

## Teaching environment and sustainability: Experiences of a Vietnamese educator living in Canada

Thi Thuy Hang Tran<sup>1,2</sup>

<sup>1</sup>Ho Chi Minh City University of Technology and Education, 01 Vo Van Ngan St., Thu Duc Dist., Ho Chi Minh City, 721400, Vietnam

<sup>2</sup>University of Regina, 3737 Wascana Parkway, Regina, SK S4S 0A2, Canada

e-mail: [hangttt@hcmute.edu.vn](mailto:hangttt@hcmute.edu.vn)

\* Corresponding Author.

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**Abstract:** This research aims to address the question of whether Environment and Sustainability Education (ESE) is sustainable or not, considering the author's experiences as a lecturer in environmental sustainability programs in Vietnam and as a researcher/educator in a teacher education program in Canada. This study employs an autobiographical narrative approach rooted in experience. This study delves into the three-dimensional narrative spaces of temporality, sociality, and place to understand personal experiences and envision future narratives for international environmental sustainability education. Through this research, it is found that integrating teaching and training programs, familial curriculum making, and the sustainability of multi-species flourishing are holistic and long-term approaches to teaching environmental sustainability. The findings of this research highlight the importance of engaging various stakeholders in a wide-ranging collaborative process to discuss, debate, and analyze past and current pedagogical practices, as well as structural, programmatic, and economic challenges faced in environmental and sustainability education. Additionally, this research emphasizes the need to broaden perspectives by including the voices of Vietnamese educators teaching and conducting research in Canadian education.

**Keywords:** environmental sustainability; storied experiences; multispecies' flourishing

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### Introduction

*Winter 2012, I was in training for the Vietnamese teachers  
towards integrating technology with teaching Environment and Sustainability subjects.  
Together we conducted collaborative working projects  
on teachers' pedagogy and content competency.  
We combined theories, practices, and technologies to curate the lessons  
on various themes of environment and sustainability.  
The training went on well, until our final day  
The teachers came to thank me, but then a worried voice came up,  
"Dear Trainer! How could I apply technology to teach about the environment  
while my classes have only black boards and white chalks?"  
This question from that mountainous teacher struck me so much,  
and I could never forget her teary eyes.  
(personal poetic fragment)*

As the above poetic fragment unfolded, my stories of working as a trainer for Vietnamese K-12 teachers toward applying technology to teach learners in the area of environmental technology and sustainability were not a smooth and successful experience. Rather, I have seen them as bumping narratives against those dominant narratives of training programs in my home countries during the 2010s, which were always completed with high achievements of both trainers and trainees. Although the national training program as well as the teachers' working progress were well curated and the outcomes were fulfilled, I kept wondering if my session was truly a success. While the in-service teachers in my class did improve their teaching methods and content knowledge, that question of the ability to use technology to teach environment and sustainability in classrooms with no computers and internet but white chalks and black boards has awakened my understanding. I knew that I had missed something very important.

Months after that training program, I retold and relived that tension again and again. As I attended more deeply into my experiences, I came to recognize that I had followed the designated training curriculum to help teachers excel in their competencies, but at that time I forgot the points on who those teachers were and their teaching situations. Due to the high volume of training contents, we were so concentrated on theory and practice for all sessions that we had no time to better understand how the teachers would employ their takeaways to their teaching realities. A big gap from the training program and also from my experience as a "novice trainer" was a holistic and long-term approach to support the in-service teachers, with attention to who they were and who they were becoming. Significantly, my evolving learning from this gap has urged me to pave a sustainable way for the teachers of environment technology and sustainability, which involves not only teacher educators, pre-service and in-service teachers, but also the children, families, community members, and other multispecies.

#### **My Social/Practical/Theoretical Underpinnings Towards Teaching Environment and Sustainability Reality of environment and sustainability teacher education in Vietnam and Canada**

So far in Vietnam, there has been very little research conducted in the field of Environment and Sustainability Education (ESE) although environmental topics such as air pollution, climate change, and natural disasters are daily discussed because of their serious threat to the livelihoods and security of Vietnamese people. At elementary schools, "teachers include themes about environmental conservation and protecting the environment in regular academic subjects, such as Vietnamese language, math, science, history, geography and civics" (Heck, 2015). Teaching and learning about the environment at this level is mostly based on the textbooks such as "Education about the Environment at a Primary Level in Art Classes" and "Education about the Environment at a Primary Level in Social Studies Classes" issued by Vietnamese Ministry of Education and Training in 2009. The books focus on environmental topics and suggest different ways for teachers to integrate them into various subjects, but the curriculum still lacks the space for learners' practice in reality.

