

The Living School: The Emergence of a Transformative Sustainability Education Paradigm

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Abstract

Education, as it was initially organized in the late nineteenth and early twentieth centuries, was designed to meet very different challenges than those we face today. There have been many efforts to shift education to address new contexts that result from societal transformation. There have also been international initiatives in response to interconnected global issues that impact ecological systems, the viability of economies and communities and the health and well-being of people. This article offers a perspective that aligns with Hopkins' (2013) view that the repurposing of education must reflect a vision that contributes to *well-being for all*—individually, collectively and for the 'other than human' life on our planet. As part of an emerging transformative sustainability education paradigm, this article offers a philosophical framework and points to certain theoretical and practical dimensions for what the authors are framing as the Living School concept.

Keywords: Living school, living campus, education for sustainable development, transformative pedagogy, health and well-being

INTRODUCTION

At this point in the human story, it is difficult to name greater challenges facing humanity than finding a means to live sustainably and, in doing so, safeguard the future health and well-being of the planet, our societies and our children.

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Education, as it was initially envisioned and organized in the late nineteenth and early twentieth centuries, was designed to meet very different challenges. The initial purposes of education, namely, to promote economic growth and competitiveness and to provide a literate workforce for the expansion of industry and corporations, perhaps relevant to some other time, are out of step with the realities of life in the twenty-first century.

There have been many efforts to shift education to address the myriad new contexts that result from historical and societal transformation. Sometimes referred to as 'adjectival education', many movements and strategies over the years were designed to meet specific goals not being addressed by mainstream educational programming. However, after decades of expanding education opportunities, growing government expenditures in the developed world, the appearance of peace education, civic education, global education, environmental education, character education and over 100 such niche programmes (Hopkins, 2013), we still face daily evidence that human action is affecting the health of our environment, our economies, and our societies in ways that are complex, unprecedented and unsustainable. The economist E.F. Schumacher said,

the volume of education...continues to increase, yet so do pollution, exhaustion of resources, and the dangers of ecological catastrophe. If still more education is to save us, it would have to be education of a different kind; an education that takes us into the depth of things. (cited in Sterling, 2001, p. 21)

There have also been international initiatives in response to interconnected global issues that impact ecological systems, the viability of economies and communities and the health and well-being of people. Most notably, Education for Sustainable Development (ESD) and the Decade of Education for Sustainable Development 2005–2014 play an increasingly important role to reorient education systems worldwide for the skills, knowledge, values and beliefs necessary for the creation of sustainable societies. In Canada, the UK, Europe and in many nations of the Global South, education for sustainability is recognized in policy documents and national education frameworks (Hopkins, 2013; United Nations Economic Commission for Europe Steering Committee on Education for Sustainable Development [UNECE], 2011; UNESCO, 2005). Nevertheless, in education journals, books, blogs and conferences, there are active debates about education reform: how to transform education to meet twenty-first century learning needs, questioning the role of education and how to scale up the best practices of education leaders. However, this public, professional and academic reform discourse often overlooks sustainability education (O'Brien, 2013). Traditional education is criticized for being outdated, stuck in patterns that were suitable for the industrial age (Hargreaves & Shirley, 2012; Robinson, 2011; Robinson & Aronica, 2009), too slow to embrace the digital literacy that is vital for student success (C21 Canada, 2012; Khan, 2012) or stifling creativity and innovation (Robinson, 2011; Wagner, 2012). While there is not a one-size-fits-all package that will work for every country and school district, we are unlikely to gain traction in a healthier, more sustainable direction with the current multitude of visions for educational reform. Furthermore, many of these visions have not incorporated

sustainability and essentially aim to ensure that students are prepared for success in a fast changing world—presumably contributing to outdated and unsustainable economic activity. Unless sustainability is fully integrated through a repurposing of education (Hopkins, 2013), it could be argued that even the apparently most forward thinking visions will not adequately meet the needs of citizens in an era where climate change adaptation and heightened threats to food and water security are the rapidly emerging reality of our times (IPCC, 2014).

