

FINDING THE ENERGY TO HELP HEAL SOCIETIES AND ECOSYSTEMS

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THREADS OF MY PAST

THREAD ONE: EARLY INFLUENCES

I grew up in Ypsilanti, Michigan, where a paper company on the banks of the Huron River used to dump extra dye into the river, thus changing the river's downstream depending on whatever color paper they were making. I remember fishing in the Huron River but never catching anything. Then, in the mid-1970s, Ford Lake in Ypsilanti—which was downstream of that paper plant and a Ford factory—was declared to be so polluted that you weren't even supposed to let its water contact your skin. Once upon a time, Ford Lake had been a pristine body of water that featured plentiful fish and enjoyable recreational activities. Then, industrialized civilization arrived, including my family, who drove a Ford station wagon.

In 1976, when I was 15, our family spent six weeks traveling across country, camping in a pop-up tent trailer. It's funny to see what things stick with us from our experiences, but from packing up and cleaning up many campsites, I still remember my late mother reminding we kids that “we should always leave a place cleaner than we found it.”

By the early 1990s, my mother had become famous for reusing napkins over and over again. She didn't say much about it, but it became clear that she was worried about the planet and wasting precious natural resources.

THREAD TWO: MY CHANGING TRAJECTORY AS A TEACHER EDUCATOR

Mom had been a long-time primary-grade teacher and by the mid-1990s, I was an early childhood teacher educator. So, I asked my mother a question I often used in classes and workshops: “What is the #1 most important outcome you would like children to get out of their education?” I was partial to answers such as “creativity, love of learning” or “critical thinking,” and to be honest, I was dismayed when my mother answered on multiple occasions, and years apart, “ability to delay gratification.” I never told her this, but that seemed to me to be a boring goal to me, and I wondered why she picked it.

By the early 2010s, I was a senior teacher educator and researcher, and my research had shifted from child-centered learning and healthier alternatives to test-based accountability to what we must do to heal Earth's ecosystems and societies (e.g., Wheatley, 2022). I had immersed myself deeply in man-made global warming, chemical and plastic pollution, resource depletion, melting glaciers, loss of biodiversity, ecosystem deterioration, toxic inequality, exploitation, and sustainable ecological footprints. Unfortunately, what I learned is that far beyond a one-dimensional climate crisis, humans are pushing the whole web of life toward collapse from multiple directions simultaneously.

On the societal side of the coin, the colonialist, capitalist, and imperialist world order always created improvements in standards of living for a small minority of people but did so by exploiting and legally looting from the vast majority of people on Earth

(Hickel, 2018). Even today, the global economy has been designed/rigged to allow the rich and powerful nations of the global north to siphon trillions of dollars in wealth from the less powerful nations of the global south (Hickel, 2018). As a result, and despite the vast wealth the global economy has created, if we use the U.S. per capita poverty standards for an individual or family of six, somewhere between 5.5 and 6.5 billion of the world's 8.1 billion people are living in poverty (World Bank, 2024). Meanwhile, the degree of democracy in the world has declined for 17 straight years (Freedom House, 2023); social cohesion and trust in institutions have declined in many wealthy nations, and political extremism, authoritarianism, and attacks on science and truth are all on the rise (Applebaum, 2020; Levitsky & Ziblatt, 2018).

