

TOWARD ECO-CENTRIC, EARTH-AS-SCHOOL, AND LOVE-BASED CURRICULUM AND LEARNING: EXAMPLE OF A GRADUATE COURSE

H. Kaur*

M. Khant*

S. Kistner*

D. McHugh*

W. Yu*

C. Moraga-Prieto*

P. Pax Andebo*

J. Lin*

*University of Maryland College Park
United States

ABSTRACT

This article puts forward love, care, and reverence for all people and our nonhuman kin as the center of posthumanist education. Opening our spiritual eye and building intimate relationships with nature and with all elements of the universe is envisioned as part of a schooling or post-schooling experience; our body, heart and spirit, along with our mind, is an essential part of learning. The article describes the experiences of students taking a graduate level course focusing on global climate change and education at a university in the United States. We use the course as an example to explore what posthumanist education entails. In this qualitative study, students taking the course, along with the faculty designing and teaching the course, describe the course curriculum and pedagogies and reflect on the course's impact on them. Data sources include the syllabus, students' reflection papers, nature contact journals, final projects, art works, and group conversations. Although situated in North America, the article is rich with international perspectives as student authors came from six different countries. The article posits that posthumanist education must be eco-centric and love-based, engaging students' whole being to feel for and love Mother Nature.

Keywords: curriculum, education, nature, posthumanism, climate change, higher education, teaching and learning, contemplative pedagogies, spirituality

INTRODUCTION

We are living in an era of grand challenges. Addressing climate changes, species extinction, social injustice and inequity, conflicts, and wars, calls for a fundamental unraveling of education. We must learn to live harmoniously with nature from generation to generation. We posit a form of education that must be holistic and love-based, replacing the capitalist ethos of competition and anthropocentrism, moving our world toward a new, posthumanist paradigm.

In this article, we envision posthumanist education to be composed of an eco-centric, Earth-as-school, love-based curriculum, expanding the notions of learning space, course content, students, and teachers, focusing on love, care, humility, respect, and reverence to all people and our nonhuman kin. We also attempt to envision post-schooling, or beyond-schooling, positing all experiences as learning, such as walking in a forest, making friends with animals, or creating new languages that connect our heart with nature. This type of curriculum is grounded in interconnections with all elements of the universe, the heart is as essential as the mind, and the spirit plays a vital role in learning and being.

We attempt to introduce our own local, and yet also international, experiences, reflections, and insights as participants of a graduate course at the University of Maryland (UMD), United States, focusing on global climate change and education policy and practice and bringing our voices, hearts, and spirits together in connection to Mother Earth. We see this course's pedagogies and learning activities as grounded in contemplation, embodiment, cultivation, and interdependence as valuable sources to inform the posthumanist transformation of education in response to the era of conflicts and crises.

In this article, we first share our understanding of core values that constitute posthumanist education. Next, we present the graduate course, titled Global Climate Change and Education at the University of Maryland, as an example exploring and adopting a posthumanist curriculum; we share context and methodology we used and reflect on how such the course profoundly impacts our awareness and agency, embracing the oneness of our spirits with nature. Finally, we summarize our ideas toward envisioning and advocating for new forms of posthumanist curriculum by quoting from our own work and projects during this course.

LITERATURE REVIEW

What is posthumanism and posthumanist education?

Posthumanism is a departure from the anthropocentric worldviews that exclusively assign value, agency, and supremacy to human beings (humanism). It challenges the position that human beings are at the center of the world (anthropocentrism). It is a mode of critical inquiry

that seeks to break the binary of human and nonhuman. Although there are many strands to this broad philosophical framework, we mostly focus on the ecological perspective in this article.

The Western Enlightenment lens viewed humans as rational beings whereas all other species were merely biological masses incapable of complex rational thinking. Under capitalism, nature is seen as resources for humans to exploit (Fiore and Lin 2023 forthcoming), and it is deemed “wild” and unintelligent (Deloria 2001). Posthumanist theory proposes a new epistemology that is non-anthropocentric and rejects Cartesian dualism (Bolter 2016). The key feature of this theory is its entanglement worldview whereby every entity is part of various assemblages with permeable boundaries. Therefore, every entity has an agency that has an impact on others (Blaikie, Daigle, and Vasseur 2020). Howlett (2018) posits that no posthumanist work will serve its purpose until it shifts its perspective beyond this human-centric epistemological lens. LeFay (2006) explains that a mechanistic worldview invariably stems from dualism that splits the world decisively into mutually exclusive categories of mind/matter, reason/intuition, subject/object, self/other, etc. This framework dominates the current scientific view.

