Activating Teacher Candidates in Community-Wide Environmental Education: The Pathway to Stewardship and Kinship Project

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Abstract

To create a truly regenerative future, simply reforming teacher education to prioritize Environmental and Sustainability Education (ESE) will not create the wide-ranging changes in the education system needed to meet the environmental challenges facing humanity. A holistic strategy involving community collaboration with teacher education stands a better chance of achieving this. This article provides an overview of a community-wide project to foster environmental stewardship in children from birth to Grade 12. This collective impact model approach will create a climate that supports teacher candidates in their efforts to improve their practice in ESE. We argue that teacher candidates who learn to collaborate with their community as a source of expertise and encouragement are more likely to create positive and lasting change in ESE.

Résumé

Pour créer un avenir véritablement régénérateur, il ne suffit pas de mettre au premier plan l'éducation à l'environnement et au développement durable dans la formation des enseignants; cette seule réforme n'entraînera pas, dans le système d'éducation, de changements d'une ampleur suffisante pour relever les défis environnementaux qui attendent l'humanité. L'intégration de la collaboration communautaire à la formation des enseignants constitue une stratégie holistique ayant plus de chance de porter fruit. Le présent article trace les grandes lignes d'un projet communautaire conçu pour encourager la responsabilité écologique chez les enfants, de la naissance à la 12e année. Cette approche, fondée sur un modèle d'effet collectif, permettra d'aménager un climat propice pour soutenir les futurs enseignants afin de les aider à enrichir leur pratique sur les sujets touchant l'environnement et le développement durable. Les futurs enseignants qui apprennent à recourir à leur communauté comme source d'encouragement et d'expertise sont plus susceptibles de provoquer des changements positifs et viables dans le domaine de l'environnement et du développement durable.

Keywords: community, stewardship, teacher education, collaboration, partnership

Mots-clés : communauté, responsabilité écologique, formation des enseignants, collaboration, partenariat

Introduction

The urgent need to revise our relationship with the planet, in response to the multiple and growing threats to our life support system, should inform and influence every aspect of human activity. The slow speed at which this is happening in most sectors is frustrating and perilous. As E. O. Wilson (1993) wrote more than a quarter of a century ago: "What humanity is doing now in a single lifetime will impoverish our descendants for all time to come" (p. 37). Almost 30 years ago, Orr observed that education has been part of the problem and that it now needs to become part of the solution (Orr, 1991), later remarking, "We should worry a good bit less about whether our progeny will be able to compete as a 'world-class work force' and a great deal more about whether they know how to live sustainably on the earth" (Orr, 1993, p. 433). Those of us involved in education need to do our utmost to ensure priorities in this sector change to reflect the scale of the challenge. Teacher educators have a key role to play in transforming education as they prepare the next generation of teachers (Hopkins & McKeown 2005; McKeown & Hopkins, 2007; McKeown & Nolet, 2013). This was recognized by UNESCO (2014) when they envisioned teacher education in which:

> ESD is integrated into pre-service and in-service education and training for early childhood, primary and secondary school teachers, as well as teachers and facilitators in non-formal and informal education. This may start with the inclusion of ESD in specific subject areas but will ultimately lead to the integration of ESD as a cross-cutting issue. It includes ESD training for head teachers. (p. 35)

We agree with Lowenstein, Martusewicz, and Voelker (2010) that we are only likely to succeed in this endeavour with the help of the wider community. Involving the community will promote more integrated curriculum links to real-world experiences and blur the boundaries between formal, non-formal, and informal learning contexts (Sauvé, 2017, Summers, Childs, & Corney, 2005; Tal, 2004). It is equally important that the school system becomes more receptive to changes in practice (Astbury, Huddart, & Theoret, 2009; Gadotti, 2010; Hopkins, Damlamian, & Lopez Ospina, 1996; Robertson & Krugly-Smolska, 1997; Smith, 2007; Stevenson, 2007).