This article offers a perspective that aligns with Hopkins' (2013) view that the repurposing of education must reflect a vision that contributes to *well-being for all*—individually, collectively and for the 'other than human' life on our planet. Our aim is to demonstrate that an effective approach for realizing a vision for education that contributes to the well-being for all is through a coalescing of the best recommendations for transforming education through sustainability education, twenty-first century learning competencies, Health Promoting Schools (HPS), entrepreneurship education, innovation, connecting with nature and social and emotional learning, with new pedagogies for learning, leading to the path-breaking concept of Living Schools. As part of an emerging transformative sustainability education paradigm, this article offers a philosophical framework and points to certain theoretical and practical dimensions of the Living Schools concept.

TWENTY-FIRST CENTURY LEARNING AND SUSTAINABILITY

Proponents of twenty-first century learning competencies or skills have offered views for modernizing education (Action Canada, 2013; C21 Canada, 2012; P21, 2011) with progressive recommendations. There would likely be broad endorsement for the Action Canada statement that 'the objective of 21st century learning is to build capacity in areas that promote a resilient society capable of effectively adapting to rapid change' (p. 3). However, if the aim is to maintain Canada's world ranking as a country with a 'highly-skilled labour force and competitive industries' (p. 3) with no reference to sustainability, then we may become more effective educators of a generation that perpetuates unsustainable consumption—reflecting the UNESCO (2005) query about whether education is part of the problem or part of the solution for sustainable societies. There is similar promise and potential drawbacks to the promotion of entrepreneurship education (European Union, 2013; Zhao, 2012) and innovation (Wagner, 2012). For instance, it is not advisable to nurture an entrepreneurial spirit in the absence of sustainability education. Additionally, in order for innovation, creativity and entrepreneurship to realize their fullest potential for education transformation and student success, we need to shrug off the national silo notion (a view that perpetuates the outdated industrial orientation to schooling) that primarily seeks innovation and creativity to establish an economic competitive advantage of one nation over another. Furthermore, considering the widespread severity of physical and mental health challenges, a comprehensive vision for education must also have the capacity to incorporate perspectives from HPS (Stewart-Brown, 2006), positive school health (Morrison & Peterson, 2010, 2013) as well as the essential contributions from experts in social and emotional

learning (Collaborative for Academic, Social, and Emotional Learning [CASEL], 2013) and connecting with nature (Louv, 2012).

Sustainability education, often referred to as ESD, could readily encompass the diverse visions noted above. Interpreting sustainability education to meet the unique cultural and local needs of communities is happening; however, much work is required to repurpose education to meet learning needs of the twenty-first century that calls for a very different vision for education than ones previously held. David Orr (1992) succinctly outlines such a vision of education. He writes,

First, it aims toward the establishment of a community of life that includes future generations, male and female, rich and poor, and the natural world. The essence of community is recognition, indeed celebration, of interdependence between all parts. Its indicators are the requisites of sustainability, peace, harmony and justice and participation. (p. 138)

Education for sustainability is a vision of education that is inclusive, encompassing, expansive, generous, life affirming and reaches towards a place of deep transformation. Despite the pressing need for education reform that embraces sustainability, ESD has not gained sufficient traction in teacher education (Hopkins, 2013; Swayze et al., 2012) nor in our schools. As noted above, many discussions about education reform overlook sustainability in recommendations for shaping the future of education. It may well be that sustainability education cannot flourish within a traditional education environment that tends to reinforce conformity and suppresses the creative, real-world opportunities for students (and teachers) to experience themselves as both choice-makers and change-makers. The same barrier also exists for infusing creativity, innovation and entrepreneurship into conventional classrooms. If our approaches to *how* we engage students with learning do not change, layering new concepts onto old pedagogies will have limited success. We believe that some of the most promising, experiential and authentic pedagogical practices (such as flipped learning and project-based, real-world learning), implemented with the aim of contributing to well-being for all, sustainably have a tremendous capacity for advancing sustainability education and transforming learning. This is the essence of the concept of Living Schools.

