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<th>Dawn of a new decade: What can geographical and environmental education offer for the 2020s</th>
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<td>Author(s)</td>
<td>Chew-Hung Chang and Gillian Kidman</td>
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<tr>
<td>Source</td>
<td><em>International Research in Geographical and Environmental Education</em>, 29(1), 1-6</td>
</tr>
<tr>
<td>Published by</td>
<td>Taylor &amp; Francis (Routledge)</td>
</tr>
</tbody>
</table>

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This is an Accepted Manuscript of an article published by Taylor & Francis in International Journal of Bilingual Education and Bilingualism on 30/04/2016, available online: https://www.tandfonline.com/doi/full/10.1080/10382046.2020.1691334

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The year 2020 marks the dawn of a new decade in the twenty-first century. With average life expectancies of some developed economies exceeding 80 years of age, a good number of children born during this new decade will still be around in the twenty-second century. Consequently, the aspirations for the educational fraternity in the 2020s will have downstream impact on how our children will live beyond the 21st century. The United Nations Educational, Scientific and Cultural Organisation’s (UNESCO) Sustainable Development Goals (SDG) for 2030 features education (or access to quality education) as one of its 17 goals. In May 2015, the Incheon Declaration was adopted at the World Education Forum, and UNESCO was entrusted to lead the Education 2030 agenda with its partners. The Education 2030 Framework for Action was subsequently adopted in November 2015 to provide guidance to governments and stakeholders on how to translate commitments into action. Further, the Organisation for Economic Co-operation and Development (OECD) Future of Education and Skills 2030 also seeks “to help education systems determine the knowledge, skills, attitudes and values students need to thrive in and [to] shape their future”. Education remains a key enabler to ensure a sustainable future for our children born today. Geographical education, in particular, plays a crucial role as it is concerned with helping students deepen their understanding of issues such as “climate change, water management, food security, energy choices” (Commission on Geographical Education, 2016, p. 5). This has overlaps with environmental education which is concerned with equipping our children with the relevant knowledge, skills and attitudes (UNESCO University, 1975) to engage in and take action for environmental issues. Changes in the next decade will have implications for educators working in both geographical and environmental education.

Predicting what will happen in the next 10 years is not an exact science and there will likely be more misses than hits in this endeavour. In a 2 January 2010 article in the United Kingdom newspaper “The Telegraph”, broad-brush predictions about science, society and culture for the year 2020 were made (The Telegraph, 2010). The author predicted that by 2020 the widespread use of mobile technologies to access the internet would have led to “a more informed, engaged, and more empathetic global citizenry”. While we do not have empirics to confirm or refute this prediction, we can be certain that there are people with varied engagements with the internet across societal contexts. Some other predictions are spot on, especially with regard to global warming. The four years from 2015 to 2018 were the warmest years ever observed in the 139 years that the National Oceanic and Atmospheric Administration (NOAA) had kept records (National Oceanic and Atmospheric Administration, 2019). Despite some relatively accurate predictions about the 2010s, there were still many areas of uncertainty with issues as equally complex. As we look to education to prepare our children for the future, the aspiration is to develop “active citizens in the present and future world” (Commission on Geographical Education, 2016, p. 1) within a global ethic – an ethic which espouses attitude and behaviours...which are consonant with humanity’s place within the biosphere” (UNESCO University, 1975, p. 13).

Education has the potential to transform lives. It enables individual growth, fosters community well-being, and can lead to societal change. Unfortunately not all current
educational systems or classroom pedagogies are designed for the uncertainties and complexities in the next decade. We need an educational paradigm that is “dynamic, holistic, adaptive, inclusive, restorative, and contextualized” (Chang, 2019). In other words we need our children to be able to understand, question and reflect on the issues that they will face. Indeed, we need to look beyond learning as an intellectual exercise to learning that builds the emotional and social intelligence of our children. These are the popularly touted as 21st century skills; students’ ability to think critically, be creative, collaborate, communicate, and, being media and technology literate. Coming back to the title of this piece - what can geographical and environmental education offer for the 2020s? Within a shorter timeline, how does geographical and environmental education help us mitigate and adapt to challenges that will quickly become reality, for example, the reality of human-induced climate change.