Teacher candidates represent one of our best hopes for a sustainable future (Alsop, Dippo, & Zandvliet, 2007; Hart, 2010; Nolet, 2009). New entrants to the teaching profession are often committed, enthusiastic practitioners who are determined to make positive contributions to the lives of young people and ultimately to the life of the community (Campigotto & Barrett, 2017). Neophyte teachers are thus a conduit for change in the education system; they bring novel approaches, fresh perspectives, and new priorities into their classrooms and the school system. Relatedly, teacher educators are well-positioned to encourage progressive and reflective practices over a wide range of educational praxis, including in Environmental and Sustainability Education (ESE) (Fawcett, Bell, &

Russell, 2002; Hopkins et al., 1996). Specifically, they can encourage, support, and nurture teacher candidates who may be willing to disrupt the status quo by refocussing education to prioritize ESE (Dippo, 2013). Yet, while teacher educators are well-positioned to do this in theory, in actuality, encouraging a change of practice in schooling through this route can be extremely challenging (Chubbuck, Clift, Allard, & Quinlan, 2001; Ferreira, Ryan, & Tilbury, 2007; Ormond et al., 2014) This is, partly, because for their teacher candidates to incorporate an ESE approach into their teaching, they need to have the confidence and knowledge base to do so (Brashier & Norris, 2008). It cannot be assumed this is the case because they may personally lack subject knowledge and in many pre-service education programs, they receive little, if any, guidance in ESE (Blatt & Patrick, 2014; Inwood & Jagger, 2014; Karrow, DiGiuseppe, Elliott, Fazio, & Inwood, 2016; Puk & Stibbards, 2010).

In the face of this lack of guidance, there have been many calls to reform teacher education to give greater priority to ESE (Ashmann & Franzen, 2015; Berger, Gerum, & Moon, 2015; Bowers, 2012; Dippo, 2013; Falkenberg & Babiuk, 2014; Ferreira et al., 2007; Howard, 2012; Karrow et al., 2016; Nolet, 2009; Pickard, 2007; Sims & Falkenberg, 2013). Formal calls for such reforms have come from bodies such as UNESCO (Hopkins & McKeown, 2005) and the Council of Ministers of Education, Canada (2012). Evidence indicates that progress in this endeavour is slow and provisions patchy (Falkenberg & Babiuk, 2014; Ormond et al., 2014; Pedretti, Nazir, Tan, Bellomo, & Ayyavoo, 2012). Johnston (2009) examines the difficulty teacher candidates encounter when trying to do environmental education because it does not fit neatly into the curricular silos they feel obliged to respect, and Ormond et al. (2014) describe the problems and resistance that their teacher candidates experienced when trying to engage in EE/ESD work during placements.

Some progress has been made, however. Examples of responses to calls for reform include the following: Berger et al. (2015) describe a course that educates teacher candidates about climate change; DiGiuseppe et al. (2016) explain the curricular and extracurricular developments made in teacher education programs at three institutions in Ontario; Elliott, Bell, and Harding (2018) share their experiences developing a course that integrates ESE and Indigenous education. No Canada-wide review of the provision of ESE content in teacher education has been undertaken since Lin's study (2002), however, so there is no comprehensive picture of current provision.

Although the Ontario Ministry of Education requires all teachers, at all grades and in every curriculum subject, to infuse environmental education into their teaching (Ontario Ministry of Education, 2009), there is inertia resulting from norms of practice handed down from one generation of teachers to the next. Limitations imposed by managerial practices, structures, and routines, an emphasis on other priorities, or lack of leadership can create an environment in a classroom, school, or school board where innovative ESE practice is not well supported or is even actively discouraged (Greenwood, 2010). Thus,