On the ecological side of the coin, humans have raised global CO₂ levels by 50% since 1775 (www.co2levels.org, 2023), and we are warming the planet 10-20 times faster than it usually warms when coming out of an ice age (Masson-Delmotte et al., 2021). This has made climate disasters more frequent, severe, and expensive (Büntgen et al., 2021; Jones et al., 2020). Climate scientists usually forget to point this out, but it is the rapid speed of this warming that is especially lethal to species and ecosystems. Meanwhile, our emissions have made the oceans 30% more acidic, lowered oxygen levels, and caused more frequent marine heat waves and mass bleaching events of coral reefs. Furthermore, we have blanketed the planet with toxic chemicals and plastics (Bergman et al. 2013; Robin, 2014), have degraded ecosystems all over the Earth, and wildlife populations are plummeting (BirdLife International, 2018; Brondizio, 2019). Regarding the last point, one study found that the average decline in population size for 32,000 species studied was a shocking 69% since 1970 (WWF, 2022). However, what many people in an urbanized society replete with science fiction often forget is that our economies, societies, and very lives are totally dependent on the biodiversity and health of Earth's ecosystems. This is worrying when you learn that researchers estimate the humans have already destroyed half the biomass that existed on the planet before the rise of human civilization (Schramski et al., 2015). As a result of the profound and continuing depleting of Earth's biomass, disruption of the climate, and degradation of ecosystems, scientists have been warning the public for decades that we are steadily eroding the Earth's ability to support life, including human life (Ripple et al., 2017).

What people in modern civilization are doing reflects some of the major causes of the collapse of great civilizations in the past (Diamond, 2011), but this time around, the ecological collapse would be global. Meanwhile, despite humanity's faith in the power of technology to fix all our problems, the creation of new and more powerful technologies has mostly increased the number of existential threats we must somehow defuse (Beckstead et al., 2014).

Just as my mother didn't loudly voice her deepest worries about the future wellbeing of the planet, and although I have spent more than a decade researching and drafting a book about what we must do to heal ecosystems and societies, I usually kept the terrifying things I was learning to myself. However, a few years ago, I found the courage to ask my fellow teacher educators if maybe we should design our new P-5 teacher education program to better prepare teachers to prepare their pupils to help heal society and ecosystems. It turned out most of them were also secretly terrified about the unraveling health of ecosystems and societies, so we designed our new P-5 teacher education program with an emphasis on healing ecosystems and society.

By 2020, I was deeply weaving ecological literacy and issues of social justice into my courses. This involved many new questions for me as a teacher educator. How

should I teach students about the world's four economies? About the reasons why just two degrees Fahrenheit of global warming is so disruptive to ecosystems and species? About why it is impossible to have healthy societies if you have high levels of economic inequality? What to do about the fact that Ohio's social studies standards were built around the industrialized capitalist economy that is one main cause of this ecological and societal unraveling? How to teach P-5 teachers to teach science in a world where ecosystems are unraveling, but the state content standards are almost entirely silent on the major scientific crises we face? In response, my students and I often crafted our own content standards and identified which official content standards are too trivial to merit classroom time.

However, I'm weary. Despite my commitment to figuring out these questions, 29 years of teaching at the same university year-round and more than a decade of intensively studying the biggest crises facing humanity have taken their toll on me. After obsessively studying why the testing and accountability movement was misguided for more than a decade, I obsessively studied global warming and its multitudinous effects, plus biodiversity loss, pollution, the role of inequality and exploitation in creating social and political dysfunctions, and the metamorphosis of society that will be needed to resolve these crises. So, I got increasingly burned out. Making matters worse, these are issues that most people don't really want to talk about, and I'm a prototypical loner, so despite thousands of short conversations about these issues with students or people in distant lands, I hadn't really found my "tribe" of people who were working on these issues and willing to talk about them regularly. Thus, doing this work has not just been hard and emotionally draining, it has been lonely. Thus, 2023 was a year of recovery for me, with a sabbatical in the spring semester, lighter summer teaching than usual, and a lower-energy fall semester.

THREAD #3: REFLECTING ON THE CHALLENGES & THE CHALLENGES OF REFLECTING

Finding room for all this new content is daunting enough, but the emotional challenge of teaching teachers about multiple existential threats that humanity must solve this century—or else—makes me feel like a dentist who must keep extracting people's teeth after running low on pain medicine. Fortunately, many college-age students are already badly scared about the world we are handing them, so many find it helpful to finally learn about the crises we face and the solutions we need. They are also interested in learning about details of the metacrisis we face, including the concept of ecological footprints and the changes they would need to make to move from having a "five-planet footprint" to getting closer to a sustainable "one-planet footprint."