At junior and senior high schools, Vietnamese students have certain subjects called "Technology", in which environment technology is among the major sessions of their syllabus. Teaching and learning about the environment is still theory-dominant, but it supplies foreground knowledge in which some students may find interest and consider environmental technology as their major in undergraduate programs. At university level, there are institutions educating and training potential engineers for environmental technology, and pedagogy institutions who educate the pre-service teachers for vocational schools or technical education universities. While programs of engineering for environmental technology have been available for about 30 years, the teacher education program for environment and sustainability have recently been established for 15 years, and gradually there have been fewer university students attending it (The Weekend Youth Newspaper of Vietnam, 2024). Overall, environment and sustainability teacher education is a young program in Vietnam, but it has caught the attention because of its significant role in protecting the environment and protecting people's lives.

In Canada, initiatives towards sustaining the Environment and Sustainability Education have been in the attention of teacher educators, researchers, and scholars in the field. Key among these actions is the National Roundtable ESE-PTE that Karrow et al. (2019) mention:

Including identifying common questions, tracking emergent themes, working through problems to support and find solutions, and creating a collective action plan. These sessions provided multiple opportunities for discussion, debate, analysis, critique, and reflection; each time bringing together different groups of delegates to share ideas, stories, expertise, and perspectives. (p. 32)

At the same time, the ESE is facing many challenges but hopes to solve them are visible:

The tensions and outright conflicts that have characterised the often compete factions within the ESE field could have derailed this event, and to be sure there were many difficult and complicated conversations. But at that time, and in the time since, something transformative has happened; common themes, concerns, and language seemed to take precedence through shared, compassionate understanding, and the opening of a space to set down a version to remake education. (Karrow et al., 2019, p. 12)

Therefore, Canadian education could see the evolving future of Environment and Sustainability teaching, especially the development of this area in integration with multiple disciplines.

### Theory of experience

Employing autobiographical narrative inquiry into this work, I lean on taking experiences as its foreground. As Dewey (1938) posited, education, experience, and life are inextricably intertwined; so I learn an important lesson that studying education means studying experiences. Following Dewey's teaching and extending it further, Clandinin and Connelly (1994) firmly argue that exploring education equates to exploring life. This is evident in the examination of epiphanies, rituals, metaphors, and daily activities. Understanding education is intertwined with understanding life, just as understanding life is intertwined with understanding education.

In Dewey's (1938) theory of experience and education, he underscores situation as central to his theory. In particular, situation is specified by two criteria—interaction and continuity. While Dewey believes that continuity is intrinsic to all experiences, growth is recognized as the overarching goal of any experience, in terms of quality and types of experiences. As Downey and Clandinin (2010) discover further on unfolding the experience, they state that each new situation presents an opportunity to reflect on the preceding experiences, both leading into and out of the current one. This dynamic process of reflection allows for growth to be seen as provisional and emergent rather than fixed and predetermined.

### Familial curriculum making

Initially, during my tenure as a teacher educator in Vietnam, I had never encountered the conceptualization of "familial curriculum making" (Huber et al., 2011) nor I learned that it could remarkably impact teacher education. Alongside the journey of teaching in Canada and conducting a narrative inquiry with my research participants, my learning of familial curriculum making has matured. When Huber et al. (2011) emerged their research deeply on experiences of children, families, and teachers in relation to the growing standardization and achievement testing, they recognized another place of curriculum making, different from school the curriculum making. Hence Huber and her colleagues conceptualize it as familial curriculum making, which is defined,

As an account of parents'/families' and children's lives together in homes and communities where the parents and families are an integral part of the curricular process in which families, children/learners, subject matter, and home and community milieu are in dynamic interaction. (pp. 7–8)

As I feel inspired by this innovative reconceptualization, I come to learn that they offer another way for my attention to the wholeness and complexity of the children and their families' lives. I come to see familial curriculum making as important and meaningful as school curriculum making in the students' life-making. This understanding paves the way for my further view that combining these two

worlds of students will create a space for teachers and parents to sit together so that they could best support the learners and help them excel in their learning toward environment and sustainability.