teacher candidates, as well as newly certified teachers, may find themselves in a school environment where ESE is not prioritized. They may feel deterred from enacting approaches they have been introduced to in their pre-service course and which they themselves would choose to adopt (Brown, Bay-Borelli, & Scott, 2015; Chubbuck et al., 2001; He & Cooper, 2011; Saka, Southerland, & Brooks, 2009; Strom, Dailey, & Mills, 2018). When new teachers do try to make changes, lesson plans may not be approved, or their intention to do something outside of the norm may be thwarted either by a lack of support from their school-based mentor (Associate Teacher) or by the difficulties navigating bureaucratic hurdles, such as those encountered when attempting to arrange an off-site class visit (He & Cooper, 2011). Regardless of their reticence to innovate, it is clear that many new teachers adopt the practices found in a school rather than implementing different approaches they have been exposed to in their pre-service program (Allen, 2009; Brown et al. 2015; Chubbuck et al., 2001).

To maximize the impact that new teachers can have by bringing an ESE-focus to their work in schools, a number of elements may need to exist more or less simultaneously. Initially teacher candidates need an introduction to ESE pedagogical ideas during their pre-service program. Such program content needs to be for all teacher candidates, irrespective of the grades of students they intend to work with (Karrow et al., 2016). The introduction should include concrete examples of how to infuse ESE into their work and its potential to enrich the curriculum. However, this approach will achieve limited success if teacher candidates encounter resistance or ambivalence from associate teachers when they take up their school placements. Thus, it is important to influence the environment that teacher candidates encounter in schools by devising and implementing a strategy for promoting ESE among existing members of the teaching profession. This can involve piloting curriculum innovations and providing professional development opportunities for teachers in schools. If experienced teachers can be helped to see the potential benefits of prioritizing ESE as a way to enrich the school experience and increase its relevance to students (Hart, 2010), they are more likely to feel encouraged to do so, and will ultimately be better positioned to mentor teacher candidates in this work. The final piece in the jigsaw is the involvement of the wider community in ESE work so teachers and schools do not have to bear the burden alone of preparing the next generation to be responsible stewards of the environment. Support from organizations and individuals in the local community will make the work of schools easier, more effective, and more rewarding. If students' families can also be encouraged to participate, as seen in the Ensemble Prévenons l'Obésité Des Enfants (EPODE) approach to tackling childhood obesity (Borys et al., 2012), the benefits should be greater and the learning further disseminated.

For community involvement in education to be effective, the relationship between school and community needs to be strong. Yet while schools exist to serve a community, they often function somewhat in isolation from it. Delegating most of the education of children to professional educators has become

the norm in most societies, but there has always been a degree of disquiet with this arrangement among some educators who make efforts to reach out from the school sector to build relationships with local communities. The most visible example of this in North America is, perhaps, the use of co-op placements for high school students, the main purpose of which may be the preparation of young people for a life of work. There are many other examples of ways in which communities can become involved with schools, including sports-based collaborations; art and drama projects; young business initiatives; and visits from First Nations Elders. The time is ripe to build school–community links to help nurture young people who care for and about the environment and who will help to create a sustainable future (Flowers & Chodkiewicz, 2009; Lynch, Eiulam, Fluker, & Augar, 2017). Such links have the potential to stimulate a re-evaluation of the purpose of education and thus to ensure that teacher candidates encounter a nurturing environment in which to develop ESE praxis.

As regards re-evaluating education, the UNESCO Global Action Plan (2014) has set two objectives:

> Reorienting education and learning so that everyone has the opportunity to acquire the knowledge, skills, values and attitudes that empower them to contribute to a sustainable future.
>
> Strengthening education and learning in all agendas, programmes and activities that promote sustainable development. (p. 14)

The part that communities can play in achieving these objectives is acknowledged in UNESCO's program of recognizing Regional Education for Sustainable Education Networks (UNESCO, n.d.) and the Global Action Plan's Priority Action Area, "Transforming learning and training": "Actions in this Priority Action Area include developing a vision and a plan to implement ESD in the dedicated learning and training environment, in partnership with the broader community" (UNESCO, 2014, p.18). It follows that successful ESE is often conceptualized as one that prepares young people to become active citizens within their community (e.g., Aguilar, 2018; Chawla & Cushing, 2007; Zachariou & Symeou, 2009), so the direct involvement of the community in ESE is entirely compatible with the desired outcome. We argue that only with community involvement can ESE be entirely successful and will now examine a project that has attempted to do this.