Postcolonial theorist Mbeme (2021) notes the current dangerous world trends, with the predominance of capitalism and technological escalation, and he calls for humans to look differently at their relationship with nature. According to Mbeme (2021), humans must radically decenter themselves and participate in a new rebirth with the natural world. The idea of peoplehood being represented by all of nature’s creatures at times arises in posthumanism. Badmington (2003) posits that environmental education must challenge humans to rethink established assumptions about their relationship to the nonhuman by developing abilities and capacities to experience a new connection that genuinely recognizes the interest of nature.

The modern education system, in spite of changes over time, bears industrial and capitalist imprints. Big corporations dictate the education sector, wherein there is much emphasis on technological advancement and economic gain. Consequently, the core values undergirding education worldwide are individualism, consumerism, and anthropocentrism. However, there is a growing recognition among educators that the web of life is sustained by the principles of interconnection and respect for the ecosystem (LeFay 2006). For a sustainable future, the principles of ecology – interconnection, diversity, and mutuality – must become the principles of education. This requires redesigning education in all its aspects: curriculum, philosophy, pedagogy, management and relationship with the wider community (LeFay 2006).

Howlett (2018) observes that all current prevalent educational and pedagogical goals are grounded in the privileging of the human. This is a great cause of concern because humans are

only a small part of the world and yet our education helps justify human domination over the natural world. Education should be held accountable to the world, beyond its existence for humans. As such, we need to challenge the dominance of anthropocentrism, colonialism, capitalism, patriarchy, and neoliberalism. We need pedagogical practices that are ecologically-based in that they see the ways of knowing and the ways of being as inseparable.

Posthumanism can be considered a revival of the traditional wisdom rather than an entirely new, revolutionary approach to life. The aboriginal and indigenous populations have always practiced this holistic and harmonious way of life. Johnson (2012) remarks that indigenous philosophy finds ways of being and knowing conceptually linked. As such, place-based learning acknowledges collective memories, shared histories, and challenges in the context of geo-politics of the place.

Pulkki, Dahlin, and Värri (2017) offers an insight into the nature of posthumanist education by discussing the importance of students' lived body experiences. The authors critique how hidden curriculum in all schools teaches the students to focus outside of themselves. This kind of analytic and instrumental rationality kills our inner subjective life. They urge for inner work or contemplative practices in education. In this way, we cultivate a sense of interbeing, or subject-object integration and bonding, from which flows a love of life and respect for the sacred existence of other beings.

Posthumanist thinkers advocate for multidisciplinary, interdisciplinary and transdisciplinary approaches that will provide us insight into intricate aspects of the complex problems faced by us today. They stress the experiential components of education which requires taking education beyond the physical classroom. Therefore, the posthumanist pedagogy is situated not only in intellect but in multimodal contexts, including affect and experience. This is because setting has the potential to teach, just like a teacher. Montessori schools, School Without Walls at The George Washington University, and Greenwood College School in Toronto are a few examples. Herbert Read (1943) also proposed a pedagogy of peace and social justice through arts and humanities (Blaikie et al. 2020).

Posthumanism also challenges a universal, homogenous conceptualization of human beings. Many racial and sexual minorities have historically been relegated to the status of being lesser than even humans. Thus, theories like feminism and antiracism make significant contributions to posthumanist studies in various disciplines (Snaza et al. 2014). Howlett (2018) clarifies how posthumanism surpasses humanism by taking into consideration the issues of race and gender. A study of the intersection of race and gender with other social constructs gives us a complete picture of the world around us. This fuller picture implies challenging the dominant

conceptions of knowledge in public and academic discourses. Braidotti (2013) points out that the deep transformations taking place in the world should make humans think differently about themselves; these vast changes, Braidotti (2013) tells us, offer new opportunities for social bonding and community building in a society striving for sustainability and individual empowerment.

In this world of tremendous challenges, inequity and climate change are generating huge floods of refugees. In posthumanism, all Earth citizens have a say on what we include as knowledge, e.g., when we talk about refugees and migration, people and nonhumans are all included. These Earth citizens include: BIPOC community members, people facing displacement, youth leaders, and government and nonprofit leaders. At the same time, we also include animals, plants, land, rivers, sky, and oceans. We need to remember that while human losses were big during the 2019–2020 Australia bushfires, at the same time, more than 3 billion animals also died (WWF Australia 2020).

