels and royalty... because they are!

Always remember: No farmers, no food.

Lillia Hildebrand, *Food Sovereignty*, 2023. Card paper, wooden wreath, string.





Food Sovereignty is defined by La Via Campesina as “the right of Peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture system”. La Via Campesina is a global movement of farmers who have a vision of “a better food future”. This movement is not only inclusive of all cultures and identities but is also aware of the injustice and discrimination that occurs in the processing and making of food.

This hanging installation is made up of the seven pillars of food sovereignty, which include ideas such as access to healthy food and reducing food waste.

Please take a moment to read each of the pillars.
Annie Golubenko, “Fresh”, 2023. Watercolour.

This watercolour painting is showing the fresh cut tomatoes and garlic for the delicious homemade pasta sauce for mom's spaghetti recipe. The basil is grown from a small pot and the vegetables out of her own Italian style garden off her small cottage house. She uses all her home-grown vegetables that she put so much effort into growing. She cuts them with the soft and warm touch of her hands, struggling to prepare dinner on time for her family of four.

Crystal Rinke, *Little Piggies*, 2023. Watercolour.

My idea for this piece was inspired by my sister’s love of pigs. Pigs are my younger sister’s favourite animal, so I tend to draw them often, and have come to love them too. While brainstorming ideas for this piece, I

decided that I wanted to shed some more light on these animals, because they are oddly underappreciated. All over the world, these highly intelligent animals, who have aided humans for centuries, get a bad reputation that is based upon nothing but assumption. While they are seen as grubby, lazy, and gluttonous animals, they are in fact the opposite. Pigs are quite resourceful, oftentimes rolling around in mud to stay cool and prevent sunburns on their delicate skin. Pigs also have an excellent memory and emotional intelligence—many sources state that pigs are easier to train than dogs and smarter than an average human toddler. They are also a huge help to agriculture, providing not just meat, but also materials for cosmetic, medical, and textile use. Additionally, before the introduction of dogs to the truffle-hunting business, pigs had the job of aiding farmers by digging up the precious spores.

In this series, I've decided to represent pigs doing several things around a farm. I decided to use watercolour to represent the more sophisticated nature of pigs, while the colours were chosen to portray the playfulness of these pieces. After cutting all the paper to size, my sister and I thought of things that the pigs could be doing in these paintings, making sure they were a little silly. I'm continually inspired to create art that makes people smile and laugh, so I make whimsical art that frequently challenges practicality in favour of fun. On the other hand, I love sharing my knowledge and ideas with others, and I hope that my series was able to accomplish both things at once. Enjoy the little piggies!

Nick Schuurman, *Partners in the Work*, 2022. Linocut print, digitally enlarged.



I make and sell hand-printed art, with all proceeds going to support organizations that are engaged in the work of peacebuilding.

My medium is a form of printmaking called block printing, a low-cost, accessible style of printmaking that has lent itself to various grassroots and counterculture movements.

Block printing involves carving an image in reverse, applying ink and then pressing the surface onto paper. My style is more akin to naive or folk traditions than it is to fine art, with monochrome imagery that tends toward the childlike and the abstract.

Much of the imagery in my work is drawn from the worlds of nature and agriculture. I am interested in sources of resilience and paths of action as they relate to the climate crisis, particularly from a faith perspective. I believe that those things will increasingly require partnership.

Cobi Timmermans, *Care*, 2022. Aluminium plate photo etch.

My mom's love language is acts of service. I know that she cares for me when she offers to do my chores when I'm overwhelmed with school, cleans the ice off my car when I'm running late for my morning class, and buys my favourite snack just because. She also extends this care into other things that she looks after, like her vegetable garden. Gardens take lots of time, patience, and dedication, but with this care, the vegetables



will grow to be mighty, delicious, and nutritious. By the hard work of her hands over a long period of time, the homegrown vegetables become precious. They are like the children she cares diligently for. This loving attention and long-term dedication to see results is reflected in the printing process of the artwork. Traditional hand-printing is a long and tedious process that requires numerous testing phases and slow wiping of ink to create one precious print.

Sophia Woitowitsch, *They Add Up!*, 2023. Screen print.

The screen print series *They Add Up!* examines the environmental threats and inefficiencies of the world's food production and distribution systems. In particular, it analyzes produce stickers, which are predominantly made of plastic. Many people do not even notice these stickers on their produce because they are small, and they encounter so many that they stop seeing them. Many of these stickers do not compost and end up in the soil and can eventually be consumed by animals. It is a common misconception that these stickers are biodegradable or that they can be safely eaten.

It's rare to find sustainable produce stickers because it is too expensive for companies to sustain. There are other methods being developed, such as using a laser to add serial numbers to the skin of the produce, but this technology is expensive and far from becoming a reality. Produce stickers also show how the world's food production and distribution systems are broken, with over half of fresh produce being wasted. Even before food is taken to grocery stores there is already so much wastage that occurs, ranging from being unable to distribute produce farmers have grown, to spoilage occurring during transport and in the

warehouses. I hope this artwork brings awareness to this small but mighty problem around produce stickers and makes people more mindful of their consumer choices.

Chloe Holloway, *Blueberry Picking*, 2023. Pencil crayon on paper.

I am drawing blueberries to show what we grow locally in the Abbotsford area. This piece was created with pencil crayon on paper. I looked at images of blueberries as a point of reference. My inspiration for this is the taste of fresh blueberries. I love to get fresh berries during the start of summer.

Ava Vinette, *Receipt Dog*, 2023. Papier-mâché and receipts.

Working in the food industry, all you see everyday is waste. Scraps left on plates, and receipts all over tables. Every night, clearing those tables, I come across dozens of discarded receipts, strewn across the table and forgotten. Receipts are printed on paper covered in harmful chemicals that pollute our environment, and have been proven to be toxic, even topically. Their value is almost nonexistent, immediately cast aside the moment the card machine is presented. They perform no task that cannot be accomplished digitally, while also not being recyclable, and often find themselves in the trash without a second thought. It may seem innocuous, but it's estimated that if we stopped printing receipts, we could save over 12 billion pounds of carbon dioxide from entering the atmosphere, or the equivalent of 1 million cars on the road. We vilify plastic straws as a society, for being an unnecessary use of plastic, but turn a blind eye to a form of waste that is much more prevalent and

much more harmful. People seek comfort in food, and adore eating out. It brings us joy, and helps us connect with our loved ones. However, we are often so distracted by its fulfillment that we forget to consider the uncomfortable truth of all the waste and damage to our environment that comes with purchasing it.

Kaelyn Caney, *Receipt*, 2023. Acrylic on woodboard.

This piece is an exaggeration of something very real that my family, and many others are experiencing. Inflation is something that I believe has affected almost everyone around the world. This painting feels like something that could soon be a reality, which is a very scary feeling. It's good to talk about it and help each other the best we can.

Isabelle Gouttin, *Toasty Memories*, 2023. Acrylic on woodboard.

I created this piece thinking of comfort food and snacks similar to what I'd eat at home when I was little. My grandmother would often make many small sandwiches with peanut butter, jam or nutella for me and my twin brother. I used acrylic paints on a woodboard surface. For the spreads on the toast I used large amounts of paint with a palette knife, as if it was real food being spread. Specifically for the jam I mixed acrylic paint, gel medium and plastic beads. The beads resemble raspberry



seeds. With this painting I hope to give people comfort and maybe stir warm childhood memories.

Barrowtown Elementary School, *Food Systems Murals*, 2023. Acrylic on art paper.

Oh hi!

I'm the best-selling breakfast cereal of all time. I was born in 1941. You might think I'm getting too old, but babies still love using me to learn to eat because I'm so much fun! To prove it, I can tell you that I earn more than \$435 million every year! That's a lot of love 😊

Your doctor says I'm good for your heart health, but I think most people like me because I'm yummy.

Who am I?

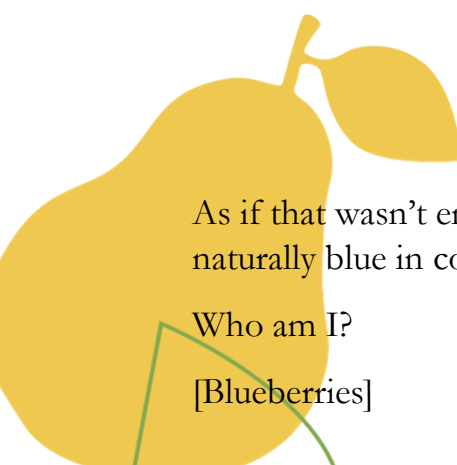
[Cheerios]

Oh hi!