In terms of the twinning of geographical and environmental education in this piece, which is also reflected in the title of this journal, we are not asserting that they are the same. Instead, we recognise that geographical and environmental education complement each other in addressing the learning needs of a child in the 21st century. At the time when the journal was first established in 1992, there weren’t any journals that were dedicated to environmental education. The 1992 International Charter on Geographical Education had also referenced that students need to understand the “complex interactions within space [as] an important basis for responsible environmental planning, management and protection” (Commission on Geographical Education, 1992). Consequently, the journal has always taken a very holistic and broad approach to accepting articles in these two areas. In this particular argument about what geographical and environmental education can do for children in the 2020s, we therefore identify a few key themes as a tentative prediction of the kinds of issues that will be addressed by current and prospective authors of the journal.

Environmental awareness and action
The issues of environmental change will continue to keep educators occupied for the next few years, at the very least. The example of teenage activist Greta Thunberg leading a movement to voice young people’s discontent with adults messing “with their future” has given educators much to think about in terms of how we can help children feel less helpless with climate change, for instance. Serendipitously there has also been a series of other climate protests around the world, including the yellow vests movement in Paris beginning in 2019. While many protestors in the yellow vest movement want to “fight” climate change, they are unhappy that the poor have to pay for a problem which had been created by multinational corporations. Is it our children’s job to protest about issues that will affect their future?

There is a desire to understand how education can help address the issue across the classroom, school and societal levels. There has already been a gradual shift of articles that focus on awareness and perceptions to changing the behaviour of learners. While this is not to discourage continued contribution to the corpus of work that addresses issues on perceptions and raising awareness, the editors do hope to see more works like the “Sociographic analysis of climate change awareness and pro-environmental behaviour of secondary school teachers and students in Nsukka local government area of Enugu state, Nigeria” by Emmanuel Eze in this issue. However, it is still important for us to understand
how attitudes are formed and articles like “Exploring the Effects of an Environmental Education Course on the Awareness and Perceptions of Climate Change Risks among Seventh and Eighth Grade Learners in South Africa” by Elvis Modikela Nkoana in this issue will help us in this regard.

The ability for curricula that encourages environmental behaviour change is often challenged by multiple issues of curriculum enactment. Issues like time and resource constraints, professional development support of teachers and the pressures of standardized testing can impede the adoption of teaching and learning practices. Articles like “Fostering a whole-school approach to sustainability: learning from one school’s journey towards sustainable education” by Julie Bosevska and Jeana Kriewaldt in this issue provide perspectives of how an holistic whole-school approach will be helpful in implementing innovating practices that support the transformation of environmental awareness to environmental action. With the increasing pressure from changing environments, we will see greater concerns about how geographical and environmental education can address these. Consequently, the editors look forward to more research articles in these areas to be submitted.

**Technology and geography education**

Technology has been seen as a way to enhance geography learning (Nguyen et al., 2008; Razikin et al., 2009 and Goh et al., 2012) in the past few decades. With the increasing pace of technological advancement in areas such as big data, machine learning and robotics, there has been a rhetoric about Industry 4.0 that requires a more integrative understanding of how humanity and technology can co-create solutions for our world. We are some five decades into Artificial Intelligence (AI) discourse, and we are no closer to a definitive consensus on how this could benefit education. While scholars like George Siemens have argued that humanity plays an even bigger role at the interface of artificial cognition systems with human cognition (Siemens, 2018), others are concerned with the issue of ethics in data collection, use and subsequently decision making processes that can be automated. Technological innovation has altered how a learner engages subject matter and knowing. Indeed, technological development has extended beyond just the use of tools to co-existence with technological gadgets as agents of change. A gadget is no longer just used by humans as a tool to complete a task, but in so doing, the human’s behaviour and interaction with the gadget is inadvertently changed. The challenge for education, and geographical and environmental education in particular, is to help teachers stay ahead of the burgeoning technological knowledge so that they can best harness the affordances of the latest innovations.

Students learn better through authentic learning activities where they use their subject knowledge to solve real-world problems (Barron and Darling-Hammond, 2008). Only when the learner has the agency of learning can sense-making be effective (Hannon et al., 2011). “Properties and impacts of TPACK-based GIS professional development for in-service teachers” by Katsuhiko Oda, Thomas Herman and Angela Marie Hasan in this issue explores how teachers professional learning needs in the technological, pedagogical and content knowledge can be supported when using GIS. Set against the discussion about how meaningful activities is especially important in the future where technology advancement is occurring rapidly, teachers need to be well grounded in their subject matter knowledge and...
pedagogies and help students develop meaningful learning and that they are not simply lured by the novelty of technological advances.