The current context of education and school curriculum

One of the many problems in the current form of education is that nature has been objectified as the “other,” commodified for exploitation for profits leading to devastating destruction of nature and now the possibility of climate collapse and a great species extinction (Fiore and Lin 2023 forthcoming). Young children growing up today don’t know the songs of the trees; animals are considered mute; nature that is full of life and wisdom is called wild (Deloria 2001); zoos with animals in cages are where children gaze into the curious world of those who are our kin (Dolby 2015). Nature is continuous but we set up fortresses by building border fences of nation states. We seek magical solutions to our impending climate catastrophe through new technologies while electrical car companies are destroying sacred land in the so-called “lithium triangle” – an area located between Argentina, Bolivia, and Chile – mining lithium and impacting the environment and the human communities that live in those areas (Liu, Agusdinata, and Myint 2019; Gundermann and Göbel 2018). Hence, current sustainability solutions to the climate crisis are not sustainable and tend to damage nature as well as human communities.

In many countries worldwide, including the countries we come from in Asia, Latin America, North America, and Africa, the current standardized national curriculum has been designed to carve knowledge into a set of subjects; missing in the curriculum is a love of nature and a need for Earth stewardship. Children lack place-based, on-site, hands-on experiences; students learn in enclosed environments and classroom socialization reinforces the separation

between “nature” and “human”. Nature is called “it,” while humans are all individual “I’s” responsible only for themselves. Our children experience a “nature deficit disorder” (Dickinson 2013; Louv 2006).

The profound intelligence of animals is often overlooked in our society and education. According to Bekoff, Allen, and Burghardt (2002, 391), Darwin theorized that “the human mind evolved from that of animals, and that animals therefore possess mental capabilities not unlike those of humans”. Despite possible similar mental capabilities between animals and humans, animal names are used across languages with negative connotations to either insult or shame individual humans (Špago 2022). Examples of these include: referring to an individual as a “bestia” or beast to indicate “uncivilized” behavior; in the Chinese language, prostitutes are referred to as chickens; to insult an individual at an intellectual level, in many languages humans are referred to as a donkey (burro) or “jackass”. As we normalize using animal names in negative manners, animal’s distinct personalities become devalued in our society. For example, 28,000 species of the ocean are called “fish stocks” – neglecting that dolphins joy and pain like us; mother dolphins protecting her babies like us, and so do elephants.

We have instilled in our children a deep sense of alienation from nature. In his book *Pedagogy of the oppressed* (1970), Paulo Freire introduced the concept of banking education, which describes an oppressive process that positions teachers as the “depositors” of knowledge into passive student “receptacles” (Bybee 2020). Based on Freire’s concept of banking education, people do not learn about their communities, and education ultimately leaves them without understanding their agency and responsibilities as stewards and children of Earth (Bybee 2020).

Meanwhile, education plays a big role in justifying and reinforcing various forms of domination, such as capitalism, extractivism, racism, colonialism, patriarchy, among others. The current state of the world we live in provides ample examples and the daily crises we are in directly result from these hierarchical and exploitative ideologies and systems. Essentially, the anthropocentric, colonial, capitalist schooling systems assumes humans to be above nature; contents and forms of education are misaligned with philosophies and epistemologies of a cosmos that is sacred, with all species playing a unique and important role for harmony and balance (Culham and Lin 2020; Fiore and Lin 2023 forthcoming). Since the Enlightenment period, there has been an emphasis on intellectual education rather than on educating with the heart. Spirit is relegated to the private domain, leaving public schools as a spiritual wasteland (Kessler 2000). Nature is not seen as an animating existence; rather it is viewed as a machine, belonging to the domain of dead matter (Bai 2009).

Features of posthumanist education and curriculum

We need to have a future for the young generations; there is no human without nature, and when we destroy nature, we destroy ourselves. This calls for a shift of a focus from anthropocentric to eco-centered knowledge and learning that sees nature as our root and nature beings as our kins. This shift includes referring to animals and birds as “peoples” (Smith 1991); changing from asking children to study *what* is a wolf, to urging them to learn *who* a wolf is (Aikenhead 2001); knowing the name of the wind (McCarty et al. 2022); knowing the history behind the indigenous people in the Amazon forest calling money “a sad leaf” (Stoltz et al. 2022); or reviving sacred wisdom that sees human species needing to learn from our nonhuman kin (Deloria 2001). We believe that these changes are vitally important to help decenter us as the only intelligent species on Earth. Calling animals “people” does not mean that they are made in the images of people, but is a recognition that animals are species equal to humans with their own intrinsic values and rights.

We advocate posthumanist schooling to return to indigenous wisdom, to be land-based and culturally relevant; to respect nature rhythms and see nature as sacred and divine. Nature is seen as a knowledge holder, teacher, library, healer, and pharmacy. We can endear nature to us through new languages naming nature as persons; we can do advocacy work on behalf of nature; we need to heed stories from nature, stories of suffering and joy, with nature feeling like we feel as humans. We foresee:

- An education that values and cherishes human and nonhuman life, and their diversity and dignity;
- A curriculum that helps us protect what is sacred;
- A curriculum relevant to the place, history, and memory of the human and nonhuman communities;
- An education that puts value on finding balance and harmony amidst actions and chaos, and that builds a community of learners who trust and support one other and
- A curriculum that incorporates contemplation and holistic ways of learning and being.