### Flourishing

My burgeoning interest in the flourishing of the teachers, learners, and multispecies was inspired from collaborative teaching experiences with Dr. Steven Khan in our mathematics education courses at the University of Alberta, and from my learning when doing research with children, parents, and families who are new to Canada. Among various frameworks of flourishing, Seligman's (2011) PERMA model is the one most resonated with my knowledge. Seligman curates the nature of flourishing from five elements: positive emotion, engagement, relationships, meaning, and accomplishment. Reflecting on my autobiographical narratives at different times, within multiple relationships, and across many places, I gradually realized the intrinsic desire for these elements of flourishing for teachers, learners, and multispecies in education in general, and in environment and sustainability education in particular.

Given the sustainable development of the environment and sustainability curriculum, I contemplated how curating and nurturing flourishing over time contrasts with the pursuit of instant gratification (Eaude, 2019). Rather than prioritizing high grades for student happiness, I ponder on fostering joy and meaning in students' learning of our ecology system, and of many potential ways to best love and care for our Mother Nature. Expanding these all to a more holistic view, I could see that the flourishing of teachers, learners, and multispecies are interconnected and inter-supportive. This understanding provides foreshadowing a potentially important approach in sustaining the relationship between teachers and learners, subject matters, and milieus in environment and sustainability education.

### Method

#### *Taking Narrative Inquiry as My Research Methodology*

My journey into understanding my experiences as a teacher educator and a mother across Vietnam and Canada embrace narrative inquiry as research methodology. I learn from Clandinin and Connelly (2000) that:

Narrative inquiry is a way of understanding experience. It is collaboration between researcher and participants, over time, in a place or series of places, and in social interaction with milieus. As inquirers enter this matrix in the midst and progressive in the same spirit, concluding the inquiry still in the midst of living and telling, reliving and retelling, the stories of the experiences that made up people's lives, both individual and social. Simply stated, narrative inquiry is stories lived and told. (p. 20)

Central to my understanding of narrative inquiry is this methodology's contextual and temporal nature, as insisted by Clandinin and Connelly (2000). They emphasize that narrative inquiry delves into the essence of experience, with stories as the closest connection to lived realities. Moreover, narrative inquiry is conceptualized within a three-dimensional space including temporality, sociality, and place. In particular, temporality covers the past, present, and future. Sociality highlights the interplay of personal and social relationships. Place, as conceptualized by Connelly and Clandinin (2006), delineates the "specific concrete, physical, and topological boundaries of place or sequences of places where the inquiry and events take place" (p. 480).

In essence, narrative inquiry serves as a transformative lens for revisiting and understanding not only my own experiences but also those of my children, students, and research participants. By "living, telling, retelling, and reliving" (Clandinin, 2013) the stories of who I am in Vietnamese and Canadian education landscapes, I will better understand and support teachers and learners in navigating their educational journeys, particularly in the realms of environment and sustainability.

Telling My Stories as an Educator/Mother/Researcher in Relation to Environment Education A lecturer teaching Environment Technology for Vietnamese pre-service teachers

It has been twelve years passed but I still remember the time I taught the pre-service teachers who majored in Environment Technology at a Vietnamese university. More specifically, I was in charge of teaching English for Environment Technology, which aimed to help students obtain the knowledge of technical English used in environment technology such as environment pollution and solution, managing the quality of water, solid waste, liquid waste, renewable energy forms, and so on. My course also aimed to help students develop their skills of analyzing and explaining environmental phenomena such as the ozone holes, acid rain, global warming and greenhouse effect. In addition, the students were expected to work well in collaborative projects, to read and translate/interpret documents of the environment field thoroughly, to do presentations about topics of environment technology, and to curate new ideas in relation to integrating the latest knowledge and technologies in the environment.

My students' and my challenge was tripled: we had to work harder and more collaboratively because we only had 2 hours 15 minutes weekly to finish a huge amount of lesson; there were so many different topics including some complex and non-linear terminological knowledge needed to learn within 15 weeks; and, we had to follow the department's curriculum which had no space for experiential learning rather than theoretical lessons. In addition, this challenge was thickened under the lens of skills, which meant students had to read documents, listen to lectures and audio recordings, take notes, and translate many contents between English and Vietnamese.