People have loved me since they first met me growing wild in temperate zones of North America and Europe. Nowadays most people enjoy my big juicy cultivated cousins from the grocery store, but I still grow tiny and wild in Canada—in my original forms (sour top, wild low sweet, and highbush). People pay up to \$ per pound for me in this form. Yeah, I'm that good.

My cousins at the grocery store cost a lot less, but here in Abbotsford I'm still a big money maker! Actually, I'm one of the most valuable crops in town.





As if that wasn't enough, I'm also one of the only foods found in nature who's naturally blue in colour.

Who am I?

[Blueberries]

Oh hi!

I've had more stories, songs, and poems written about me than any other fruit—or any other food! I even have my own aphorism that brags about how I can keep doctors away. You love my sweet, juicy crunch during the Fall.

Who am I?


[Apples]

Oh hi!

I changed the course of history when I moved to Europe hundreds of years ago—although I try not to brag, because some people are still upset about that (it's not my fault!). I'm easy to plant and grow—astronauts can even grow me in space! People have used me as money; it happened during the gold rush. These days many people love me best when I'm cut into little strips and fried until I'm crispy.

Who am I?

[Potatoes]



Oh hi!



I'm a tasty little thing, but don't underestimate me. I'm the oldest domesticated crop in the world. You can use me to make food yummier, or you can grind me up and add me to sauces, dressings—anything you like! I'll make them thicker, yummier, and much more nutritious. Nowadays you'll recognize me from the top of hamburger buns. Once I was worth as much as gold, but now anyone can buy me for just a few dollars.

Who am I?

[Sesame seeds]

Oh hi!

Once upon a time, I was one of the most important commodities in the world. Everyone wanted me because I make their food taste good. Everyone needed me because I'm an important mineral in their diets. They say that Venice became so big and beautiful because of me! I've even caused war (not that I'm proud of it). There's a whole family of folk tales inspired by me!

For millennia it was very labour intensive to make me or mine me, so I used to be expensive and precious. Nowadays you can buy a big box of me for next to nothing at the dollar store.

Who am I?

[Salt]

Oh hi!

One of the earliest and best-known European "explorers" set sail hundreds of years ago looking for me because I'm so precious. I make everything taste delicious—especially when you add me to cookies, cakes, and tea. (I also consider myself very pretty-looking, but nobody seems to care about that!) Nowadays you know me best from holiday baking.

Who am I?

[Spices—cinnamon, nutmeg, allspice...]

Oh hi!



Everybody loves me. When kids are asked their favourite fruit, most of them choose me. I try not to let it go to my head, but it's hard, because I'm told that there's an almost unlimited market for me! I'm very delicate, though, and I grow on the ground, so it's hard to pick, ship, and store me. People have been trying to crack that code for a long time, because they know they'll get rich if they can figure it out.

The latest approach is to try growing me indoors, on "vertical agriculture" towers. I hope they figure it out so I can make even more people happy!

Who am I?

[Strawberries]

Oh hi!

I'm adorable, but that's not the best thing about me. My claim to fame is that people all around the world have eaten me for millennia. I'm most proud of my ability to help people stay alive during famine and war—or if they get lost in the woods! (And hey, a billion squirrels can't be wrong, amiright?!?)

People say that I taste bitter sometimes, but you just have to know how to prepare me.

Who am I?

[Acorns]

Oh hi!

I am the original form of sweetener, beloved by all. Before people learned how to help me get created on farms, they had to go into the woods and search for me in caves and trees. It was dangerous! Under the right conditions, I can be stored for a thousand years—and still be good to eat. Besides tasting delicious, I can also help people be healthy.

I'm so fabulous that people even sing my name in tons of love songs...

Who am I?

[Honey]

Oh hi!



I am the rarest, most expensive food in the world. Some people call me a “spice”, but I don’t like that, because I come from the middle of a flower—which makes me SUPER special. In Europe I’m best known for flavoring fish soup, but in Middle Eastern cuisine you’ll find me all over the place. They really know how to appreciate me there!

Who am I?

[Saffron]

Oh hi!

I’m originally from South America, where I was known as the “food of the gods”. Nowadays, people believe that Switzerland is the place where I’m turned into the yummiest treats. I’m the most popular flavour of cake and ice cream.

Who am I?

[Chocolate]

Oh hi!

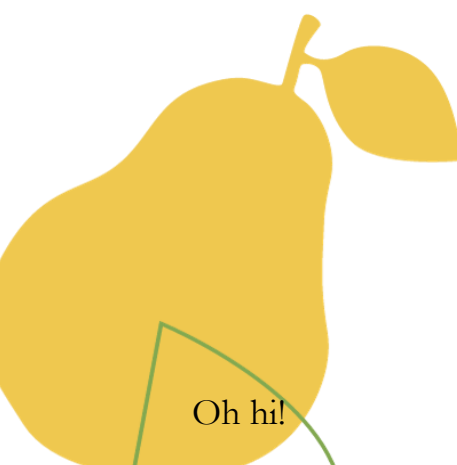
Chefs and food connoisseurs love me—especially the most famous version of me, which is made in the Modena region of Italy. In this traditional form, I cost around \$200 for a small bottle. Yeah, I’m only for the rich the and famous!

But in my regular form, you can buy me at the grocery store for not too much money (although I do cost a lot more than my boring old cousins who are just plain white). People love me in salad dressing, but my claim to fame comes from pairing up with olive oil so that you can dip your bread in me for a tangy appetizer.

Who am I?

[Aceto Balsamico Tradizionale/Balsamic vinegar]





Oh hi!

I'm the most expensive version of this kind of spice—but I'm actually not even related to the others! People love me for my gorgeous bright colour and delicate flavour (I'm not spicy like the others). Between my good looks, delicious taste, and the fact that I come all the way from Madagascar, it's no wonder you have to pay so much money to bring me home.

Who am I?

[Pink peppercorns]

Oh hi!

You know me best these days as the lil cutie “roasting on an open fire” during the winter holidays. But I'm so much more than that!

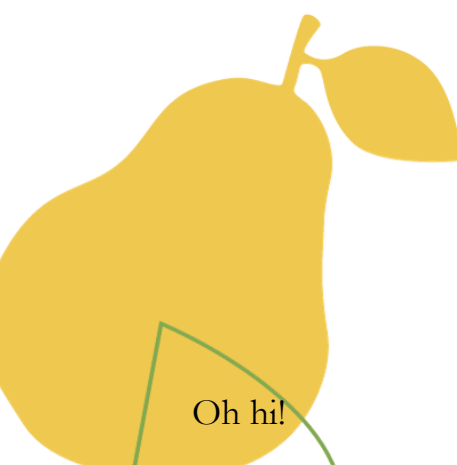
People used to call my parents the “bread tree”, because I enabled peasants and livestock to survive and thrive. I'm so incredible (sorry to brag, but it's true!) that I've “been staple in the diet for people all over the world for thousands of years” as “a very high quality food source, with the nutritional makeup of a grain”—better yet, I “gro[w] on a tree without annual tillage of the soil and can bear crops for 100s of years”. Honestly, I might as well be magic.

Some people say that the blight causing my destruction in North America during the 1900s was one of the worst ecological and food security in modern, “new world” history.

Who am I?

[Chestnuts]





Oh hi!

I'm one of the oldest foods in cultivation—archeologists have found evidence of my cousins in Peruvian caves, and scientists have dated them to around 6700 years ago! You love to enjoy my puffy crunch during movies, but before I became a snack, I was responsible for ensuring the health and survival of entire civilizations—and the most important staple food for the first peoples living in North and South America.

Who am I?

[Popcorn/corn/maize]

Oh hi!

Once upon a time, I was worth more than gold. People even used me as a form of money. People from Europe colonized areas in Asia because of me (I'm very sorry about that—I'm not proud of it!). In my heyday, people in Europe kept me safe in locked cabinets—only using me for the most special meals on the most special occasions. I'm not surprised: I add a lot of flavour to food.

Sometimes I make people sneeze.

Who am I?

[Pepper]

Draft of peer-reviewed article about one of the ways we incorporate children's rights into the Dig for Your Rights! program—see also the poster version hanging in the gallery!

Summary: The children we surveyed in this study expressed strong interests in school activities related to food and farming.