This article reports on a project in one community in Ontario, Canada, that uses the collective impact model (Kania & Kramer, 2011) to implement the UNESCO vision of an educational experience that will provide all young people with key opportunities that nurture the attitudes and the skills for responsible stewardship of the environment. This approach involves multiple stakeholder organizations in a community working to a common agenda, using a shared measurement system to assess outcomes, engaging in mutually reinforcing activities, maintaining regular communication, and designating a coordinating

"backbone support organization" (Kania & Kramer, 2011, p.40). As this project rolls out, we hope teacher candidates on placements in schools will encounter practices and philosophies that make them feel secure in their efforts to prioritize ESE in their teaching. The project aligns with the key characteristics of environmental education that successfully engages communities, published by the North American Association for Environmental Education (2017): it puts the community at the heart of environmental education; it is based on sound environmental education principles; it works with collaborative and inclusive relationships, partnerships and coalitions; it supports capacity building for ongoing civic engagement in community life; and it makes a long term investment in change.

The Pathway to Stewardship and Kinship Project

The Community

The Pathway to Stewardship and Kinship is a collaboration between educators (including teacher educators), health and environmental sectors, parents, and a broad spectrum of community groups. It is a framework that aims to inspire the whole community of Peterborough to identify opportunities to collaborate at every age and stage of a child's development (birth to Grade 12), with the explicit aim of raising environmentally-engaged and community-oriented citizens.

The Greater Peterborough Area includes the City of Peterborough (population 80,000) and the largely rural County of Peterborough (population 120,000). The region is 90 kilometres from the Greater Toronto Area conurbation in the Canadian province of Ontario. It is part of the traditional territory of the Michi Saagiig Anishnaabeg people on land recognized by the Williams Treaty. In 2016, the region was designated by UNESCO as a Regional Centre of Expertise on Education for Sustainable Development. This recognized the many organizations in the region who are working to support the area's transition to sustainable practices. Among these are the local First Nations communities (Curve Lake, Hiawatha, Alderville, Scugog), district school boards (Kawartha Pine Ridge, Peterborough Victoria Northumberland Clarington, Trillium Lakelands), Trent University, Fleming College, Peterborough Public Health, Otonabee Conservation Authority, community organizations promoting sustainable practice (GreenUP, For Our Grandchildren, Sustainable Peterborough), and an outdoor and environmental education centre (Camp Kawartha). In the early stages of the project that became the Pathway to Stewardship and Kinship, a framework was envisaged that would consolidate and focus the resources of these organizations, in collaboration with local government administrations, to help to ensure young people growing up in the region receive consistent and coordinated opportunities to develop meaningful and lifelong relationships with their natural and human communities. This will lay the foundation for fostering citizens who are motivated to adopt and promote sustainable lifestyles.

The Project

Since 2015, a working group of educators from a variety of fields, including teacher education, has developed a framework to promote collaboration between formal education and the community to deliver comprehensive environmental, health, and sustainability programming across sectors. The working group recognized that there are ESE initiatives being delivered by several local organizations, but that there was little connectivity between them. This meant programs tended to operate in isolation from each other, and awareness of them in the formal education sector was patchy. For example, experienced teachers, as well as new teachers and teacher candidates, would not necessarily be aware of the ESE opportunities on offer from local community organizations. The working group responded by developing an overarching framework to guide the strategic delivery of ESE experiences through each stage of a child's development. In future the framework will support the efforts of the school system in ESE work by promoting collaboration with the local community. It will thereby nurture an environment in which teacher candidates will feel that the prioritization of ESE is normal, anticipated, and supported.