Re-covering Life with Living Schools

What does education look like when 'life' is central to the enterprise? What kind of education is being called forth in Orr's vision that moves us towards a 'community of life'? How would a 'Living School' look compared to traditional schools with which we are so familiar? To answer these questions, we need to understand more deeply the ways in which *life* and *living* are embedded in a vision of education and learning that sustains the individual, the social and the biotic and to see the three as inextricably interconnected. In addition, to understand more deeply necessitates a turn to the philosophical, specifically, to a tradition interested in describing life and the life-world as it is actually lived—namely, phenomenology. Phenomenology is particularly helpful in defining the concept of a 'Living School'. The project must be, at first, a philosophical task as well as a practical task.

Phenomenology has a focus on the experiential and its basic tenet is that our thoughts, feelings, emotions, ideas and behaviours all arise as a direct result of our contact with the world. Our existence is a ‘...*network of relations*; our being is not locked up inside us, but is in fact spread throughout this web of worldly interactions in which our existence continually unfolds’ (Fisher, 2002, p. 11). This concept has profound implications for a vision of education predicated on experience and an experiential approach grounded in the world—the social world, the human built world, but also the natural world. We are invited through phenomenology to pay close attention, to be aware and awake to the demands of the natural world, and to understand fully that we, too, are connected to nature and the profound implications this realization has on our lives. We interact with the world through a bodily felt awareness; our experience is an interactive process. Honouring our embodied interaction and learning to listen and focus on what we truly need as human beings to reach our full potential requires an experiential sense and speaks to the cultivation of the dialogical nature of the Living School concept. It is a rejection of a mind/body dualism in which we are isolated from our bodies and living in our heads. The Living School concept gives authority to education that is based on an organismic wisdom of the experiential and attends to what young people and children are experiencing. It is education motivated by life forwarding processes, by the creativity that emerges out of the life process where new energy, ideas and innovation can emerge and develop.

The Living School fosters *contact* and *dialogue* with the world. Contact connotes the experiencing of learning from life, of the sense of touch, of being energized and physically moved through our relationships. Recent pedagogical approaches, such as project-based and real-world learning and flipped learning, in many respects, reflect this meaningful contact. By sharing, taking risks and coming into contact with others and the larger living world, we are changed and such meaningful contact with the world carries our lives forward. Dialogue recognizes the power of language and conversation and the importance of finding one’s voice and being truly heard. It involves honouring children’s inherent, spontaneous interest in the world and celebrating *with* children their interests, or as David Jardine (1998) points out ‘...their *inter esse*, their being in the middle of things’ (p. 80). Teachers in a Living School are challenged to find, or rediscover, the joy, the mystery and inherent love in learning about the world and become guides and facilitators who respect and nurture the integrity of what comes natural to children, an awe and wonderment for the world. This integrity is also related to pursuing interests across boundaries, across disciplines to follow them where authentic contact and dialogue lead (Howard, 2006, 2011). The Living School recognizes that an *integrated* curriculum is difficult and messy; yet, such a curriculum has an inherent *integrity*, for the two words are related. Yet, the wholeness of a curriculum lived *with* children and young people leads to movement, vitality, liveliness and, yes, difficulty, that is generative and life forwarding. Thus, a Living School involves approaches to learning that enable students and teachers to be fully engaged ‘in the depth of things’ in ways that enhance well-being for all.

Neuroscience research is supporting this recognition of understanding how emotion, cognition and the individual’s view of self impacts learning. Naturally, this

could be extended further through opportunities for students to be vitally engaged with the world beyond the classroom.

Taken together, the neuroscientific evidence linking emotion, social processing, and self, suggests a new approach to understanding how children engage in academic skills, like reading and math. While skills like reading and math certainly have cognitive aspects, the reason why we engage in them, the importance we assign to them, the anxiety we feel around them, and the learning that we do about them, are driven by the neurological systems for emotion, social processing and self. Neuroscientific evidence suggests that we can no longer justify learning theories that dissociate the mind from the body, the self from social context. (Immordino-Yang, 2011, p. 101)