Expecting these hardships, before stepping into lessons I gave students the right to choose between strictly following the course outlines issued by the department and doing flipped classrooms co-curated by themselves and me. To my surprise, all students agreed with flipped classrooms, in which the student read documents and summarize their understanding prior to class time. In class, we worked on checking students' understanding and reflection, discussing further on hard topics, and practicing translating/interpreting audio recordings related to environment technology and sustainability. We could even save one day for a field trip to the local waste management zone.

One day, the Department Head came to my class to observe and assess my teaching quality, as a part of our annual teaching quality assessment (TQS). The Head told me my class was successfully conducted but the teaching approach was different from the common course outlines. I thanked her for constructive feedback, but then I still remained flipped classrooms. After the final exam, my students all passed; they thanked me for the opportunity to self-learn and further practice essential skills and knowledge for their future career in environment and sustainability landscapes.

A year passed and I met my students again on Vietnamese Teachers' Day. Many of them became technology teachers at high schools and vocational institutions. As I asked them about their teaching, they mentioned our flipped classrooms did help a lot, but the lack of practical experience during our course did challenge them when starting their job. They wished that we would have been allocated with experiential learning opportunities such as visiting the environment technology institutes, waste management sites or attending workshops. In addition, the students asked me about the result of my teaching quality assessment (TQS) of that year because they felt worried for me. I smiled, "my TQS was at low proficiency as I did not strictly follow the teaching guidelines when applying flipped classrooms, but my true reward was your knowledge improvement and your flourishing career".

*A mother composing life alongside young children in transition to a new country.*

Ten years ago, my children started school in Canada.  
Everyday they walked between home and school.  
Together they named that space their "home walk".  
They enjoyed seeing the green trees,  
the rabbits, stray cats, and even earthworms on their walks.  
The birds' singing,  
the wind's breezing,  
the chipmunks' tickling  
were their most favourite sounds ever.

Time flies and they have loved their “home walk”  
and the trees and other living creatures more deeply.  
At home they told me many stories  
on how to protect the environment from what they learned at school.

During Grade Four, both of them were excited  
to join the school’s field trips to the city’s waste management factory.  
Being a volunteer, I was allowed to accompany them,  
during their experiential learning on how waste was collected, classified, and processed.  
So many “a-hah” moments when they saw garbage turned into compost  
and that compost would come back to nurture the plants.

In our family’s everyday life-making,  
living green and protecting the environment are never-ending topics.  
Within this home curriculum, my children are truly my teachers,  
who enrich my knowledge with whatever they learn from school.  
They even brought home many important fliers:  
*What Goes Where, Zero Waste, and How to Compost*  
They told me, “mom, you need to learn these,  
as they will sustain our earth - our common home  
and save us from extinction like the time of dinosaurs”.

#### *An education researcher living alongside children and mothers new to Canada*

In my two-year living alongside my research participants, their ways of living and co-existing ethically and respectfully with the more-than-human beings profoundly planted the seeds of my knowledge toward nurturing kinship with multispecies’ flourishing. As strongly stated by Khan (2020), “there is not and has never been human flourishing at community and population levels without—or independent-of—multispecies’ flourishing” (p. 239). I remember how I was struck by my little research participant Lisa’s profound love for the Earth (Tran, 2023), in the ways this six year-old newcomer girl mentioned protecting the Earth meant protecting our common home. Lisa even wrote a letter about seeing a stray cat on the street and someone was threatening it; she hung her letter on the building’s main entrance to let other people know about the cat and so they could protect it. I can also never forget the newcomer mother Hiên’s sharing with me on the meaning of the leaves, even when the leaves turned golden and fell down, they would become the compost for the other plants and insects to grow upon. Again, the kinship between human beings and the more-than-human world can significantly foster multispecies’ well-being.

In similar ways, I learned so much and so profoundly from other newcomer children and mother participants in their relational ethics with nature. Ryan the little Vietnamese-Canadian boy was a very active child who could not stay still at his desk for more than half an hour, but he could idle away the hours quietly watching the transformation of those caterpillars in his family’s backyard, without interfering with their privacy. When I kindly asked him why he had been so patiently observing the caterpillars, this seven year-old boy told me that such “ugly” caterpillars would soon become butterflies, who would bring many colours and movements to make his garden and also his home more lively and beautiful. Ryan said that was magic and he felt grateful for that. Thanh, Ryan’s mother, shared with me that their family always saves time for summer biking with the children. By doing so, the whole family can be out in the nature with each other, and while Ryan and his brother were joyfully watching the birds, tiny ants, and sometime-a beaver in a ravine, Thanh and her mother could gently teach the boys on how to be good friends with other species in the forest, as important as to be good children at home.