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"Ask Them" Again: An Inquiry-Based Approach to Incorporating Children's Participation Rights in a Rural, Agriculture-focused Canadian Elementary School

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Abstract

We strove to incorporate United Nations Convention on the Rights of the Child (UNCRC) Article 12 into a collaborative project developing agricultural curricula with a rural Canadian elementary school. Students were invited to express their views on their education after they completed a rights-based agricultural literacy program. In two studies conducted approximately a month apart, children aged 5 to 10 years were asked to draw pictures about school and then describe and explain their drawings. Findings revealed differences in children's thoughts on what they want at school (Study 1, N=37) versus what they think their education should involve (Study 2, N=36). In particular, children tended to focus on STEM, physical activity, and nature



when describing what their education should involve. Together, our studies in combination with previous findings suggest that when invited to share ideas in this manner, children reveal common beliefs about their education.

Keywords: child rights-based approach, educational program development, agricultural literacy, child participation, school quality

"Ask Them" Again: An Inquiry-Based Approach to Incorporating Children's Participation Rights in a Rural, Agriculture-focused Canadian Elementary School

The United Nations Convention on the Rights of the Child (UNCRC) is an international human rights treaty that promises protection, provision, and participation rights to children under the age of 18 in Canada and in other countries where it has been ratified (United Nations, 1989). In this article, we focus on two important rights related to education—one that relates to provision, and one that relates to participation—by describing our efforts to incorporate these rights in a rights-based agricultural literacy program. Article 29 outlines children's right to be provided with education that helps them develop their talents and abilities, learn to respect human rights and freedoms, and learn how to live peacefully and responsibly. Article 12, the core participation right, states that children have the right to freely express their views on matters that affect them (United Nations, 1989). Research on the effects of rights-based education demonstrates extensive benefits from incorporating children's rights into all levels of formal education (see Howe & Covell, 2005). For instance, research confirms that rights-based education improves children's self-worth, academic performance, and behaviour at school (Todres & Higinbotham, 2016), and that children who learn about human rights "acquire the participatory skills necessary for effective participation in a democratic society" (Howe & Covell, 2005, p. 148). However, there are very few published studies exploring children's views on education in conjunction with the framework of the UNCRC's Article 12.

The first aim of the studies we describe in the current paper was to explore and examine children's beliefs and perspectives about school and their education as related to Article 12. To explore children's perspectives, we adapted the methods from a previous study published in the inaugural edition of the *Canadian Journal of Children's Rights*, titled "Ask Them: Child Participation in the Development of Educational Services" (Finelli, Rocca, Marchesi, & Maggi, 2014) that examined children's educational beliefs.

The original "Ask Them" study by Finelli et al. (2014) incorporated the UNCRC's Articles 12 and 29 by asking 4- to 7-year-old children about their ideal school. The first part of the study used guided conversations within four different activities: (1) The *Circle of Children* activity which was meant to introduce the children to the facilitator; (2) the *Circle of Worlds* activity which was intended to examine children's general beliefs about schools and involved showing them images of schools, buildings, and children playing in different parts of the world; (3) the *School I Like* activity was intended to examine children's own beliefs and involved them drawing a picture of their ideal school and a picture of the activities they would like to do in school; and (4) the *Circle of Ideas* activity in which children described their drawings to the facilitator and their classmates.

The "Ask Them" study found that children's ideas about their ideal schools and activities, which were communicated through their descriptions of their drawings, could be captured by three categories: school quality (i.e., physical features of a school, including color, nature, and spatial dimensions); purposes of early childhood education (e.g., happiness, peer relationships, and supportive learning environments); and activities to include in the school curriculum, including outdoor activities, play, arts and crafts, and sciences (Finelli et al., 2014). As such, the authors concluded that children tend to have common ideas about school:

Children in our study identified the school as a place to learn, socialize, and play. Overall, they imagined a school with large premises and colorful walls, containing a library with plenty of books, and a science lab to run experiments. They imagined a school surrounded by greenery, flowers and trees, as well as a school where caring for children and supportive teachers looked after one another, creating an environment favourable to learning. In this imaginary school, children took care of animals, grew vegetables, played, drew, and did arts & crafts with recycled materials" (p. 231)

The authors also assert that their findings contribute to the literature by showing that young children can refer to relevant information when clear and age-appropriate methods are used, particularly when reasoning about matters that affect them (Finelli et al., 2014; also see Christensen & Prout, 2005; Lansdown, 2005).

The second aim of the current paper was to understand the rights-based potential that agricultural literacy programming can have in elementary schools. The children participating in the current studies attend a small, rural regular catchment Canadian elementary school that is currently focused on increasing agricultural literacy through inquiry and hands-on learning. The school is located in a rural, agricultural area that had recently been severely impacted by a major natural disaster. Flooding events occurred in November 2021, resulting in thousands of residents being evacuated and displaced, with many losing their homes and livelihoods. Although there was no loss of human life in this rural, agricultural area, tens of thousands of livestock perished. In addition, this and other nearby elementary schools closed for weeks or months due to road closures, structural damage, staff shortages, and many other combined causes. Damage to and closure of the school made it a timely moment to consult with children about directions for moving forward with their individual and collective education as part of the community's recovery from the disaster. The school community was highly motivated to create a stronger, more stable position for the school as a neighborhood anchor to support their children's development—especially in the aftermath of the traumatic upheaval caused by the flood.

Although practices incorporating Article 12 had not been prevalent formally in the school or wider community prior to our project, community involvement and support is a core value in this area—one that had served them particularly well during the disaster; members of the community had provided nearly unquantifiable volunteer hours of tireless collaboration and impressive problem-solving during and after the flood. Their efforts had ensured that the impacts and damages caused by the disaster were far less extensive than they would have been without such neighborly intervention. Therefore, extending a rights-fulfilling opportunity to children with the invitation to join the collaboration and problem-solving process of re-envisioning and redeveloping the school was also a natural fit for this population.

This second aim is also important, as there is currently a lack of existing research into the potential connections between children's rights and agricultural programming. For example, school-based programs often introduce children to local food issues through school food gardens,



using experiential learning methods to achieve multiple outcomes. However, there are few Canadian studies on these outcomes, and the American research is frequently contextualized within issues of obesity and poverty, with a focus on children's physical health—particularly in relation to improved attitudes towards and increased consumption of fruit and vegetables. Such programs are demonstrably effective (Berezowitz, Yoder, & Schoeller, 2015; Robinson-O'Brien, Story, & Heim, 2009).

School-based food programs are capable of more than simply improving physical health, though; the recent and robust developments in food justice activism and scholarship show how inextricably connected local food issues are with human rights. In Canada, school-based programs have been shown to lead to greater engagement with food sovereignty issues through increased food literacy (Powell & Whittman, 2018). In particular, farm-to-school programs not only provide children with healthy food, but also have the potential to establish “social infrastructure towards broader food literacy and public engagement in food systems” (Powell & Whittman, 2018, p. 202).

Despite these preliminary findings, little is known about *how* to accomplish such engagement effectively (Hess & Trexler, 2011; Meek & Tarlau, 2015; Pense et al., 2005). Research has shown that even children who visit farms or participate in gardening do not develop broader understanding of food systems (Hess & Trexler, 2011). We believe that such understanding must be explicitly cultivated, which is why our team lead has developed an agricultural literacy program with a rights-based framework with the goal of enabling children's improved understanding of and engagement with their local food system. The studies we discuss in this paper were run within the context of this program.

Findings from related fields support this working hypothesis. For example, one study that invited Indigenous youth to share their vision for their community and school found that they value their community and culture, as well as their relationships with others and the land (Wood & Di Santo, 2018). Importantly, these findings show that children and youth are capable of identifying significant issues that are relevant to them, assessing the strengths and weaknesses of their community, and can contribute to meaningful changes. Further, results from a study focused on school-based agriculture programs suggest that these programs can positively impact social connections between students and community members, with other positive outcomes

including increased interest and engagement in fundraising to support the programs (Martin & Henry, 2012).

Current Approach

The goal of the current project was to understand children's beliefs and perspectives about education, and whether they envision an agricultural focus after exposure to an agricultural literacy program. As noted earlier, our methodology was based on those previously used by Finelli et al. (2014), and the research questions were designed to elicit responses from children about how they perceive educational ideals in a formal school setting. In particular, we are interested in: (1) What do the students currently enrolled at the participating elementary school perceive as the characteristics and purpose of education? And (2) How do they imagine an ideal school?