Living Schools, Living Campuses and Sustainability

The Ontario Physical and Health Education Association (OPHEA) spearheaded a programme called Living Schools throughout the province of Ontario schools from 2004 to 2008.¹ This initiative represents one approach to encourage HPS. In Europe, the concept of Living School Labs,² supported by the European Commission, aims to create a 'sustainable, growing network of primary and secondary schools, based around regional clusters, that showcase and share best practice and ways to successfully embed the use of technology in teaching and learning (T&L) across the whole school.' While these initiatives have worthy objectives, they are limited in scope. By adopting the term Living School, we point to an inclusivity that encompasses both healthy living and technology. The Living School concept as it is conceived in this article extends beyond health and technology by incorporating sustainability, creativity, innovation, entrepreneurship, sustainable happiness,³ social and emotional learning and connecting with nature with approaches to learning that assist students and teachers to be choice-makers and change-makers. This represents a novel direction for Living Schools that will demonstrate the benefits of integrating the diverse education visions noted above. This approach to the organization of learning is built on a conceptual framework that is integrative and relational. It espouses interconnect- edness rooted in a definition of community that is inclusive of not only the human, but also of the complex living systems on which we depend. Learning is understood as a deepening of experience, of questioning and of commitment (Harding, 2006).

The Living Schools concept is reflected in the post-secondary approach to the campus as a living laboratory. For example, the University of British Columbia (UBC) identifies its 'entire campus as a living laboratory, a kind of giant sandbox in which there is the freedom to explore—creatively and collaboratively—the technological, environmental, economic and societal aspects of sustainability'. The university's website expresses the goal of working with faculty, staff, students, the general public, private sector and non-governmental organization (NGO) partners, integrating the operations of the facilities with education programmes, and research 'to test, study, teach, apply and share lessons learned, technologies created and policies developed. We study our own behaviours and discoveries to advance sustainability scholarship inside and outside UBC' (<http://sustain.ubc.ca/our-commitment/campus-living-lab>). Campus living laboratories and Living Schools bring 'life' into formal education and learning environments.

Dawson College in Montreal provides another vantage point. Its commitment to sustainability led to the creation of projects that use the entire envelope of the campus to engage students and faculty to find their own entry portal for learning about sustainability. 'Imagine a facility that acts as one large classroom with a multitude of projects and a common thread that motivates students and staff alike in creating authentic learning that benefits the community' (<http://www.dawsoncollege.qc.ca/sustainable/>). At the time of writing, one project under development involves placing beehives on the campus roof. Faculty members are encouraged to find links to their courses. A health event is being developed that will challenge students and staff to run/cycle/walk/swim the equivalent distance that 12 honey bees need to fly in their lifetime in order to create one teaspoon of honey. That distance is 1,250 km. The prize: a single teaspoon of Dawson College rooftop honey presented at a special event.

NEW PEDAGOGY AND LIVING SCHOOLS

Project-based, Real-world Learning

As described above, the Living School concept encourages contact with the world. Its approach to education honours an embodied interaction with the world through an integrated curriculum that recognizes the wholeness of life. Some curriculum developers and instructional designers are incorporating this orientation towards holism by creating pedagogical strategies that embrace the uniqueness of each student and that promote the integration of mind, body and spirit in the process of teaching and learning. We recognize that these learning strategies may not have been designed with teaching for sustainability in mind; nevertheless, they can be used to encourage ecological experiences and to foster in students more integrated lives and the development of a sense of agency.

Project-based learning (PBL) is a teaching method that immerses students in the investigation of a complex problem, question or challenge for an extended period of time. PBL has the potential to allow students to find the space within the formal curriculum to learn important skills and knowledge while exploring issues that are relevant to them. Twenty-first century competencies are integral to PBL. Problem-solving, critical thinking, collaboration, communication and creativity/innovation are explicitly taught as students formulate plans to address the real-life question or problem at the heart of the project. Through deep questioning and authentic experience, students grow in their commitment to problem-solving in a collaborative, creative environment. They are encouraged to choose projects of importance to them that have real-world implications (bie.org/about.what_pbl). PBL breaks down the traditional barriers between the community and the school and opens the classroom to the larger public while fostering connections and relationships. This approach to organizing teaching and learning may potentially dismantle the institutionalization of the school and move the school towards a form of living and working within the community, as an integral part of the community that is strengthened by collective wisdom and intergenerational collaboration.

