How could OST address climate change?

April 7, 2022 | Charles Smith, Ph.D.

With the publication of the IPCC report[1], it's not difficult to conclude that our current political leadership is not going to take us where we need to go, and we can't wait anymore. The scientists are telling us right now, in clear language, that the time is up: Major transformations in our thinking and behavior around energy use must happen right now. We're already on track to exceed (by the early 2030s) the 1.5C degrees threshold of global warming (above pre-industrial levels), and the weather patterns that are projected to ensue, long before 2040, are going to be catastrophic for everyone on the planet. That's the very difficult news. However, the amazingly lucky news is that there is still time to do something. So, what should that something be for OST professionals as OST professionals? What should we be asking our leading agencies and philanthropies to step in quickly and fund?

Building on Strengths

For the children, youth, families, and communities served by OST programs, ***socio-emotional skills*** are at the top of my list, including getting up to speed on trauma-informed practices. We are likely to encounter more trauma from climate-related dislocation, intermittency of power, failing ground water systems, etc.

As important, how to protect children from talk about the ongoing climate catastrophe? How do we nurture their hopefulness rather than sharing our adult fear and unhealthy denial? How do we nurture our own hopefulness as an example? This is a profoundly important task if we are going to do anything at all as a field. The main point of this blog is that it's our ethical obligation to the children and families that we serve to demonstrate hopefulness through our own OST practice, like setting examples in the time that we have rather than sticking our heads in the sand. **It almost doesn't matter how we go about addressing it as along as we communicate hope rather than fear while we're doing it.**

Another big one that we already know about is ***demographic change*****. We need to understand south-to-north migrations and how to be intentional about multiculturalism in practice and policy.** This will be a place to use all of the equity stuff that so many of us have been working on and thinking about. We need to prepare for society with a bunch of folks from southern US states, Central America, Mexico, and the islands arriving in the next decade. Its already happening. Good news is that many of us are building our capacities to engage multi-cultural youth to embrace differences and learn about their own cultures (e.g., intersectionality) and to understand inequities.

There is a lot going on in our field in ***youth civic engagement***. This is a small subset of our OST field, but these folks have been doing it for a long time, know how to do it, and have written a lot about it. The trick here is to re-focus what we know about how to do youth activism – e.g., community and service

[1] Intergovernmental Panel on Climate Change (IPCC; 2022), *Climate Change 2022, Mitigation of Climate Change, Summary for Policy Makers* [https://www.ipcc.ch/report/ar6/wg3/]

learning, voter registration and other issue-driven campaigns, peaceful protest – with the mental model that Greta (Thornburg) is providing about breaking carbon and consumption cycles.

I can easily convince myself that learning how to break carbon and consumption cycles in everyday life is now more important than any time spent on academic testing for example (or advanced math or competitive sport etc. etc.).

Filling in STEM Denial

One of the huge opportunities to demonstrate hope is precisely where we are least prepared: all of the new habits of daily life that we're going to need to learn in a zero-carbon world. We are facing a task like the early twentieth century policy of agricultural extension that sought to educate a whole country of beginner-farmers about agricultural science and how not to starve in the countryside. But what institutions are filling this void?

Elsewhere we've referred to these habits as the ***applied science of ecological stewardship***[2] – again, to push the agricultural extension analogy, think home economics for zero carbon. **The new zero-carbon habits are all STEM skills even though the OST STEM field seems to be in denial.** From my reading, these are the STEM issues that are directly and substantively related to reducing carbon use and living well in the future:

First, there is a lot to learn about ***energy use technologies and energy conservation skills***. **Dramatically reducing carbon use in the next three years and staying comfortable in everyday life is something we should all be learning about** and about which there is almost certainly some content available for use in OST programs. This ranges from the simple stuff like when to best turn on and off the air conditioning to the basics of the new energy technologies and infrastructure that every neighborhood will need.

Another important set of STEM skills is related to ***food types and sources***. **It is an uncomfortable fact that two big ways to cut greenhouse gases and carbon use is to stop eating meat and to grow food locally.** The arguments about the ecological implications of plant-based diets are clear and should at least be available to all persons. It's also clear that growing your own local food in any city is likely going to occur on a brownfield where the underlying soil is already contaminated. This requires some horticultural design know-how and a little bit of soil science that many urban farmers are learning.

Another big one may surprise you: Almost all old trees (i.e., largest biomass retaining carbon) have been eliminated except for those in the urban forests maintained by our city and town governments and national parks. The ***carbon retaining potential of the urban forests*** is critical, and OST programs could learn a lot about trees (e.g., dendrology) and carbon retention from the several STEM disciplines involved. There are few afterschool programs actually located in non-urban areas (i.e., even in the countryside, OST programs are typically located in a small town). These cities and towns are home to the last remaining 60 year old+ trees in the United States and represent an important part of the solution for carbon retention.

Access to clean water is a major challenge of climate change, and procuring clean drinking water is going to involve all of the STEM disciplines – both building mental models for applied stewardship and

[2] Smith, C. (2019). SEMIS coalition for place-based ecological stewardship: Growing a movement, getting ready for growth. [https://www.qturngroup.com/wp-content/uploads/2022/04/2022-04-11_SEMIS_WP-v7.pdf]

then acting in those terms. Shouldn't all OST students learn about the local clean water agenda and learn how to understand contaminants in water testing output? Shouldn't all students learn about the science and technology involved with water filtration at home?

For an OST Social Movement

What about the power of the OST social movement – we professionals as a group? How could OST leaders help us act together as a coordinated profession to use our power? Are there a few obvious choices that we could ask leading agencies, membership organizations, and philanthropies to help us engage the field around?

The first question is: How do we quickly integrate all of this content into our professional conferences and workplaces so that we can quickly figure out how to help a next generation of ecological citizens, scientists, educators, advocates, and policy makers who are inheriting our legacy? **A second question follows from the ethical charge to demonstrate hopefulness to children: How should we engage local administrators and governments on carbon-reducing practices for our buildings and program offerings?** Finally: How do OST professionals engage in political activism as an interest-group to identify and advocate for breaking carbon and brownfield consumption cycles in personal lives and governance?

Although it may be uncomfortable to discuss these issues – the fear for all of us is real – **it is our obligation to the children we serve to put them in the best position to deal with the situation, by building our own and their socio-emotional skills and mental models about the new zero-carbon world that's coming.** Please note also that all of the issues addressed above represent the major job categories of the future – for those still defining everything we do in terms of the economy. And finally, please also note that the OST profession is filled with rational people with progressive views. If we acted together, we could likely act as one. If we don't act now, it will actually be too late. How can we organize ourselves and our young people and communities to amplify their voices, needs, and realities? How would we like our leaders at all levels to help?

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