It became so evident for me that these newcomer children not only held a strong kinship with their intimate family members but also extended their love, care, and compassion to the entirety of their new ecological environments: the Earth, the plants, the insects, and many other diverse species. Here this new knowledge to me as a transnational educator/researcher challenges the prevailing single

story (Adichie, 2009) that newcomer children are portrayed as vulnerable and in need of adaptation or assimilation to Canadian ways of living. Instead, I affirm that these newcomer children may experience vulnerability at complex times, they also possess strong resilience and empathy towards both humans and multispecies alike. This reciprocal relationship between newcomer children and multispecies' flourishing are beneficial to both sides of the connection, which should gain more recognition and exploration in education of environment and sustainability.

Furthermore, I came to learn how newcomer mothers and grandmothers value and support their children's and grandchildren's rooting relationship with multispecies through "collaborating and co-labouring to make-with—become-with, compose-with—the earth-bound" (Haraway, 2015, p. 161). Through *Bà* (Grandma)'s teachings to Lisa about fostering harmony with the wildlife and Alex's mother's belief in all things' spirit (Tran, 2023), I discern the enduring influence of Vietnamese language, culture, educational traditions, and intergenerational wisdom in sustaining kinship and cohabitation with multispecies' flourishing within the Canadian landscape.

At the same time, I came to recognize the parallels between the intergenerational wisdoms of Vietnamese families new to Canada and Indigenous ways of knowing in Canada. Storytelling, for example, a tradition in my research participants' extended family across many generations back home in Vietnam, is remarkably resonant with the oral tradition of Cree, Saulteaux and Assiniboine Indigenous peoples. One of my research committee members and also an Indigenous scholar, Peltier (2016) strengthens my recognition with her reflection that oral tradition serves as a conduit for connecting herself with Indigenous knowledge and embodying the true essence of being as an Anishinaabe-kwe. Her knowledge invites me to dig more deeply on the significance of acknowledging one's lineage and homeland as integral aspects of identity, dignity, belonging, and transcendence. I contemplate the potential for synergy between Vietnamese and Canadian Indigenous ways of knowing, being, and living, envisioning how this convergence may nurture the growth and resilience of both Vietnamese newcomer children and Indigenous children and youth in navigating intercultural and multilingual environments, while also fostering the sustainability of their newfound home.

#### ***A teacher educator working with pre-service teachers in Canada***

*Things inhabit the forest that speak to the children about another kind of time - our waste futures are foretold by discarded plastic bags and cleaning rags, glass jars, an old plastic toy truck and many cigarette butts...The toxicity to many life forms of the waste we encounter becomes a topic of conversation among the children...In collaboration with children, we curate the exhibit 'A Walk in the Park'. The exhibit invites us to stay with the trouble of waste. (Pacini-Ketchabaw & Kummen, 2016, p.435)*

This excerpt is an illustration of my and my co-instructor's honouring toward the spirit of multispecies' flourishing - the right to flourish of multispecies (Khan, 2020). This narrative happened when I brought to our course of mathematics education a teaching session called "Making Kin with Vietnamese *Bánh Chưng*". I shared with the pre-service teachers:

Since childhood, I've been taught by my Grandma and mother that precise measurements of rice, pork, and beans are crucial for success in this endeavor. This year, I intend to prepare 25 cakes for family and friends in Canada. To do so, I've purchased 15 kilograms of Vietnamese glutinous rice, 5 kilograms of Thai mung beans, and 5 kilograms of Canadian pork, along with 15 packs of Vietnamese Dong leaves and Filipino banana leaves.

I also told them one noticeable thing is that I did not use any scales or rulers for measuring the amount of ingredients. Instead, I used a pottery eating bowl from Vietnam to calculate the approximately 200 grams of rice and half a bowl for a 100 grams of steamed bean ball. I employed my arm length to estimate the 80 cm cords used for tying the cakes.