Project-based, real-world learning (Claxton, 2013; Lucas, Claxton & Spencer, 2013; Zhao, 2012) addresses the core purpose of education through which students develop the skills and resilience to thrive in the world beyond the classroom.

If the core purpose of education is to give young people a useful apprenticeship in the arts and crafts of real-life learning, then the kinds of learning they do in school—not the content, but the sorts of learning activities which that content demands and exercises—has to match the kind of learning that people do in the wider world. If education is to be a preparation for dealing with the rich, messy, disconcerting life then it can't just train young people in how to Hoover up pre-determined, bite-sized goblets of knowledge. (Claxton, 2013, p. 91)

Claxton (2013) suggests that students are too often required to solve isolated problems that have been orchestrated by their teacher. In many classrooms, it is primarily the teacher who asks questions, seeking specific and often pre-determined answers. This is hardly a scenario that fosters creative inquiry and the development of young people who feel capable of addressing personal and real-world challenges. Lucas et al. (2013) extend this further through a discussion of expansive education, recommending that the goals of education must expand beyond the current focus on achievement, and that we need to consider the kinds of dispositions that young people require to thrive throughout life, that learning cannot be contained within the school building and that teachers must shift from being the knowledge keepers to being visible learners who model their love of learning.

Flipped Learning

Flipped learning offers another mechanism for enabling a transition to Living Schools. Bergmann and Sams (2014) initiated the idea of flipped classrooms that they now refer to as 'Flipped Class 101'. They originally pioneered a shift in teaching practice through the creation of video-taped lectures that students could watch at home and at their own pace, thus opening class time for more individualized instruction. For some educators, it was a revolutionary step to consider that homework would be done 'in school' with teacher support and that the content learning would happen at home. After a year of practicing Flipped Class 101, Bergmann and Sams stretched themselves further to wonder about how this new process could be revised to deepen the learning process. They developed The One Question to continually challenge themselves: *What is the best use of face-to-face time with students?* Educators throughout the world have responded to this question and are developing processes to engage students in deep questioning and deep experiencing, at their own pace, with individualized programmes. A learning community of practitioners shares their experience through the Flipped Learning Network (see flippedlearning.org).

Technology and New Pedagogy

Advances in information technology have opened up extraordinary options for meeting our global learning needs. Every reference to twenty-first century learning competencies is certain to include technological and digital literacy or ICT literacy.

However, as Bain and Weston (2013) point out, simply introducing ICT does not automatically lead to transforming calcified teaching practices that evolved in a previous era. Rather, ICT needs to be utilized with ‘new pedagogies’.

Fullan (2013) suggests that the ‘new pedagogy’ is about learning how to learn and that we must harness the three forces of technology, pedagogy and change knowledge (‘what we should do with all this information to change things, presumably for the better’ [Fullan, p. 1]). We propose that once we step out of the competition-based, national-silo thinking about education and consider how *we can collectively meet our global learning needs*, then truly expansive and innovative transformations are possible. This is consistent with Fullan’s (2013) view that ‘ecological and human sustainability should be seamless’ (p. 28). And further that,

the entire curriculum needs to be redefined: the whole *raison d’être* of schooling, becomes a single expanded entity called ‘learning about and for life’, and doing it in a passionate and purposeful manner. We are talking about a total makeover—made practical by the integrated forces of technology, pedagogy, and change knowledge. (Fullan, 2013, p. 28)

Let us consider what happens if this ‘makeover’ is anchored in an overarching purpose of education of *well-being for all, sustainably*. The following section explores how the concept of a Living School could contribute to this vision.