As a first step to devising a framework, a committee consisting of educators, teacher educators, Indigenous leaders, public health officials, and conservationists began to research best practices in ESE, healthy childhood development, and stewardship education. Based on Tanner's (1980) and Chawla's models (1998) of environmental sensitivity research, committee members interviewed 80 cross-sectoral community leaders, each identified for their professed interest in the environment. Semi-structured interviews were conducted with the aim of determining if memorable childhood experiences had influenced interviewees' care about and advocacy for the natural world, and, if so, what the nature of those experiences were, and at what age they occurred. The interview questions probed how people came to develop an ethic of care and concern for the environment. Each interviewee answered a set of standard questions exploring both their childhood experiences in the natural world and their view of how ESE ought to occur throughout the stages of a young person's life. Interviews lasted between 45 and 90 minutes. Interview responses were examined for similarities, and the frequency of responses were graphed to illustrate trends based on age (early years, middle years, teen years). Findings from the interviews were compared with the results of meta-research on studies examining similar factors (e.g., Ardoin, 2006; Gruenewald 2003; Chawla, 2007a, 2007b, 2009, 2015; Louv, 2005; Palmer, Suggate, Rowbottom, & Hart, 1999; Wilson, 2008; Kelsey, 2016) and were used to identify principles and themes that could provide a feasible framework for the community. Involvement of community leaders in the interviews served a second purpose of engaging influential people in developing the plans, and a third of establishing a tone of respectful collaboration and shared ownership in the project—essential factors in community development.

The term "stewardship" was discussed at length, and the committee came to realize that there are philosophical challenges associated with it. In particular, some of the First Nations educators consulted felt that stewardship implied entitlement or dominion over the earth. Instead, they suggested the term "kinship," believing it to be more appropriate as it exemplifies the idea of "Nwikiikaanigana" (an Anishinaabe word with the approximate meaning of "all my relations")—a term that captures the idea that all of life is part of one, interconnected family. The committee chose to incorporate this concept in the project, thus naming it "The Pathway to Stewardship and Kinship," and further refining and defining the intended meaning of the term stewardship as "a sense of connection to, caring about and responsibility for each other and the natural world" (Dueck & Rodenburg, 2017, p.5). In this sense, stewardship involves taking personal action to enhance the well-being of both human and natural communities. Education for stewardship and kinship involves providing young people with appropriate tools and experiences at each age to help them come to know, respect, protect, and love (as we would for any relation) the life systems that nurture us all.

The Framework's Principles

The Pathway to Stewardship and Kinship framework is structured around clearly articulated principles and themes that emerged from literature-based research and were validated by the interview responses from community members. They can be summarized as follows: enriching and deepening the relationship between young people and the natural world from an early age; providing access to mentors who model respect and awe for the natural world; developing age-appropriate action skills to protect and enhance the local environment through hands-on involvement in meaningful projects; recognizing the interdependency of humans and the natural world; and providing leadership opportunities for older students, to foster empowerment, agency, and hope.

The principles and themes for each age group are matched with the developmental needs and abilities of children and youth as they grow from birth to adulthood (Table 1) to identify "Landmarks" (or key experiences). Foundational to stewardship education is the notion that every young person should have the opportunity to attain each of the Landmarks (Dueck & Rodenburg, 2017). The Pathway project also gives details and contact information for community-based resources available to help support the realization of each Landmark experience. There is a total of 30 Landmarks in the framework, each simply expressed. They are linked to the Ontario curriculum and can be met at school, home, or in the broader community. Each two-year age span focuses on three or four Landmarks, such as "meeting your plant and animal neighbours" in Grades 1 and 2 and "planning a community action project" in Grades 7 and 8.