We aimed to incorporate as much of the original methods and procedures used in the original "Ask Them" study (Finelli et al., 2014) as possible. To that end, Study 1 included two of the activities in the original study, with our team leader taking the role of facilitator: The *Circle of Worlds* and the *School I Like* activities. We replicated the *Circle of Worlds* activity to obtain an anecdotal sense of the children's general ideas about school, with formal data collection on children's perceptions of education as communicated through their drawings and descriptions during the *School I Like* activity. Instead of directly replicating the original *Circle of Ideas* activity where children discussed their drawings with the facilitator and their peers, children were individually interviewed by a researcher during which they described and explained their drawings. By using similar methods to the original study, we also hoped to examine how the beliefs and perspectives of Canadian children in this context may relate or compare to those expressed by children in Europe.

We then designed our own follow-up activity – which became Study 2 – when the data from Study 1 revealed not only extensive differences between our findings and those from the original "Ask Them" study (Finelli et al., 2014), but also elicited that we had obtained very little data that could be functionally incorporated into a new vision and direction for the school. Overall, the data from Study 1 was not particularly rights-fulfilling nor focused on the children's development of their potential as per Article 29.

Importantly, during the period between Study 1 and Study 2, the entire school was involved in the inquiry- and rights-based agricultural literacy program that was designed and

delivered by our team lead. Because the school is committed to implementing inquiry-based curriculum, we believe that introducing rights-based educational principles and practices would support the school's vision and goals. As such, the children had experienced significant exposure to the concept of human rights as disseminated in the UNCRC by the time Study 2 was conducted. Our hope was that the children in Study 2 would provide responses similar to those in the original study who included vegetables, animals, and farm-like structures in their discussions about school and education (Finelli et al., 2014).

The agricultural literacy program that children participated in combines picture books about agriculture and traditional Indigenous foodways with inquiry- and rights-based practices in order to foster inspiration that we believe will empower children to participate in, or even spearhead, food sovereignty initiatives in their community. This project extends beyond traditional agricultural literacy education with the intent of fostering children's actual engagement in local food systems *while they are still children* by helping to increase their understanding of and engagement with key food systems issues, such as land use and farmers' livelihoods.

Study 1

Methods

Participants

Thirty-seven children aged 5 to 10 years participated ($M_{\text{age}} = 7;9$ [years; months], range = 5;3-10;10, 16 girls, 21 boys). Two 6-year-olds did not want to answer questions about their second drawing, so their data is missing in the relevant analysis.

Both studies were conducted within the school. Although formal demographics were not collected, the population in the area is primarily middle to upper-class, predominantly English-speaking, with most residents being of Canadian, Indigenous, or Indian descent (Statistics Canada, 2023). Both studies reported here were approved by the Human Research Ethics Board at the University of the Fraser Valley.

Materials and Procedure

Study 1 occurred in March 2023, approximately 15 months after the floods and the week before the agricultural literacy program began at the school. The activities occurred within the



classroom, and children were individually asked to describe their pictures in a quiet location designated by the teachers and administrators. All activities, instructions, and questions were presented in English.

Similar to Finelli et al. (2014), children first participated in the *Circle of Worlds* activity, which involved 3 different tasks: *Children around the world*, *Buildings around the world*, and *Schools of the world*.

During the first task (*Children around the world*), participants were shown four pictures of children around the world playing. Two images involved a child independently playing (one playing with bubbles, another playing with a wooden toy), and two images involved many children (children playing on a playground and children engaged in a game of tag). Each image was displayed one at a time and was presented to the children on a screen at the front of the classroom. While children were shown each image, they were asked three questions that were always presented in the same order. The first question asked children to indicate what they believe the people in the pictures were doing (“What do you think the child[ren] in this picture [is/are] doing?”). The second question asked children to explain their responses (“What makes you think [this child is /these children are] (insert response to question 1)?”), and the final question asked children to indicate what they found most interesting about each image (“What images struck you the most about this photo and why?”).

Following this, children engaged in the second task (*Buildings around the world*) where they were shown four pairs of images. One image in each pair was of a school and the other image was of different types of buildings, such as high-rises and parliament buildings. After viewing each pair of images, children were asked to identify which building in the pair was a school (“Which of these buildings is a school?”), and to explain their selection and thoughts about the images (“What makes you think this building is a school?”, “What images struck you most about this photo and why?”).

The third task (*Schools of the world*) involved showing children four sequential images of schools from around the world. After each image was presented, children were asked to identify what type of building they thought it was (“What do you think the building in this picture is?”), and to explain their responses (“What makes you think this building is a (insert response to question 1)?”, “What did you especially notice about the picture?”).

After these three activities, children were then asked to draw two pictures: one picture of how they would like their school to be, and another picture of what they would like to do at school. After completing each drawing, children were individually asked three questions, which were always presented in the same order: (1) Describe their drawing (“Can you tell me about your picture?”), (2) Explain their reasoning behind their drawing (“Why did you draw that?”), and (3) Discuss anything else they might have failed to previously mention (“Is there anything else in your picture that you want to tell me about?”). If children remained silent, the researcher prompted them by repeating the question. If children continued to remain silent or said “no”, the researcher continued with the procedure.

The images shown to children in Study 1, as well as additional sample drawings are available at: https://osf.io/6nqce/?view_only=850259a8b44d423eae51dd93f0423a4e

Results

In the first activity (*Children around the world*), children were able to accurately infer and explain that the individuals in the pictures were playing and engaging in activities for enjoyment. When asked to explain their reasoning behind their inferences, some children referred to aspects of the image including features of the individuals, the background, and the context. For instance, children said “because her face is smiling”, “because her arm is up to the bubbles”, “both of the kids are swinging”, “because of the toys and the way she’s holding it”, and “I think they’re racing because the girl with the tank top on looks like she’s running.” Other children, however, made inferences about, and referred to, the individuals’ mental states and potential reasons for the actions. For instance, some children said, “Probably because it’s a hot day and they’re looking to do something fun”, “because she wants to play with them”, “she’s using her imagination”, and “maybe since it’s a very hot day, they went on the swings to get air moving so it gets colder”.

In the second activity (*Buildings around the world*), children were able to identify the school in each pair of images (accuracy in the pairs ranged from 72% to 95%). In the third activity, children mostly inferred that the buildings shown to them were schools and referred to various types of schools in their responses (e.g., an elementary school, college, a university, a middle school, a private school), with a few infrequent responses indicating other types of buildings, such as a library and a court building. When explaining their responses, children

referred to features of the building (e.g., the presence of windows, flags, decorations, and writing; the larger size of the building), and the presence of children.

For this study and the subsequent one, two coders independently coded children's descriptions and explanations of their drawings. Only information being coded was available to the coders (i.e., coders were blind to as much information as possible). Overall agreement between the coders for this study was 93% (95% and 91% for questions 1 and 3; 93% and 92% for question 2 about the first and second drawings, respectively). All disagreements were resolved by a third coder.

Children's responses to the first and third questions for both drawings (i.e., "Can you tell me about your picture?" and "Is there anything else in your picture that you want to tell me about?") were coded into 12 non-mutually exclusive categories: animals, art and music, fantastical, food, general play, nature, other curricula, physical activity, school structure, STEM (science, technology, engineering, and mathematics), other, and uninformative/ambiguous. The "fantastical" category was used in coding children's responses for these questions when discussing both of their drawings because some children unexpectedly provided responses containing ideas that were not realistic or possible (i.e., they included pretend elements). For example, some children included fantastical beings in their drawings, such as robots and monsters, and others made school features out of food, such as marshmallows and boba. See Table 1 for the criteria used for each category and examples of each.

Table 1

Categories and criteria used for coding children's responses in Study 1 for questions 1 ("Can you tell me about your picture?") and 3 ("Is there anything else in your picture that you want to tell me about?")