However, on an emotional level, I know that what they are learning from me is a mixed blessing. On the one hand, they are happy to finally understand how CO2 causes global warming, why more economic growth causes more ecological destruction, and what profound changes we must make to prevent worsening ecological and societal unraveling. On the other hand, many of them had previously believed that we just needed to build more renewable energy, switch to electric cars, recycle more, and everything would be fine. For most of them, it comes as an unpleasant surprise to learn that preventing worsening ecological and societal breakdown will require shrinking the global economy by about 50% and shrinking our own consumption and wastes by roughly 80%. Achieving such a massive reduction in humanity's collective ecological footprint will require them and billions of other people to forego things they may have long dreamed of, including large families, large homes, and extensive travel.

Thus, for every class in every semester, I find myself wondering how much to teach about the crises we face and how far to push the edge of the envelope in terms of what I say. The scientific reality is that the growing industrialized civilization we created flies in the face of Earth's limits, the long-term needs of life, and the laws of nature. Thus, even if we solved the climate crisis tomorrow, we would still be heading towards worsening ecological states and unraveling until we get out of collective ecological overshoot (Wackernagel & Beyers, 2019).

However, who wants to be the person to tell people how serious these crises really are, to declare that this centuries-long consumerist party is coming to end, and that the faster we wind it down, the better it will be for billions of people and millions of species?

In the fall semester of 2023, I found myself venturing farther than ever before in teaching the prospective teachers about the crises we face and how education must change to prepare graduates who have what it takes to help heal ecosystems and societies. The most gratifying part of the semester was a quiz that students in my two social studies methods courses took on key facts about the crises we face and how to solve them. I was thrilled by how accurate and detailed their responses were, and I felt, "Hey, they're really getting it ... I'm making a difference here."

However, always lurking in the back of my mind is the realization that weaving this new content in my courses has meant a decline in the quality of my teaching. I've been teaching PK-3 teachers for 37 years, and 15 years ago, I had really worked out how to teach about developmentally appropriate PK-3 teaching in responsive, constructivist, and developmentally appropriate ways. Especially in the course I taught the most, I really had things humming along beautifully. However, while juggling a full-time job, a family, and learning about the crises we face and how to solve them, I haven't had the time to figure out how to incorporate all this new, complex, and often abstract information into my teaching in more constructivist and responsive ways.

Thus, when the cyclical call for papers from the *Currere Exchange Journal* came around this year, I found myself wondering, "Would working through the *currere* process (Pinar, 1975) help me move my teaching forward? Being a reflective practitioner has been a constant theme of my professional life from the early 1990s through to the mantra of our teacher education program. However, to be honest, I'm usually too overwhelmed by learning all this content, writing a book about it, and teaching to reflect on my teaching as a should. So, I thought, "let's give the *currere* process a try."

LOOKING FORWARD

"We are still educating the young as if there weren't any planetary emergency."

- *Oberlin Professor Emeritus, David Orr*

I intentionally wrote this manuscript while reflecting on the Fall 2023 semester and planning for the Spring 2024 semester. Three challenges are coming into view through the windshield of a Christmas Break I spent mostly in COVID quarantine in our family basement.

My first challenge for the future is personal. As someone who has studied for years the smaller economies and simpler lifestyles that we must adopt to prevent worsening ecological and societal breakdown, am I ready to tell my family that I'm not comfortable getting on a plane again and helping create that extra optional carbon footprint? I haven't flown in years and have taken many steps to shrink my footprint (vegan diet, riding the bus to work), but I haven't been asked about getting on an airplane again. Am I really

up to saying, “No, although I would love to visit Hawaii and Europe, I can’t in good conscience get on a plane again”? I can feel the question coming from others soon, and I hope I am up to the challenge.