WELL-BEING FOR ALL AND LIVING SCHOOLS

Living schools are predicated on a deep sense of meaningful contact with others and the larger living world that fundamentally carries our lives forward. In advocating a sense of reverence for life, education in a Living School offers a transformative mode of thinking that cultivates compassion. The curriculum of the Living School is one founded on understanding the vitality of one’s place within the larger living landscape as being inextricable from human well-being. The Living School cultivates a deep sense of place by building attentiveness to our surroundings. Focusing on the ‘wisdom of place’ (Hensley, 2011, p. 168) is a valuable asset that deepens connections with past and future generations. Living Schools incorporate ancestral and indigenous teachings that point to ways we can live meaningfully in unique places. Too often, traditional, mainstream education perpetuates successive generations who are increasingly ecologically out of touch and with too many students disengaged from their own learning processes. Living Schools do not offer a dogmatic, unilateral agenda as an alternative to traditional education, but instead the concept opens a conversation for a place specific, contextualized, dialogical relationship among people, communities, generations and the living world in which we dwell. We recognize the efforts and the movement towards this vision being undertaken around the world and we are encouraged to share the successes and the best practices they represent. Education leaders in both the Global North and South are developing approaches to learning that are consistent with Living Schools, even though they may not use this term.

Green School Bali

In 2012, Green School Bali was honoured with the title 'Greenest School on Earth' by the United States Green Building Council's Center for Green Schools (<http://www.greenschool.org>). This is an extraordinary acknowledgement for a school that was launched in 2006. A quick scan of the Green School Bali website reveals why the title was awarded. The building and grounds of Green School Bali are designed with both sustainability and beauty in mind. The vision for the school is to create 'a natural, holistic, student-centred learning environment that empowers and inspires our students to be creative, innovative, green leaders'. Their mission includes championing 'a new model of learning that connects the timeless lessons from nature to a relevant and effective preparation for a fast-changing future'. Sustainability is embedded in the Green School Bali values statement. 'We believe in three simple rules underlying every decision: be local; let your environment be your guide; and envisage how your grandchildren will be affected by your actions.' The unique bamboo architecture of the school exceeds the accomplishments of most green schools that are Leadership in Energy and Environmental Design (LEED) certified. Using local, renewable materials for the building and solar power sets an example for education facilities that model sustainability.

Reviewing the Green Schools Bali curricula, it integrates traditional curricula with experiential learning that is nature based and reinforced by the seamless modelling of sustainability education through the physical structure, school grounds and a pedagogy that builds on student passions and creativity.

The Barefoot College

Located in Rajasthan, India, the Barefoot College was established in 1972. It has been recognized with numerous international awards for the education processes it employs to foster sustainable communities. In 2010, *Time* magazine identified Bunker Roy, the Barefoot College founder, as one of the top 100 most influential people in the world. From infants to elders, everyone in the community is respected for the knowledge and experience they have to contribute to the health and well-being of themselves, their community and the natural environment. The term 'barefoot' denotes the grassroots, hands-on approach to learning that does not require the learner to be literate. Youth and adults have been trained as barefoot solar engineers, hand-pump mechanics, teachers and artisans. Groundwater management, rainwater harvesting, health care, popular communication and sustainable agriculture represent some of the other programmes in the college roster.

The Barefoot College is viewed as a success story because it is shown as an example of what is possible if very poor people are allowed to develop themselves. It is a new concept that has stood the test of time. What the College has effectively demonstrated is how sustainable the combination of traditional knowledge (barefoot) and demystified modern skills can be, when the tools are in the hands of those who are considered 'very ordinary' and are written off by urban society. (<http://www.barefootcollege.org/barefoot-approach/innovation/>)

The Barefoot College has established sub-centres in more than a dozen Indian states and worked with over 60 countries in Latin America, Africa, Asia, the Middle East and South Pacific Islands to share the Barefoot College education process. One of its most innovative programmes involves teaching grandmothers to be solar engineers, often referred to now as Solar Mamas. While the Barefoot College is not explicitly identifying all of the following as components of their programme, it was certainly ahead of its time by including sustainability education, entrepreneurship, real-world, PBL, integrating traditional knowledge with modern technology, the promotion of health and well-being, and connecting learning with community development.

The Barefoot College has focused on the rural poor, but their process can be adapted to any environment. Furthermore, it is noteworthy that their sustainability education has not been justified as an approach to make India more economically competitive. Rather, it promotes sustainable livelihoods and sustainable lifestyles (O'Brien, 1997).