Ages 3 to 6	
Core Stewardship Principle	**Stewardship Opportunity**
Deepen relationships and understanding.	Choose an outdoor place to explore, play in, and visit regularly.
Reinforce and expand the developing sense of empathy.	Plant, tend, and harvest something that can be eaten.
Cultivate sensory awareness of nearby nature.	Identify natural sounds and smells. Explore micro-environments.
Ages 7 to 12	
Develop outdoor skills.	Try non-motorized activities, such as hiking, survival skills, orienteering, birding, astronomy.
Plan and implement a simple community-based project.	Create a small naturalized area. Manage a school composting project. Plan a stream cleanup.
Ages 13 and older	
Deepen understanding of how modern lifestyles affect the environment.	Calculate ecological footprint. Research how your country's lifestyle consumes global resources, and how this compares with other countries.
Expand abilities to understand and empathize while responding to social/environmental issues.	Find a local hero who is working to protect the environment and arrange for them to speak at your school. Help with a community tree-planting project.

Table 1. Examples of themes from the Pathway to Stewardship and Kinship.

Piloting the Pathway

In preparation for an anticipated community-wide rollout, four elementary schools and several pre-schools were recruited to pilot-test the Pathway project during the 2018–19 school year. Participating classes received a start-up package of support materials, including colourful posters to motivate and track activities, an extensive list of community support opportunities, and a small budget to pay for materials, experiences, and program support. Each class received start-up questionnaires for teachers and parents to assess attitudes toward ESE, gauge current ESE-related behaviours, and identify barriers to engagement. Each age grouping (six in total) received a unique questionnaire with questions related to the Landmarks for that age. Questionnaires were completed by participating educators and parents of participating children. Follow-up questionnaires at the end of the pilot phase assessed changes in attitudes and behaviours, and gauged the effectiveness of the supports.

In addition to the personalized support that each teacher in the pilot could select, collective resources included access to a project website, guidebook, newsletters, and hands-on workshops for sharing skills and ideas. Examples of successful community links utilized included:

1. A kindergarten class supported on walks to a nearby natural area by enthusiastic members of a local naturalists' club;
2. A community-supported zoo loaning small "foster animals" to primary classes for students to care for and develop positive relationships with;
3. A university ornithology professor introducing junior students to methods of monitoring bird populations so students can participate in "Citizen Science";
4. An outdoor equipment company providing a discount to a school for the purchase of two class sets of snowshoes—one for older students, one for primary students—so student "buddies" could learn to snowshoe together;
5. A popular outdoor educator working with teachers and their classes to explore the many opportunities to use the schoolyard for adventure, discovery, and inter-disciplinary learning.

Teachers responded positively. They recognized the physical and mental health benefits of outdoor activity, and they appreciated community support not only in bringing new experiences to their classes but also in building collective momentum toward an important and positive community goal.

Teacher Candidates' Involvement

Teacher candidates at Trent University have been introduced to the framework at several points during its development. This has occurred in classes that are part of a core course taken by all teacher candidates: Indigenous Education and Environmental and Sustainability Education (for details see Elliott et al., 2018) and during extra-curricular workshops as part of an Eco-Mentor program (Bell, Elliott, Rodenburg, & Young, 2013). The Eco-Mentor program has run since 2011 and is an example of an early ESE collaboration between teacher education and the local community; it is run by education faculty and staff from an outdoor education centre and features guest presentations from a wide range of community members involved in ESE (DiGiuseppe et al., 2016). As the Pathway project developed, teacher candidates were asked to evaluate and comment on the appropriateness of the principles and Landmarks and to reflect on how these related to their own experiences growing up. They were asked to envisage how it might help to bring a greater focus to ESE work in their placement schools. Once in its final form, they were asked to evaluate the framework's usefulness as a support for new entrants to the profession. The overwhelming response was that it would be of great value.