To the surprise of the pre-service teachers, I brought a *Bánh Chưng* to the class for illustration and proceeded to explain the wrapping process in detail:

We began by placing banana leaves inside the square wooden frame. Next, we layered glutinous rice at the bottom, followed by a steamed mung bean ball, pork (concentrated in the center area), another mung bean ball layer, and finally, another layer of rice. The cake

was then carefully wrapped and tied with cords to maintain its square shape. Wrapping the cakes demanded significant patience and attention to detail.

Eventually, my teaching narrative came to the point of finishing making our *Bánh Chưng*. After boiling them, I devote our cakes to our ancestors first. Sacredly, *Bánh Chưng* helped consolidate the kinship with our ancestors and people around our everyday life-making. Culturally, *Bánh Chưng* played an important role in the flourishing of kinship, from family kin to lineage kin, and country kin.

After my teaching was over, the students shared many insightful thoughts about their takeaways and implications for future teaching inspired by the *Bánh Chưng* session. One student, for example, thought about connecting mathematics meaningfully and respectfully to the learners' cultural background:

Today, I realized that we can draw connections between situations that aren't inherently mathematical and the subject itself. While listening to Ms. Tran's presentation from a teacher's perspective, I recognized various aspects related to math, which in turn made the subject more relevant and significant. Even though she didn't directly teach about math concepts like symmetry, estimation, and measurement, she incorporated them seamlessly into her presentation. This experience was significant because it highlighted the potential to integrate different cultural perspectives into my future teaching, thus making lessons more inclusive and meaningful for all students (*shared on students' consent*).

As I attend more deeply to these two students' words, I come to understand that connecting mathematics with the students' cultures and their everyday practices are very meaningful to them as pre-service teachers. They even extend this connection to cultural flourishing and sense of belonging for their future learners:

Transferring language, traditions, values, religious practices, and even recreational activities plays a crucial role in nurturing cultural vitality and resilience. Establishing a sense of belonging, particularly in unfamiliar territories, holds utmost significance. Without this sense of belonging, the notion of "home" would cease to exist (*shared on student's consent*).

As I emerged myself deeply and closely to the pre-service teachers' responses, I was even strongly awakened by their farsighted insights into a possible connection between the learners' cultural flourishing and other subject, not only mathematics:

This Lunar New Year cake-making process offers an excellent opportunity for integrating mathematical concepts into Social Studies education. Crafting these cakes involves a diverse range of mathematical principles, emphasizing the application of mathematical understanding rather than mere rote memorization. This shift towards experiential learning not only enhances students' comprehension of mathematics but also aligns with a broader trend in education towards fostering deeper conceptual understanding (*shared on student's consent*).

Here in this sharing, this pre-service teacher showcased their imagination of integrating cultures to teaching and learning Social Studies. I started to see their holistic approach in shaping their evolving professional knowledge. As I sought to learn more about this, another pre-service teacher taught me about "thinking across disciplines":

Engaging in the process of making these cakes prompts various connections to me, for example: **Survival**- *of the culture*, food, water. **Dignity**- *sense of identity* related to accomplishment, the idea of **belonging** to a culture and family...Making a connection to *where all the materials are from*...Extend and **challenge** students to *see how math is present in their own lives. Thinking long term, timing, situation of practice, when will this be appropriate*, New ear? Or could you build it off traditions. You have to think *across discipline* (*bold & italics added, shared on student's consent*).

The introduction section must contain (in sequence) a general background, a previous literature study (state-of-the-art) as a basis for the statement of scientific novelty of the article, a statement of scientific novelty of science, and a research problem or hypothesis. At the end of the introduction, the purpose of the article should be clearly written. In the scientific article format, it is not permissible to review the literature as in the research report, but it is manifested in the form of a previous study review (state-of-the-art) to demonstrate the scientific novelty of the article.



## Results and Discussion

In retelling and reliving my lived stories, I employed the three dimensions of narrative inquiry including the temporality, sociality, and place to look for resonant threads that echo across my experiences. I braided these three resonant threads as my forward-looking thoughts and imaginings.