My second challenge is social and political. I have pushed harder than any colleague I know of in our college to make these crises and their solutions more central to teacher preparation and the university curriculum in general. I pushed to require our students to take a course on environmental science and courses that might expose them to more equitable and caring ways of organizing society. I pushed repeatedly to get issues of sustainability into our college’s mission and vision statements. But am I ready to push the issue again and further in department and committee meetings—and in proposals for our new P-8 teacher education program? The Ohio state legislature, to make it easier for administrators to staff schools, first replaced our P-3 teaching license with a P-5 teaching license and are on the brink of replacing P-5 teacher preparation with P-8 teacher preparation. For the fifth time in my 30-year career, I will be helping to revise our teacher education program from bow to stern, and this time we will need to collaborate with middle school teacher educators. At age 63, am I ready to keep fighting this critical fight as we craft yet another teacher preparation program and keep pushing for us to be mindful of the ecological and societal crises that will dominate the 21st century? How can I stay true to that mission even as we deal with the daunting challenge of declining enrollments? Again, I hope I am up to the challenge, but as someone who prefers to work alone, I know I need to reach out to other colleagues for support in this effort.

My third challenge merges the personal, social, political, and professional sides of my life. That is, as I look through the windshield of winter break and gaze down the road at the coming semester, can I do an even more effective job teaching my students about the urgent crises we face and how P-5 or P-8 education must be changed to help society deal with those crises?

ANALYZING THE NOW

The transition from 2023 to 2024 was the strangest in my 30 years as a university professor. I caught COVID right after Christmas, and as it spread to two other family members, I found myself living in our basement for three weeks. With a comfortable bed, couch, table to do my work and flatscreen TV, it was hardly roughing it, but I wondered if being thrown out of my routine might help trigger a reinvigorating reset for me.

Meanwhile, over break, the lemon of declining student enrollments led to the cancellation of a class I have taught for years, but that cancellation also created the lemonade of the chance for me to teach our P-5 science teaching methods course. I had never taught this course before, but I love science, and this was a wonderful opportunity to wrestle with how P-5 science education should be done differently in light of the urgent ecological crises we face. So, I stayed up until 3:00 am one morning reading Ohio’s P-12 science standards and model curricula, and I was disappointed to find that, other than a model environmental science class for high school, the state science standards were largely silent on the ecological crises that humans will be passing down to the children my students will teach.

At age 63, I would be happy to teach another five or ten years, but I know the first challenge for me in *this* now is how to muster the energy, focus, and passion needed to incorporate complex ideas about the crises humanity faces into my teaching in engaging and transformative ways. I spent decades building a teaching practice I felt was very

effective but that didn't incorporate these ideas, so can I muster the juice once again to do that with a more complicated and daunting set of student outcomes? The second challenge is parallel: Can I muster the energy, focus, passion, and courage to push for making the P-8 teacher education program we are now planning reflect the crises humanity will face this century plus how to resolve them?

SYNTHESIS

What do I see and feel as I revisit this this now considering the previous three steps?

My learning as a researcher led me to realize that we don't just face a climate crisis; we face a multi-faceted global metacrisis, and we must fundamentally transform our societies and lifestyles to prevent worsening ecological and societal breakdown. For example, to make our civilization sustainable, we don't just need more renewable energy, we must shrink our economies by about 50% plus leave the Earth cleaner every year than it was at the beginning of the year (e.g., see Hickel, 2020; Merkel, 2003; Wackernagel & Byers, 2019), just as my late mother would have suggested. To make our civilization healthy and just, we must distribute wealth much more equitably so we can meet the needs of over eight billion people and five million species (Wilkinson & Pickett, 2010). In another case of my mother being right, delaying gratification will be critical for humanity to live simpler lives and bring our consumption and wastes within the limits of Earth's carrying capacity.