Bearing in mind that all teacher candidates take this course and are made aware of the provincial requirement that all teachers of all grades are expected to infuse environmental education into their work, it is not surprising that they would deem a carefully devised framework with specific Landmarks to be a valuable resource. The links to community-based resources further reassure them that there are people in the wider community well-placed to assist them in this work. As the pilot scheme began, some teacher candidates found themselves

working alongside teachers involved in the pilot, and so gained first-hand experience of its potential benefits.

This kind of experience will increase as the pilot expands to involve more schools. At least one teacher involved in the pilot scheme is also a part-time instructor in the teacher education program, so this will further enhance the links between the framework and teacher candidates. The hope is that once a school becomes involved in the Pathway project, teachers, parents, students, and the wider community will come to recognize the benefits of a collaborative approach to environmental education.

The Pathways document will be shared with teacher candidates every year, and they will be encouraged to make use of it during practica and in their future careers. The nature of the framework lends itself to use by an individual teacher whether or not they find themselves in a school that is utilizing it. Also, some teacher candidates will work directly with community partners during the alternative setting placement that is a core component of the program, so with the framework now in place for guidance, it is hoped that this will further strengthen the collaboration between the community and the program.

Conclusion

As is often the case with collective impact community projects, word-of-mouth has been the most effective way of communicating about and promoting the project. Numerous schools have adopted the framework on their own initiative, even without the financial support available to schools formally involved. They see links between the Pathway project and emerging educational priorities in child-centred learning, self-regulation, community partnerships, and sustainability. Although the project is being recognized as valuable among many teachers and schools, collaborators continue to work on it to develop effective community-support of the project. A priority is to build teachers' confidence in their use of outdoor and community-based learning experiences. This will be done using Professional Activity days and in-class mentoring, as well as by sharing ideas and success stories via traditional and social media.

Central to the philosophy of the project is that teachers should not be doing this work alone. As well as community organizations, the involvement of parents, guardians, grandparents, and other adults in the lives of young people to nurture a generation of stewards is crucial. To improve awareness and enhance continuity with the Landmark experiences for young people when they are at home and in informal settings, future plans include developing adult-support networks.

Collaboration on the project with teachers and other adults will be reviewed and then the framework refined and further developed. This will include responding to feedback from the questionnaire surveys. Over 700 questionnaire responses have been submitted, to date, and are being analyzed. The findings

will help to inform targets for adults wishing to stimulate changes in the behaviour of young people. Targets such as increasing young people's outdoor time; levels of physical activity; environmental awareness; and community involvement. At the end of the pilot phase, focus groups involving teachers, other adults, and students will also help to determine the effectiveness of the strategy, identify future priorities, and provide guidance on future adjustments and improvements.

The involvement of teacher education has been central to the project from the outset. This model for promoting ESE has gained interest from our teacher candidates who show a ready willingness to engage with it. Among teacher candidates who are already parents themselves, there has been an immediate recognition that the framework can help to inform not only their work as teachers, but also as parents. Plans are underway to embed the framework more securely in the teacher education program to maximize teacher candidates' understanding of it and to capitalize on the insights it provides to aspects of child development. With ongoing support from the local school boards, we envisage a time when all schools in the region will adopt the Pathway. With the achievement of this goal, it will be possible to guarantee that all teacher candidates on practicum placements will be learning in an environment where the framework is used. They will then be able to gain first-hand experience of using it with their students.

While shifting political tides in Ontario herald uncertainties for future funding support, there is an undeniable foundation of interest and commitment within the community to keep moving forward with the project. We hope that our stakeholder organizations will be in a position to entrench the Pathway Landmarks into their ongoing budgets and programming. To our knowledge, this is one of the first systematic, community-based and comprehensive plans involving teacher education to foster a culture of environmental stewardship in mainstream, contemporary Canadian society. We hope that its dynamic, multi-disciplinary nature, grounded in research and community wisdom, with a focus on the public school system as a critical hub for transformative community development, will serve as a model that may be adapted for use by other communities.

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