### *Shortening the Gap Between Theory and Practice in Teaching Environment and Sustainability*

As now I metaphorically travel backward to my days of training the K-12 teachers in Vietnam, I could better understand how that mountainous teacher felt when she came back from the training of applying technology into teaching but she eventually could not have done so; there was no technological facilities and support at her school in the mountainous area. I came to see a big gap between training for teachers and their implications in practice. It is obvious that program designers and trainers need to work together to better compose a holistic and long term curriculum for Environment and Sustainability teachers.

In addition, I have lingered again and again with my lived stories with my Vietnamese undergraduate students who were also pre-service teachers in the Environment Technology Education program. Although we had flipped classrooms in order to have more time for further practice of skills and knowledge toward environment technology during our course, that was not sufficient to best prepare for their career. I would like to have seen the experiential learning available in the course and more practical lessons done on the field of environment management sites/factory/company. I would also like to see more collaboration of the department with business factors, government organizations, and international NGOs to facilitate more practical learning on the field for pre-service teachers.

Talking about practical field lessons, my mind travels forward to my children's field trips to the city waste management site in Canada, in which they could see in real what they learn from the books, they could touch the materials and even take part in the steps of processing the waste. I am also reminded of my younger daughter's field trips with her classmates to the city botanical garden, where they learned so much about the ecosystem, and the roles of plants and animals. I could see in their eyes the interest to learn about the earth, and I believe that the messages of environment and sustainability are successfully delivered to these young learners, and they will carry those lessons with them when growing up. Here my mind turns to thinking of the current teaching and learning situation of environment and sustainability at Vietnamese K-12 classes. I wonder if there could be a reciprocal learning channel between the two countries in which Vietnamese students could obtain experiential learning from the Canadian education system, and Canadian students could discover cultural ways of learning from the Vietnamese education landscape.

### *Integrating Teaching Environment and Sustainability with Familial Curriculum Making*

At the onset of my doctoral research, I embarked on a journey to comprehend how the dynamics within my own family were influencing our familial curriculum development. Immersed in the lives of my research participants, my understanding of this significant curriculum expanded to encompass their traditional, cultural, historical, and intergenerational knowledge and practices interwoven with their daily existence. The depth of heritage found within Vietnamese families who are new to Canada, evident in their culinary traditions, attire, customs, etiquettes, cultural and religious beliefs, ancestral language, music, and familial insights, profoundly shaped their ways of understanding and being in the world, and vividly shaped their hope for who they are becoming in the future. Significantly, these families crafted their curriculum through various means, including storytelling, literature, culinary arts, artistic expression, strolls, and unstructured play, fostering meaningful interactions among children and family members spanning different generations.

As I became increasingly attuned to the abundant potential inherent in their familial curriculum development, I found resonance with Yosso's (2005) concept of "cultural wealth," which encompasses the talents, strengths, and experiences that students of diverse backgrounds bring to their educational environments. This notion led me to ponder how educators at both post-secondary institutions and K-12 settings, particularly those teaching about environment and sustainability, acknowledge and

appreciate the cultural wealth possessed by both newcomer and local students and families. How do they perceive this cultural wealth as a source of enrichment for the curriculum in academic and educational settings?

Additionally, I have learned from my narrative inquiry that intergenerational knowledge and wisdom is significant in familial curriculum making. The shared stories of grandparents and elders play a vital role in guiding the mothers' parenting and educational practices, at the same time as preserving their home language and culture. The insights and experiences offered by these elder generations inform the creation of meaningful learning experiences and cultural connections, fostering a sense of continuity and heritage within educational practices, both at home and in school settings.

In reflecting on my experiences as an educator new to this land, I am reminded of the significant roles played by Aboriginal Elders and their sacred teachings in the lives of Indigenous children and families across Canada, as well as within the realm of school curriculum development (Truth & Reconciliation Commission of Canada, 2015). I envision a future where post-secondary institutions and K-12 schools create opportunities for potential collaboration between Aboriginal and Vietnamese grandparents, Elders, Knowledge and Language Holders, and other grandparents representing diverse ethnicities in Canada. These collaborations could involve the sharing of their intergenerational cultural knowledge, practices, and perspectives related to environmental stewardship and sustainability.

I wonder if future projects within school curricula could be designed not only to incorporate the teachings of these knowledge keepers but also to consider the manner in which these teachings are shared. By prioritizing cultural sensitivity, respect, and reciprocity in the sharing of knowledge, educational institutions can foster meaningful and equitable partnerships that honor the diverse ways of knowing, being, and doing within Indigenous and immigrant communities alike. This approach not only enriches the educational experiences of students but also promotes cross-cultural understanding, collaboration, and the preservation of cultural heritage for future generations.