Finland and Sustainable Well-being

Finnish educators are modelling elements of a Living School perspective, to some extent, through curriculum revisions that embrace ESD and sustainable well-being (Hopkins, 2013). This is particularly well aligned with the recommendation of the Finnish national research body, Sitra, that the nation should adopt a 'wellbeing oriented national vision' which would set it at the forefront of endeavours for sustainable development and well-being (Hämäläinen, 2013). The Sitra report identifies the need to shift from a welfare policy focus towards well-being-oriented policies. It notes that countries that are committed to meeting sustainability challenges, coupled with a focus on well-being, will reap the benefits of being the forerunners.

Instead of trying to export the existing welfare services, a well-being oriented national vision would focus on the development of a superior understanding of the changing well-being needs of individuals and communities. This understanding could be used to create improved and more sustainable products, services, policies, institutions, and living environments. This human-centric approach would create a new high value-added advantage for Finland in the rapidly changing international division of labor.

This paper has argued that Finland should aim to become a forerunner in sustainable well-being. This role does not only mean a quick adaptation of the Finnish society to the environmental and socio-economic challenges of the world. It also means taking a more proactive international role in developing and adopting the multinational solutions required for sustainable well-being. With a forerunner's reputation and insights, Finland can gain a strong international position that facilitates its success in the new sustainable paradigm. (Hämäläinen, 2013, p. 30)

This is a critical direction for education sectors worldwide to investigate. It builds on the extensive research on happiness, well-being and the policies that contribute to national and individual flourishing. The inclusion of ESD is essential because it recognizes that we cannot thrive in isolation and that our happiness and well-being are interconnected with that of others and the natural world (O'Brien, 2013). This integration of happiness, well-being and sustainability has been captured in the concept

of sustainable happiness: happiness that contributes to individual, community or global well-being without exploiting other people, the environment or future generations (O'Brien, 2010)—in essence, well-being for all, sustainably. A pre-service teacher education course on sustainable happiness at Cape Breton University has been introducing student teachers to opportunities for integrating the concept across the curriculum since its inception in 2009. See O'Brien (2014) for a detailed discussion of the course and its impact on students.

ACCELERATING SUSTAINABILITY AND TRANSFORMING EDUCATION

Efforts to merge principles from sustainability, happiness and well-being reflect the prevalent understanding that policy and practice that foster sustainable happiness and well-being is a paradigm shift that humanity must embrace (Abdallah, Michaelson, Shah, Stoll & Marks, 2012; Hämäläinen, 2013; Royal Government of Bhutan, 2012; United Nations, 2011). Regrettably, the education sector has not been on the vanguard of this thinking. The pressing need for education to become a more robust contributor to sustainable societies requires that a multifaceted approach to transformation is needed and it could be argued that it would be unethical for teachers and administrators to ignore the adverse role that education is currently playing (O'Brien, 2014). The latest report from the International Panel on Climate Change (IPCC, 2014) demonstrates that climate change is a global issue that will affect all of us and put considerable pressure on food and water security, particularly in impoverished parts of the world. The United Nations Secretary-General's report, *Resilient People, Resilient Planet: A Future Worth Choosing* (2012) noted that 'progress has been made, but it has been neither fast nor deep enough, and the need for further-reaching action is growing ever more urgent' (p. 6). The status quo of lumbering education change and short-term political agendas is far too antiquated for the task at hand. Not only do we need to understand what Fullan (2013) refers to as 'change knowledge' but we also need to discover how to accelerate change towards well-being for all.

ESD has both the flexibility and scope to integrate all of the most promising recommendations for transforming education. In our view, however, it has not succeeded in capturing the passion and imagination of enough educators to gain the momentum required for a more sustainable trajectory. A considerable barrier has been the lack of teacher training programmes that incorporate sustainability (Swayze et al., 2012) as well as the failure of curriculum developers to incorporate sustainability across curricula. Infusing ESD into teacher education is unquestionably needed. However, ESD does not automatically shift pedagogy. We might also question whether an ESD focus on its own will be sufficient to transform education at the rapid pace that is needed to meet our many time sensitive challenges.