Category	Criteria	Examples
Animals	Responses that mention animals, mammals, or reptiles	"There is a door for the pets", "A small zoo"
Art and music	Responses that mention music and art activities	"This will be the drawing area", "You can learn how to draw"


 Fantastical

Responses that contain any elements or ideas that are not realistic (i.e., they are fantastical, pretend, and/or impossible)

“It has fuzzy windows”, “the grass is [made] out of cotton candy”

Food

Responses that note any food items or places that provide food

“And the cafeteria is all the way at the back, so if kids don't have lunch they could have fresh strawberries, and corn, and peppers”

General play

Responses that reference “play” or activities involving board games

“...and you can play lots of games in my school”, “Play connect four”

Nature

Responses that mention natural features

“I would like to have a big garden”, “I added a tree with some flowers”

Other curricula

Responses involving other topics or areas aside from STEM, art, and music that could be taught and learned

“I think students should learn about geography and history more”, “My picture is about a school that teaches you about taxes and how to start a bank account, and how to use cards”

Physical activity

Responses that include activities involving physical exertion and locations where physical activity might happen

“There should be a really cool playground”, “I added a climbing set, a slide, a merry-go-round, swings, and a jump rope”

School structure

Responses that mention physical features or characteristics of a school. This can include information about types of rooms, features or objects, layout, and colors

“I added a clock”, “It has a school bell and a flag”, “This is a big carpet”, “It has tables and seats”

STEM

Responses that refer to math, science, engineering, or technology

“You can also do math, science, and all the basics”, “At school, teachers should teach math”

Other

Responses that involve topics not related to the other categories

“...where you can make anything that looks like anime”, “virtual reality”, “work-work”

Uninformative/ Ambiguous	Responses that indicate the child does not have a response or is ambiguous	“I don’t know”, “I just put a bunch of stuff”
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When asked to describe their first drawing of how they would like their school to be, children provided 55 statements that could be captured by the categories used to code the responses. There were 26 instances where children responded “no” or with an equivalent statement (e.g., “That’s all of it”) to the final question. Of the 55 responses that children provided, 69% of them discussed the school’s structure, 38% noted physical activities including sports like hockey, and 31% mentioned nature in some form, such as trees and flowers. Children also included discussion of food (16%), play (11%), and other curricula topics aside from STEM, art, and music (e.g., English; 15%). However, they rarely mentioned STEM (4%), animals (4%), or art and music (2%). A few children provided uninformative or ambiguous responses (e.g., one child discussed an interest in robots, and another described a video game; 13%) and others provided a response that could not easily be coded into a category (18%). For instance, one child described a school where one could get a pilot license, and another said, “I would want it to be a nice school”. Notably, children’s descriptions of how they would like their school to be tended to include fantastical or fictional aspects (29%). For instance, one child described a “princess school” that had marshmallows outside and fuzzy windows. See Table 2 for a summary of children’s coded descriptions. See Figure 1 for sample images and responses.

Table 2

Children’s categorized descriptions from Study 1, questions 1 and 3.

Category	Study 1, Drawing 1 (school)	Study 1, Drawing 2 (activities)
Animals	4%	9%
Art and music	2%	13%
Fantastical	29%	14%
Food	16%	4%

General play	11%	15%
Nature	31%	9%
Other curricula	15%	6%
Physical activity	38%	53%
School structure	69%	45%
STEM	4%	9%
Other	18%	6%
Uninformative/ Ambiguous	13%	19%







1) Can you tell me about your picture?	My elementary school is called "Princess school". It has 2 marshmallows outside. It has a boba cup. It has a school bell. It has fuzzy windows and middle things for windows. And a flag. And it has a clock at the very top so people know what time it is. And it has a pool so you can jump into the water. There's lots of clouds and the chimney is made out of a tree stump. And I think that's all.	 <p>My Elementary school is called Princess school.</p> <p>Age: 9</p>
2) Why did you draw that?	Because I like Princesses and these colors. And I like drawing stuff.	
3) Is there anything else in your picture that you want to tell me about?	Nope, I think that's all.	
1) Can you tell me about your picture?	Uh.. they can go up here and watch the stars and see all the rainbow birds. And then they can look for owls. And this is how you get down. You go down the rainbow slide. [prompt] You can swing on this [unintelligible]. These are the monkey bars there. It goes circle, square, and then heart shapes and then they end. You can get off here and there. [prompt] This is where all the birdies go, the hurt birdies. And then there is people that come and take it. And the tree is alive. [What's that?] The tree is nice. Oh, and there are also monkey bars. The eyes are also monkey bars. The mouth is where the owls are. [prompt] Nothing else.	 <p>Age: 6</p>
2) Why did you draw that?	'Cause I like the playground. [prompt] No.	
3) Is there anything else in your picture that you want to tell me about?	The sun is wearing sunglasses because he is so sunny. [prompt] Nope.	
1) Can you tell me about your picture?	Uhh... this the playground. [prompt] I would like it to be a nice school. [prompt] I would like to have a big garden. [prompt] I would like to plant plants in the garden with the students. [prompt] Umm... It would rain snow. If it was snowing, I would let my kids go in the gym. [prompt] I don't know.	 <p>Age: 6</p>
2) Why did you draw that?	Because that's what I could draw. [prompt] Uhm.. because I really like how I made it.	
3) Is there anything else in your picture that you want to tell me about?	No.	
1) Can you tell me about your picture?	I added a tree with some flowers. And it's an apple tree. [prompt] And I put a heart for the doorknob. The school has square windows, and it has a circle window too. [prompt] No.	 <p>Age: 6</p>
2) Why did you draw that?	'Cause it's a school. That's the door over there, and it goes longer back. [prompt] No.	
3) Is there anything else in your picture that you want to tell me about?	No.	

Figure 1. Sample drawings and responses from Study 1.

Insight into why children focused on these elements and tended to include fantastical ideas can be gained from their justifications and explanations for why they want their school to be how they described. Children’s responses to the second questions for both drawings (“Why did you draw that?”) were coded into 6 non-mutually exclusive categories: Mental states, learning, entertainment/enjoyment, needs, other, uninformative/ambiguous. See Table 3 for the criteria used for each category and examples of each.

Table 3

Categories and criteria used for Study 1, question 2 (“Why did you draw that?”) and Study 2, question 2 (“Why should school be like that?”)

Category	Criteria	Examples
Mental states	Responses that refer to the child’s own or others’ mental states, including preferences, desires, goals	“Because everyone loves math and music”, “I like it that way”
Learning	Responses that refer to learning or the importance of learning	“...so kids can learn”, “So, you can learn and know more”
Entertainment/ Enjoyment	Responses that refer to fun, enjoyment, and entertainment	“Because it’s fun”, “Sometimes we just want to go outside and have fun”
Needs	Responses that refer to psychological or physical needs (e.g., sleep, food, supplies)	“We need some lights to see everything”, “...the cafeteria is because some kids don’t have food to bring to school”
Other	Informative responses that cannot be accurately captured with the other categories	“It’s good”, “...makes us stronger and gives us a better life”

**Uninformative/
Ambiguous**

Responses that indicate the child does not know or have a response. This category can also include instances where the child fails to provide any response (i.e., remains silent) or is referring to something that is not clear

“I don’t know”,
“I just put a bunch of stuff”

As could be expected, children most frequently referred to mental states in their explanations (60%). For instance, many children noted their own desires and goals (e.g., “Because I wanted to”, “Because I like it”). Children’s reliance on their mental states, including their own preferences could have been expected given that they were asked to construct a school they *wanted*. This could also help to explain why children tended to focus on physical activities, nature, food, play, and topics aside from STEM and arts – that is, these are often the interests of children at these ages. The next most frequent explanations that children gave were ones that were uninformative or ambiguous (e.g., “Because it’s a school”, “[It’s] Kinda just what came to mind”; 35%), or that could not be captured by a category (e.g., “Because that’s what I could draw”; 22%). These findings perhaps suggest that children did not initially construct a logical reason for the type of school they drew. They also infrequently discussed reasons related to entertainment (8%), learning (5%), or physical or psychological needs (3%). See Table 4 for a summary of the reasons children provided.

Table 4**Children’s categorized explanations for their drawings**

Category	Study 1, Drawing 1 (School)	Study 1, Drawing 2 (Activities)
Mental states	60%	77%
Learning	5%	5%
Entertainment/ Enjoyment	8%	20%
Needs	3%	0%
Other	22%	14%

Uninformative/ 35%
Ambiguous

6%

When asked to describe their second drawing (i.e., the types of activities they would like to do in school), children provided 47 statements that could be captured by the categories used to code the responses, with the remaining children indicating that they were all done or did not have anything else to discuss. Children most frequently referred to activities that involved physical activity, such as playing sports, playing in the gym, on a playground (53%), or on a structure that included monkey bars, swings, and slides (45%). Aside from this, children also mentioned activities that would facilitate play more generally, such as Lego and virtual reality (15%), as well as activities involving art and music (13%). Children infrequently mentioned activities involving STEM, nature, and animals (9% each), other curriculum areas (6%), and food (4%). Additionally, some children provided uninformative or ambiguous responses (19%), responses that could not be captured by the categories (6%), or responses that included fantastical elements (14%). For instance, one child described an activity that involved getting chased by animatronics, and another child described portals at the school that would allow students to teleport to different classrooms and activities. See Table 2 for a summary of the findings.