**Identity and values**

While many people argue that knowledge acquisition is easily supported by the internet and that AI will even nudge us in what we should look for on a search engine, there is an important role for teachers to help students learn well with technology. Teachers’ identities become important as they extend the roles of a facilitator, mentor to even being a wellness counsellor. Teachers do not just teach head-knowledge, but they are also role models to students, especially when the students are young and impressionable. The question about the next decade should be what are the values, dispositions, skills and knowledge that teachers of geography and environmental issues need?

This reminds us of a recent conversation among colleagues about the relevance of learning to drive a manual transmission car in this day and age. While some countries still have a good number of manual transmission cars, automatic transmission cars are becoming almost ubiquitous in some countries. In some places, they even issue driving licences for drivers of automatic cars who do not wish to be tested for the range of skills required of driving a manual car. While this is good news for those of us who remember struggling between getting the biting point and letting the engine stall, someone in our group chat remarked “Where is the fun in driving if you removed gear shifts?” This conversation may quickly become obsolete as autonomous driving vehicles are currently being tested in different places around the world. It may soon be possible to commute in a fully autonomous car! The point here is not about driving or the car, but what an individual human values about the act of driving. For some, it is a functional process where one gets transported from one place to another while others derive joy from driving. With advancements in automation and AI, for example, it may soon be possible to have machines take over functional roles of classroom administration, and even grading of assignments. However, there are still some core areas of work that a teacher does that cannot be replaced. Will automation take the joy out of learning?

A geography teacher does not just impart knowledge about the names of capital cities of countries around the world. That would be a task easily taken over by a machine. There is the dual role of a teacher of both knowledge and skills, as well as someone to inspire our learners. For readers of this journal, we are interested in how the geography or environmental educator will help our children learn about the knowledge and make sense of what they can do as citizens of our planet. “A phenomenological study on the meaning of geography teacher-researcher identities” by Dong-min Lee and “Fused Identities: An exploration of primary teachers’ geographical identities” by Emma Till in this issue each focus on the identity of a geography teacher. Education should inspire students so that they will be able to change the world for the better. Above all, geography education must help students develop “an imaginative mind” (Pauw, 2015). When the rhetoric about global environmental change remains gloomy and the pressures of change from technological advancement stacks up, teachers have a very important role to play to help our students rise above. They must first have a clear and present understanding of what it means to be a geography teacher in order to inspire their students.
Conclusion

In the early 20th century, when lifts (or elevators) were becoming popular alongside the development of skyscrapers, there was some uneasiness with users who felt that they had to wait too long for the lift to arrive at their level. The lift was supposed to transport people efficiently between levels of the building but it created awkward moments when people did not know what to do while waiting for the lift. It must have felt like an eternity while waiting for the lift carriage to arrive, and people were not convinced it saved them much more time had they climbed the stairs. In this case, the innovation was thought to be not very helpful. By adopting a different perspective to the problem, designers installed mirrors at the lift lobbies, allowing people to check on their hair and outfits while waiting for the lift. It eliminated the impatient moments and changed the perception that the lifts took too long to arrive. Before long, people saw the benefits of the innovation for what it was meant for.

As we look to the next decade, there may be innovations and changes like the lifts of the early 20th century that are helpful but seem counterproductive at first. We may need to adopt multiple perspectives and see if there are ways to reframe our problems. While the challenges of global environmental change will be an ongoing issue into the next decade for geographical and environmental educators alike, there will be opportunities for us to examine our perspectives and see if we can harness the developments in technology to help our learners make sense of the changes they observe. In 2010, there was the prediction that the proliferation of information and the growth of the internet will result in “a more informed, engaged, and more empathetic global citizenry” in the 2010s. The editors welcome articles that will help us clarify if we will get any closer to realising this aspiration in the 2020s. After all, education should provide hope for children and so we too must remain hopeful that the work that geography and environmental education researchers do will make the next decade a better one than the last. Indeed, education remains a key enabler to ensure a sustainable future for our children born today well into the 22nd Century.

References