We are optimistic, however, that there are other 'accelerants' available as well as other entry points for engaging students and teachers. We propose that many of the new pedagogical approaches can be adapted to accelerate education for sustainability because these pedagogies contribute to teacher confidence in themselves as education change agents. However, the connection to sustainability and well-being needs to be explicit if we are to avoid accelerating unsustainable behaviour.

Here is one suggestion for how this could work. Flipped learning is transforming teaching practice through the simple and elegant process of asking the One Question: *What is the best use of face-to-face time with students?* (Bergmann & Sams, 2014). Educators are inspired to be the very change agents that Fullan (2013) envisions as they discover that responding to this question leads to students who are more engaged *and* to deeper learning. Furthermore, flipped learning motivates teachers to integrate technology in the service of learning, not simply as an add-on to existing curricula. Teachers also transition from the role of a purveyor of knowledge towards that of serving as a learning coach. Project-based, real-world learning has a similar impact on students who develop their ‘choice-maker’ and ‘change-maker’ muscles.

Let us consider what could happen if we accept the repurposing of education as well-being for all, sustainably and then discover how schooling shifts if we pose the following questions:

1. What is the best use of face-to-face time with students?
2. How does the content that I am teaching and my pedagogy contribute to/or detract from well-being for all? What further steps could I take?
3. How does the content that I am teaching and my pedagogy facilitate student growth as (a) choice-makers and as (b) change-makers?

We believe that responding to these questions will assist educators to transition towards Living Schools that exceed twenty-first century competencies. Imagine, for instance, that the response to these questions leads to a greater focus on approaching curricula through real-world, PBL, thus fostering creativity and innovation. Students could be motivated to connect with their peers in other parts of their country or the world to collaboratively seek solutions to local and global challenges. There are NGOs and non-profit groups doing this work very successfully (see Taking IT Global, <https://www.tigweb.org>). With appropriate mentorship, students could develop skills to be social entrepreneurs. The emphasis on well-being would encourage greater attention to social and emotional learning and positive school health. Including the concept of well-being for all as a purpose for education requires a more integrated, holistic, systems awareness of how we are interconnected with other people and the natural environment, thus establishing this vital connection with nature.

These are exciting times, as educators seem to be more open than ever to the realization that conventional education is outdated and diverse ‘alternatives’ are demonstrating fresh new directions. Still, tensions exist around the very purpose of education, with advocates who see the way forward through increased efforts on standardized testing, very much focused on assessing content. This limited view of education is out of step with the global learning needs of society’s that are dependent on an increasingly fragile ecosystem and the requirement for students to understand how to thrive in a world that is transforming far more quickly than formal education.

We agree with Fullan (2013) that a makeover is needed. The new pedagogies, combined with technology, may be the very engine that will gather the momentum required to shift the behemoth of formal education towards the twenty-first century. It is vital that we understand that ESD on its own cannot transform education rapidly enough to meet our global learning needs nor can simply infusing innovation,

technology, entrepreneurship, twenty-first century learning competencies and creativity into traditional curricula. Repurposing education with the vision of well-being for all sustainably sets us off in the right direction. Discovering ways to integrate sustainability education, innovation, creativity, entrepreneurship, HPS and technology with new pedagogies is essential. Most definitely this involves massive change. Identifying processes that bring both teachers and students into this change process as change-makers and choice-makers has often been overlooked. We recommend creating environments where students and teachers are actively engaged with life, developing the capacity and skill to contribute to their own well-being, the well-being of others and the environment that sustains us. Living Schools are places of contact and reconnection, places central to an emerging transformative sustainability education paradigm.

Notes

1. *Living school: Success stories*. Ontario Physical and Health Education Association.
2. See <http://isl.eun.org/about;jsessionid=0CAD6CA5F12ECB32354F28834A678E3A>
3. Defined by O'Brien (2010) as happiness that contributes to individual, community and/or global well-being without exploiting other people, the environment or future generations.

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