Similar to the first drawing, children most frequently referred to mental states when explaining their reasoning for the activities they proposed (e.g., “Because I like hockey”, “I like gardening outside”; 77%), and infrequently noted reasons for learning (5%) and needs (0%). Unlike their responses to this question for their first drawing, however, children referred to entertainment and enjoyment as reasons for their choices (e.g., “...it’s fun”; 20%), and rarely gave uninformative or ambiguous reasons (6%) or responses that could not be categorized (e.g., one child described activities that characters of a television show typically engage in; 14%); See Table 4.

As previously noted, the unexpected nature of children’s responses, particularly their tendency to provide fantastical suggestions that would be impossible to incorporate into an actual school in reality, prompted a follow-up study to investigate whether these findings align with children’s beliefs about what school *should* involve. This was the purpose of Study 2.

Study 2

Methods

Participants

Thirty-six children aged 5 to 10 years participated ($M_{\text{age}} = 7;10$ [years; months], range = 5;10-10;11, 14 girls, 21 boys). Thirty-three of the 37 children who participated in Study 1 also participated in this study. There were also three children who participated in this study but did not participate in Study 1.

Materials and Procedure

Children first participated in the Dig for Your Rights! agricultural literacy program. This program began one week after the conclusion of Study 1 and was comprised of eight hour-long sessions across four weeks. The first activity in the rights-based agricultural literacy program introduced the children to the *Food Museum Challenge* (which was organized and facilitated by the team lead) as a “provocation” designed to inspire them to develop inquiry-based projects. This introductory activity functioned to engage children emotionally, socially, and cognitively with items and ideas related to food and farming.

After the inquiry-based projects were complete, children were then introduced to picture books and were encouraged to participate in creative activities. For instance, children were read *Right this Very Minute* by Lisl Detlefsen and asked to make “connections”—both in discussion and in drawings—between the words and pictures in the story and Article 24 from the UNCRC. They also discussed concepts from the UNCRC that are directly relevant to agriculture. For children in the Kindergarten/Grade 1 class, this was Article 27 – the right to food, clothing, and a safe home (United Nations, 1989; UNICEF Canada, 2021). For children in the Grades 2-3 class, this was both Article 27 and Article 24 – the right to good health care, food, clean water, and a safe environment (United Nations, 1989; UNICEF Canada, 2021). For children in the Grades 4-5 class, this was Articles 27 and 24, as well as Articles 3 and 32 (all adults must prioritize the best interests of the child, and the prohibition of dangerous child labor, respectively). Children completed pre- and post-unit questionnaires before and after the agricultural literacy program, and their responses, along with the artistic projects they created during the program, demonstrate that the children were beginning to make strong connections between concepts associated with how children’s rights relate to food and farming. See Supplementary Materials for more information about the agricultural literacy program.

These four articles were the only ones included in the rights-based agricultural literacy program, so the children had not yet engaged with other elements of rights as they are disseminated in the UNCRC, such as Article 12 (the core “Participation” right, upon which the current studies are premised) or Article 29 (children have the right to express their views on matters that affect them; United Nations, 1989; UNICEF Canada, 2021).

The following tasks were conducted in May 2023, approximately five weeks after the conclusion of Study 1 and one week after the agricultural literacy program ended.

In their classrooms, children listened to the facilitator read the picture book, *The World Needs More Purple Schools* (Bell & Hart, 2020). This book exposed children to a philosophy that values each child’s unique strengths and contributions to the school in curriculum areas including STEM, art and music, and nature. Following the reading of the story, the facilitator then led a discussion on two rights outlined by the UNCRC: Article 27, which addresses the right to food, clothing, a safe place to live, and equal access to opportunities; and Article 29, which outlines the right to an education that develops children’s potential (United Nations, 1989; UNICEF Canada, 2021).

While discussing these rights, the facilitator made connections to the book and discussed how the content within the book relates to each. The facilitator then asked children to draw a picture of what they think school *should* be like. Once children completed their drawing, they were interviewed individually and were asked four questions that were always presented in the same order: (1) “Can you tell me about your picture?”, (2) “Why should school be like that?”, (3) “What activities do you think students should do at school?”, and (4) “Is there anything else you want to tell me about what schools should be like?” If children remained silent, the researcher prompted them after three seconds. All children provided a response to each question.

Results

Children’s responses to the first and fourth questions (i.e., “Can you tell me about your picture?” and “Is there anything else you want to tell me about what schools should be like?”) were coded into 11 non-mutually exclusive categories that were used in Study 1: animals, art and music, food, general play, nature, other curricula, physical activity, school structure, STEM (science, technology, engineering, and mathematics), other, and uninformative/ambiguous. Importantly, no child involved fantastical ideas in their responses during this study. See Table 1

for the criteria used for each category and examples of each. Overall agreement between the coders for this study was 93% (93% for the first and fourth questions, 91% for the second question, and 95% for the third question).

Across these two questions, children provided 44 statements that could be captured by the coding categories. There were 26 instances where children responded “no” or with an equivalent statement (e.g., “I think that’s all”) to the fourth question. Of the 44 responses that children provided, 70% of them mentioned physical features or characteristics of a school (i.e., school structure). The three most common types of responses included references to nature (43%), physical activity (41%), and STEM (36%). These were followed by responses that included food (32%), art and music (21%), and animals (18%). There were also 25% of responses that could not accurately be captured with the other categories. These included responses such as “It should be like a peaceful school” and “I think school should be fun for other kids that go to school”. Only 9% of responses referred to play, 7% mentioned other curricula (e.g., geography, history, taxes, and banking), and 2% were uninformative (i.e., said “I don’t know”). See Table 5 for children’s categorized responses. See Figure 2 for sample images and responses.

Table 5

Categorized responses from Study 2, questions 1 (“Can you tell me about your picture?”) and 4 (“Is there anything else you want to tell me about what schools should be like?”)

Category	Study 2, School
Animals	18%
Art and music	21%
Food	32%
General play	9%
Nature	43%
Other curricula	7%
Physical activity	41%
School structure	70%

STEM	36%
Other	25%
Uninformative/ Ambiguous	2%



1) Can you tell me about your picture?	My school is a farmer school. I tried to do my best. But I think it looks good for now. Um... yeah, that's it. And then, these are plants.. these are strawberries, these are corn, and then these are peppers, and these are blueberries. And this is a plant tower. It grows like lettuce and stuff like that. [prompt] This is the playground. And then, we have some trees outside so if kids are hungry, they could pick some apples to eat. And then, there's a cowboy dance and then the dance is going to be 161. And then this is a library. And the cafeteria is all the way at the back. So, if kids don't have lunch they could have fresh strawberries, and corn, and peppers. And then after.. that's basically it. And this is a window.	
2) Why should school be like that?	Um... cause... sometimes kids think it's fun not to do like math or social studies or science. Sometimes we don't want to do that and sometimes we just want to go outside and have fun. [prompt] Um, no.	
3) What activities do you think students should do at school?	Um... most likely gardening, gym, and art, and stuff like that.	
4) Is there anything else you want to tell me about what schools should be like?	No.	
1) Can you tell me about your picture?	Um, school has a music room and a library. And they have a bathroom. And they have a sitting place where you can relax after math. There's science. There's a cafeteria, and a playground. And there's some garden stuff. And there's parking. [prompt] There's two big trees. That's all.	
2) Why should school be like that?	Because everyone loves math and music. Everyone loves school and sitting there after doing work. [prompt] No.	
3) What activities do you think students should do at school?	Science, math, gym time, and music. [prompt] No.	
4) Is there anything else you want to tell me about what schools should be like?	No.	

Figure 2. Sample drawings and responses from Study 2.

The explanations children provided in response to the second question (i.e., “Why should school be like that?”) were coded into the same 6 non-mutually exclusive categories used in Study 1: Mental states, learning, entertainment/enjoyment, needs, other, uninformative/ambiguous; see Table 2 for the criteria and examples of each category.