My background as an educational psychologist tells me that some of the ideas that I'm trying to teach future teachers are incredibly hard to accept and learn. The human mind has an estimated 188 cognitive biases (e.g., see Banaji & Greenwald, 2013), and some of these protect us from taking responsibility for doing harmful things like destabilizing the climate, wrecking ecosystems, or exploiting others, while other biases make us falsely believe that life will always continue the way it always has during our short human lives.

My reflections as a teacher educator tell me that learning how to teach these ideas in responsive, engaging, and impactful ways will take me a few years. I've begun crafting and testing activities for teaching these ideas, but it's going to be a long road, and I would benefit from finding other teacher educators who understand the true scale of the global metacrisis and who are teaching about it. More uncertain is how much I can get my colleagues to incorporate content about the crises we face and how to solve them into P-8 teacher education. I have many wonderful colleagues, but reminiscent of the movie *Don't Look Up* (McKay, 2021), almost all seem to prefer to continue teaching future teachers "as if there weren't any planetary emergency." This surreal reality reminds me of the climate psychologist Per Espen Stoknes's (2015) remark that humans lead a kind of double life in that we can know something yet act as if we don't know it. But for me too, I sometimes shrink from thinking about these crises or speaking up about them—it's difficult and lonely to be the one person who is always bringing up the elephants in the room.

Finally, my reflections on me, myself, and I tell me that what I must do to have another phoenix moment after being so burned out is to do all the boring basics, starting with self-care. When I consistently get enough sleep on a consistent schedule, get ample exercise, and eat the healthiest diet possible, I am a different, more energetic, and more focused person. Also, when I take regular breaks to do something fun for me, that always helps me recharge so I can better get up the next morning and face the enormity of these crises head on. Next, as someone who has been researching a

wide range of ecological and societal topics and thus often has 70-80 browser windows open, I know that overstimulation and lack of organization is an obstacle to me being the best researcher, teacher, and person I can be. Thus, on the one hand, I must take time every day to get the thousands of things I have collected better organized. On the other hand, to minimize distractions and better enable myself to do deep work, I must practice digital minimalism (Newport, 2019) by limiting the number of research reports and tidbits I collect and the times of day I even look at those things. As someone with a strong tendency to work alone, I also know I need others' help in this now and in all the nows to come. One type of help I need is coaching and ideas to skillfully teach and write about complex and scary topics in an engaging and digestible way. However, on an emotional level, I know I must find like-minded people who want to regularly talk about these crises, their feelings about them, and efforts to resolve them. Having wrestled with the enormity of these crises and the daunting scale of the solutions almost daily for more than a decade, it's just too emotionally difficult to wrestle with and teach about these issues without a community of other people in my situation to debrief, "de-grief," and decompress with.

This hadn't dawned on me before working through the *currere* process, but one key thread connecting most of the healthy changes I must make is delaying gratification. Getting more sleep and on a better schedule requires letting go of watching one more happy ending from a Hallmark movie late at night. Eating healthier requires foregoing the instant gratification of pushing processed foods in my mouth and instead taking time to chop vegetables and cook real meals. Getting organized requires foregoing the instant gratification of reading, writing, or watching something interesting right now plus spending time daily to put a mountain of research and teaching resources in better order. Digital minimalism requires not getting pulled in by fascinating or scary headlines or research online. Even seeking help, resources, or emotional support from others requires foregoing the immediate gratification of individual activities I could otherwise do—and that would be more comfortable for me to do as a self-identified loner.

Accompanying the need for more delaying of gratification is the need for courage to keep sticking my neck out and talking about the elephants in the room. However, I'm sure more social and professional support from people in a similar position will help, and for me, delaying gratification is a key to unlocking that door.

It is odd but satisfying to be 63 years old, to have spent four decades in education, and yet to discover that my late mother's #1 goal for children to develop is also the thing that will help me most at this moment in my life. OK mom, *you were right!*

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