### *Sustaining the Flourishing of Teachers, Learners, and Multispecies*

During my transition of education landscapes from Vietnam to Canada, I am always struck in answering the question of "so what is the first and foremost vital and essential element in environment and sustainability education?" By living, telling, retelling, and reliving my lived stories in multiple educational, cultural, familial, historical, and linguistic contexts, I finally drew out that the center of ESE lays at flourishing of teachers, learners, and multispecies, who are cohabitating, co-creating, co-changing, and co-being impacted within and across their living and studying environments.

According to Segliman (2011), teachers flourish when they experience a sense of efficacy and well-being through establishment of a positive supportive community of colleagues; teachers "feel noticed, valued, challenged, and loved as they contribute their strength toward the complex challenges of developing young people toward the eventual goal of becoming flourishing members of our society" (p. 268). Combining these important characteristics of teachers' flourishing with my training sessions for in-service teachers in Vietnam, I wish to seek for rooting a sustainable relationship with them prior to the training. If I had spent time to better know who they are, how their teaching landscapes look, and their challenges when joining the project, I would have been able to work flexibly and support their knowledge implementation into practical teaching.

Revisiting my earlier teaching in the mathematics education course, the pre-service teachers are interested in sharing and being shared of their takeaways from lessons as well as their evolving professional knowledge towards teaching implementation. As earlier mentioned in the above stories, these pre-service teachers respect and honor seeing their future learners in a whole, which means they will not separate learners from their life-making contexts. Rather, these teachers will see their young learners as "the whole child" (Eaude, 2019, p. 63). Here I long to see the pre-service teachers cultivate their ways of teaching in love and care for the learners: their cultural and linguistic identities; their familial landscapes; and, their personal and historical living prior to their current education.

Finally, the teachers and learners' flourishing will not truly flourish if I do not count on multispecies' flourishing, which is mentioned by Tran et al. (2020) as "the right of multispecies to

flourish". I have taken from my teaching narratives in Canada, my children's experiences of learning about environment, my co-researchers' living in harmony with animals and plants in their surroundings, and my practicing of land acknowledgement when living on Treaty Six Territory that as human beings, we are interdependent, interconnected and undetachable with the multiple species. We should care for them the same way they care for us; we should protect them the way they protect us. Meaningfully, I dream that multispecies' flourishing will be better integrated into our K-12 and post-secondary education of environment and sustainability.

### Conclusion

My understanding of the integration of familial curriculum development, multispecies flourishing, and environment and sustainability education leads me to challenge the prevailing institutional narratives centered around subject-matter-oriented curriculum. I am intrigued by the prospect of merging teachers' awareness of students' lived experiences, familial curriculum development, and the flourishing of multispecies with educational inquiry alongside curriculum development. Additionally, I am eager to see a narrowing of the gap between theory and practice in professional development opportunities for teachers specializing in environment and sustainability education. I firmly believe that by addressing these aspects, we can strive to align teacher education in environment and sustainability with the ethos of "walking in a good way." This approach holds promise for cultivating more comprehensive and impactful educational practices that resonate with the diverse needs of students, the intricacies of familial dynamics, and the interconnectivity of ecological systems.

Inspired by the notion of reframing teachers, textbooks, and other elements of the classroom as "partners" rather than "resources," I envision a future characterized by increased collaboration and partnership among teachers, teacher educators, parents/grandparents, and community members. This shift towards viewing all stakeholders as active partners in the educational process has the potential to nurture flourishing for both teachers and students within their respective teaching and learning environments. Moreover, by extending this partnership to include multispecies, we acknowledge the interconnectedness of all living beings and even non-living entities within our educational settings. I believe that by fostering respectful and reciprocal relationships with the natural world, we can cultivate a sense of environmental stewardship and empathy among learners of all ages.

This evolving perspective brings to mind the inspiring journey of individuals who have reclaimed their heritage and connections to nature. Their resilience and determination inspire me to search for echoes of their experiences in the narratives of my students, children, research participants, and other learners who are shaping their lives in relation to their sustainable environment. I envision a future where they can proudly say, "when I learn Environment and Sustainability".

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