Children most often referred to learning or the importance of learning when explaining why school should be the way they indicated in their drawing (37%). They also justified their beliefs by referring to their own or others' mental states, including preferences, desires, and goals (26%). For instance, children said, "Because everyone loves math and music" and "Sometimes we just want to go outside". Many justifications also could not be accurately captured by the other categories and instead referred to many different topics (26%). For instance, children said "Because I feel like it would make us stronger and give us a better life", "It's beautiful", and "It's nice". Children also explained their reasoning by referring to entertainment and enjoyment (17%), and the ability to address needs such as "We need the supplies so we can draw and cut and glue. And we need some lights to see everything" (14%). A few children provided responses that were uninformative or ambiguous (e.g., "I don't know", "I forgot"; 11%); see Table 6 for a summary of children's categorized explanations.

Table 6
Children's categorized explanations to Study 2, question 2 ("Why should school be like that?").

Category	Study 2, School
Mental states	26%
Learning	37%
Entertainment/ Enjoyment	17%
Needs	14%
Other	26%
Uninformative/ Ambiguous	11%

The activities children provided in response to the third question (i.e., "What activities do you think students should do at school?") were coded into 9 non-mutually exclusive categories:

animals, art and music, food, general play, nature, physical activity, STEM, other, and uninformative/ambiguous.

Children most often discussed activities related to STEM as ones they believe students should do at school (37%), followed by general play (34%) and physical activity (31%). Children also mentioned activities that did not fall neatly into the coding categories and did not have a common theme (e.g., “listen to the teacher”; 29%). Children also noted activities involving art and music (e.g., drawing, making paintings; 26%), but less frequently referred to activities involving food (e.g., lunch, snack; 17%), nature (e.g., gardening; 14%), and animals (9%). Only 11% of responses were uninformative or ambiguous (e.g., “I don’t know”, “activities they do at a normal school”); see Table 7 for a summary of children’s categorized responses.

Table 7

Categorized responses from Study 2, question 3 (“What activities do you think students should do at school?”).

Category	Study 2, Activities
Animals	9%
Art and music	26%
Food	17%
General play	34%
Nature	14%
Physical activity	31%
STEM	37%
Other	29%
Uninformative/ Ambiguous	11%

Discussion

In an attempt to apply Article 12 of the UNCRC (i.e., the right of children to express their views on matters that affect them), this project explored how children view their education while also focusing on two important rights: access to food, clothing, a safe place to live, and equal access to opportunities (Article 27), and an education that develops children’s potential (Article 29; United Nations, 1989). In particular, we were interested in how children’s rights can be incorporated into formal education, how children themselves think about their education, and how rights-based and inquiry-based programming can be applied.

The findings of Study 1 show that the children prioritized their own preferences, desires, and goals when reasoning about how they would like their school to be and the types of activities they would like to do at school. They often focused on physical activity and play, as well as means to achieve them (e.g., structures and games that would allow for both), but did not frequently mention STEM, art, or music. Of interest was the children’s tendency to include fantastical or fictional aspects, including discussions of pretend beings, structures made of food, and reference to video games and shows. This was unexpected, as these types of responses and reasoning did not occur in the original “Ask Them” study conducted in Italy, which examined similar concepts (Finelli et al., 2014).

Study 2 then focused on children’s beliefs about what their education and school *should* involve. Here we found significant differences from the beliefs expressed in Study 1. Children in this study were equally focused on physical activity, but were more likely to include discussions of nature, STEM, food, art and music, and animals. These findings also reveal common beliefs about how children think schools should be. For instance, they believe that schools should have natural features, including gardens, greenhouses, parks, fields, and animals. They also think that their education should focus on physical activity, STEM, art, and music.

Crucially, children’s explanations in Study 2 revealed a different reasoning process than the one children used in Study 1; here they most frequently referred to learning or the importance of learning in their explanations, but also tended to mention their own and others’ mental states. Importantly, these children’s beliefs and discussions about what education *should* involve and focus on mirror the rights outlined in the UNCRC. To reiterate a key finding from our results, in Study 2, no child involved fantastical ideas in their responses. We believe that this difference between Study 1 and Study 2 is extremely significant, as it demonstrates a key shift from an individualistic view of education to a more collective view positioning education as a means to

fulfilling all children's human rights. These findings corroborate previous studies identifying the benefits children experience from rights-based educational experiences.

Further, differences in the children's responses between the two studies also highlight the importance of thoughtfully constructing the questions that will be asked of children when attempting to learn about their views on matters that affect them (i.e., using a rights- and inquiry-based approach). Our findings indicate the potential for children to prioritize their own individual interests and preferences when asked about what they would *like* something to be or involve. However, their responses in Study 2 indicate that when asked about topics in a deontic way, the children demonstrated their capacity to consider the greater good, think critically about issues, and restructure their priorities.

In the original "Ask Them" study, one of the conclusions drawn by Finelli et al. (2014) corroborated earlier findings that "young children are capable of reporting relevant information when provided with clear and detailed age appropriate tools (Christensen and Prout, 2005; Lansdown, 2005)" (p. 231). To extend this, we would add *culturally* appropriate tools, as our studies – and in particular the necessity to conduct Study 2 – clearly show that the children involved provided very different responses when primed to engage with questions through a rights-based framework. We believe that the hedonistic and individualistic responses in Study 1 were at least partially related to the children's unfamiliarity with human rights as they relate to education; it was only *after* children had learned about human rights in relation to education and been primed (during the adult-led discussion that occurred immediately prior to their drawings and interviews in Study 2) to consider education from a rights-based perspective that they provided responses focusing on the greater good of all children in the school.

When considered in conjunction with prior findings, particularly those of Finelli et al. (2014) in the original "Ask Them" article, our work has potentially broad implications. Our findings, especially those from Study 2, are very similar to the beliefs that children have previously communicated. This suggests that children may hold universal beliefs rather than ideals that differ across cultures—at least when primed to respond in the context of children's rights. Importantly, our findings also show that the Canadian children in these studies believe in the importance of education fulfilling the rights outlined in Articles 27 and 29 (United Nations, 1989), and do so even after a global pandemic (i.e., COVID-19) and a natural disaster affecting their immediate community.

Most notably for the purposes of our broader project on agricultural literacy, these children also considered the importance of food and its availability as an important component of formal education. Consider one child who noted the importance of including a cafeteria with a kitchen because “some people forget their lunches”, a different child who said “I think every school should have a hot lunch”, and another child who acknowledged the connection between accessible, healthy food at school and the fulfillment of a foundational provision right: “have some trees outside so if kids are hungry, they could pick some apples to eat”.

As such, our findings suggest that embedding a rights-based approach, as well as incorporating Article 12 in an agricultural literacy program, does indeed support children’s engagement with ideas related to food sovereignty in their community. But beyond extending our team’s knowledge and the school community’s understanding of children’s ideas about how school can facilitate the fulfillment of human rights as they are enshrined in the UNCRRC, this study also adds to the literature that shows children are capable, valuable members of their communities. The more studies that provide such findings, the more likely educators are to welcome incorporating Article 12 into school activities, programs, and curricula.

It is our hope that researchers in varied locations and cultural contexts will work with children using a rights-based approach to *ask them* about their views on education in order to continue expanding this important body of literature. Our study was restricted to a very small sample in a unique location, yet we found that after exposure to ideas and philosophies of human rights, the children at this school developed ideas about education that were intriguingly similar to those found ten years earlier in a completely different national and cultural context. Do children have universal views about education within a rights-based framework? Is agriculture a core element of a rights-fulfilling education, as children in both the original “Ask Them” study and those in our Study 2 insisted? Further research will shed light on these important questions.

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Dinner on Mars

A thought experiment: If we actually tried to colonize Mars with a human settlement, what would we eat?

By [Michelle Superle](#) | September 26, 2023, [edible Vancouver and Wine Country Magazine](#)

Lenore Newman was trapped.



For the first time in a very long time, the director of the [Food and Agriculture Institute at the University of the Fraser Valley](#) (UFV) couldn't go and play outside. Newman, who's also UFV's research chair in food and agriculture innovation, was used to travelling the world conducting her research about food. But in March 2020, the COVID-19 pandemic put a halt to that.

At the time, she wouldn't have predicted this would lead to her best project yet.

As a geographer, Newman develops solutions for the thorniest problems affecting how we get our food. With her research base in the Fraser Valley, she understands how to protect agricultural land from encroaching urban development. Thanks to research for her book, *Lost Feast*, she also knows exactly how human hunger has caused mass extinction over the past few centuries. Most of all, she understands that the industrial agriculture and global food systems we rely on today aren't sustainable.

Her love of animals, food and the beauty of nature mean this burden of understanding distresses her deeply.

Fortunately, Newman possesses what she calls a “puzzle-solving brain”.

So it surprised nobody when she quickly figured out how to put her unexpected time at home to good use. She started by doing exactly what so many academics found themselves doing in the first blush of lockdown: she used the extra time to catch up with far-flung colleagues. And one day, over a Zoom meeting with Evan Fraser, director of the [Arrell Food Institute](#) at Guelph University, when they were chatting about favourite sci-fi series they were finally able to binge watch, they found something to keep them busy for the next year.

A thought experiment: If we actually tried to colonize Mars with a human settlement, what would we eat?

What began as a lark quickly morphed into a deadly serious research project about how to save the world. After all, as Newman and Fraser remind us, “our food system is a mess, not fit for feeding us in the 21st century.... the 21st century needs another kind of transition to fix a lot of the problems our current food system has caused.”

When Newman suggested that “this next transition could come from developing a self-sustaining community on Mars,” Fraser was “skeptical.” But as they worked together, he's come to see her point. The result is *Dinner on Mars*, a book that captures the past, present and future of human food systems in the form of delightfully effervescent conversations between Newman and Fraser.

Although the reasons for embarking on this thought experiment are depressing — our food system causes horrific environmental degradation and human rights violations — their solution is hopeful.

We can do better. We can revolutionize the ways we grow and distribute our food so people, animals and our planet become happier and healthier. Newman and Fraser insist that “the only

hope for humanity is to use every tool in our formidable technological arsenal and do everything we can to save our planet from us.”

Newman explains in an interview with *Edible*: “Technology can help us achieve sustainability goals. If we want to preserve biodiversity, then we have to figure out how to have a [smaller] footprint. Technology is one tool we can use in concert with regenerative agriculture to get to where we need to go.”

How does regenerative agriculture pair with technology? Organic growing, hand labour and no-till techniques seem light years away from petri dishes, robots and warehouses full of growing trays.

But Newman and Fraser understand the connections intimately, because both have roots in the food system — she comes from a family of fisherfolk in B.C., he hails from an Ontario farm family. They know from hands-on experience the backbreaking toll manual labour costs those who procure our food. In fact, it’s the main reason both left the field for desk jobs.

And they’re not the only ones. Because agricultural work is often so difficult and unpleasant, very few people will do it. In fact, one of the greatest challenges for many Canadian farmers is procuring reliable labour. Those who can afford to do so close this loop with mechanized solutions.

But even if we had effective incentives to entice more people back into agricultural labour, the human costs would still be too much. Farming is infamous for its high rates of suicide, depression, injuries and disabilities. It’s time to find better ways of getting food on the table — without human rights violations, broken bodies or crushed spirits.

The good news is that the future has already arrived in the Fraser Valley, which is now home to some of the technologies Newman and Fraser imagine as integral on Mars.

For example, Newman realizes that, “one of the key lessons I’m learning may be more about the mindset of being a Martian than the specifics of any particular technology.... we are forcing ourselves to think about how every single input can be used with total efficiency” and imagining every output “fulfilling multiple purposes.”

Thanks to the innovative “circular farming” method developed by [ReFeed Canada](#), the zero waste approach described in the book is happening right here in Langley. The organization reroutes surplus food supply that until recently went to landfills. ReFeed supports people by donating food to food banks and the earth by producing soil amendments and microbiology that enhance soil microbiomes.

Circular farming of the kind practiced at ReFeed remains rare, but vertical agriculture is becoming more prevalent — partly because it offers both ultra high-tech and tech-free methods, which means there's something for everyone.



Vertical agriculture is a cornerstone in the agricultural revolution because it accomplishes several important goals at once: it shortens supply chains, reduces our environmental footprint exponentially and relies on comparatively little human labour.

That's why Newman's colleagues across UFV are deeply committed to this growing method. According to Rose Morrison, who has taught soil science courses in UFV's Agriculture department since the 1980s, to ensure survival here on Earth, "soil conservation and regenerative practices will increase. There is room and need for vertical systems that do not extract natural soil, but provide accessibly priced fresh vegetables for urban populations. The use of precision agriculture and robotics will expand. We need to embrace and adopt what is best within our specific locations, cultures, climate and soils." To this end, UFV horticulture students learn how to use vertical agriculture for growing leafy greens and strawberries.

As well, a team at the UFV Food and Agriculture Institute led by Stefania Pizzirini, Alesandros Glaros and Rob Newell, a collaborator from Royal Roads University, is conducting studies on vertical agriculture and its potential role in local food systems.

"Being a form of indoor agriculture, vertical farming can be done in a variety of different types of environments including urban and industrial lands, placing food production closer to consumers and reducing need for agricultural encroachment on wildlife habitat," Newell explains. "It could also be useful for farmers adapting to climate change, as vertical farms can be built in ways that are less susceptible to impacts from flooding and extreme heat than conventional farms."

A personal point of view

Over in the College of Arts, where I teach in the English department, I harness the power of story to encourage children to imagine themselves as capable members of their communities who can conceive of and contribute to initiatives that help improve sustainability and food security. I collaborated with Newman to develop this approach to agricultural literacy, which has culminated in the Dig for Your Rights! program.

The aim of this program, which pairs picture books about farming with human rights concepts, is empowering children to get involved in their local food system—beginning in their own school gardens.

In 2022, I piloted [Dig for Your Rights!](#) with a few forward-thinking elementary schools near UFV. I plan to expand the program this year by incorporating vertical agriculture using indoor "tower gardens" in several Abbotsford schools.

Vertical agriculture is central to the Dig for Your Rights! vision, because this growing method provides a more sustainable, accessible and reliable way to produce leafy greens than conventional agriculture. Better still, even the youngest children can get involved in growing and harvesting all year round. Growing cycles are easy to start and stop quickly, which means logistical problems typically plaguing school garden projects — particularly summer break and other holiday periods when staff, students and volunteers disappear, leaving plants to wither untended — are easily overcome.



In Chilliwack, Sardis Secondary will host a Dig for Your Rights! pilot where vertical agriculture will be incorporated differently.

“For the last decade we have been educating students about how food is grown,” explains Tania Toth, a science teacher who runs the Sardis Secondary School Farm with her colleague Joe Massie. “For years, we have done this in collaboration with local partners, such as UFV and Local Harvest. We value connecting youth with hands-on activities around food production, with a focus on science and sustainability. With an ever-growing population, extreme weather events and a reduction in resources (including soil), it is important for our youth to be introduced to some innovative solutions for food production. To increase our teaching ability in this area, we are currently fundraising for a new greenhouse. Our goal is to increase our educational practices to include vertical growing.”

Bold steps for good

These educational initiatives are steps in the right direction. Transitioning to sustainable agriculture will take commitment from everyone involved in farming — and today’s youth will soon become tomorrow’s farmers. The school farm program at Sardis Secondary facilitates this by creating opportunities for students to mentor elementary school children and also be mentored by agriculture professionals.

The initiatives also prioritize incorporating new approaches. As Joe Massie explains, adding a greenhouse to the school farm not only “extends our growing season into the winter months, giving us a chance to grow food at times that nature restricts us,” but also “allows us to use more technological growing methods such as vertical gardens, hydroponics, propagation and more,” which “increases learning opportunities for students.”

Providing the next generation of farmers with effective techniques to farm sustainably is important. However, as Rose Morrison is quick to remind us, “any shortcomings in agriculture are not the collective fault of farmers. Some systems must change, and that’s a task for everyone. Future agriculture must be both productive and ecologically sound.” The sooner children understand this — and how to participate in achieving these goals — the better.

After all, as Newman and Fraser state, “this food revolution will have the biggest impact [on Earth]. Many of the tools and technologies described in this book, and designed to sustain the hypothetical Martian community, should immediately find their way into our economy and become incorporated into farming and food systems here on Earth.”

This is the message I’m sharing with children through the Dig for Your Rights! program, since they will soon comprise the voting public and influence — perhaps even develop — the “public policy to ensure there’s a fair price put on things such as biodiversity, climate change, human labour and animal welfare” that Newman and Fraser describe as fundamental to the coming agricultural revolution.

We can do this, and when we do, we’ll only need to eat our dinner on Mars if we want to.