Stakeholders in the kind of schooling we envision would include all species on Earth; all are to be centered; all have children, teachers, and are part of society; and all are Earth citizens. This is how we envision the posthuman world and education, transforming notions of our world and seeing nature as ourselves, moving beyond human flourishing to Earth flourishing.

An inclusive, equitable, and compassionate posthumanist world: Educational transformation

How can governments of the world let go of competition and go for collaboration? How can we promote effective value systems against capitalism? How can we encourage unity among countries that have different development goals? How might we help teachers in low-resource environments teach environmental education better to their students? What do we teach, and how might we empower the generation that will suffer the most from the climate crisis? How can we educate children about compassion towards themselves, the people around them, and nature around them? What indigenous knowledge can we learn to take care of our environment? We need to ask these questions to get us to start thinking about solutions and envision the future we want to have. The defining question is: How can we educate all humans, young and old, to deeply appreciate the nonhuman, natural world around them, to see themselves as part of nature rather than being above it or having the right to exploit and control it?

In schools and classrooms, in textbooks and in various learning places, we need to fundamentally, drastically, reimagine knowledge sources, contents, focus, and goals to achieve love-based teacher-learner relationships (Lin 2006). We need to emphasize the centrality of compassion and love and design heart-based pedagogies. We need to incorporate contemplative, reflection-oriented experiences into students' learning, helping students build profound relationships with nature, cultivate acute and deep awareness of our interconnectedness and our dependence on nature, and appreciate the blessings we receive from nature (Lin and Khoo 2022; Fiore and Lin 2023 forthcoming). We need to adopt spirit-awakening pedagogies and a spirit-centered curriculum which allow us to see all beings and existence as divine and intelligent.

We need to build pedagogies of time – for slower, purposeful lifestyles to acknowledge and learn from the past; to be present in the now, and to envision positive changes for the future. We need to explore pedagogies that help us blur the line between human/nonhuman, creatively using storytelling as a method to give nature a voice to share their stories. We need to develop the sensitivity to hear nature and resonate with nature in body, heart, and spirit.

METHODOLOGY

The graduate course on Global Climate Change and Education is designed by Dr. Jing Lin, who was teaching the course the second time when the student authors of this article – Min, Catalina, Denise, Sarah, Wuqi, and Harpreet, took this course. Pascal did not take the course but

contributed to the literature review of the course. Jing designs this course for students to gain awareness of the current crises of climate change and species extinction and explore solutions to the existential problems we are facing. The course is designed to be participatory and experiential; most notably, contemplative pedagogies such as mindfulness, meditation, nature contact, and reflections are built into the learning activities throughout the course. Jing has done meditation for more than 25 years and has experienced a great expansion of awareness on our interconnection with nature. She has hence incorporated many contemplative pedagogies, such as meditation, mindfulness, and journaling, into her courses (Lin and Khoo 2022). The students are urged to experience nature firsthand, and connect the learning to their life; hence, natural contact journals are assigned. The course also features a critical deconstruction of anthropocentrism, by studying ecological ethics and philosophies from around the world. Students are engaged in critically looking at capitalism for its power to destroy nature through humans' unquenchable greed for possession. Indigenous wisdom is a focus of the course as well.

Using a qualitative method of narrative inquiry, we, the student authors, reflected on our experiences in the course, shared stories, held many group conversations, and read each other's nature contact journals, final papers, and poetries – these form the main data sources in our article. Narrative inquiry is marked by its strength in understanding and making meaning of individual and group experiences through participants' conversations, dialogue, and creation of artifacts, such as journals, poetries, and photographs, in an ongoing context of engagement (Clandinin and Caine 2013). The method of narrative inquiry fits the context of our research as it allows for the flexibility of aggregating diverse forms of qualitative narratives and recognizes the validity of using them in analysis and making arguments.

From the beginning, contemplative inquiry was built into the structure of the course. Self-reflection as an integral part of the posthumanist curriculum, the course encourages students to actively and formatively reflect on their cognitive, emotional, and spiritual changes on a continuous basis throughout the semester. These reflections took place both individually and as group discussions in different stages of the course. Students summed up their learning and changes in the semester through a personal reflection paper which they submitted at the end of the semester, fulfilling one of the course requirements. Similarly, another assignment from the course guides students to create a "Nature Contact Journal" throughout the semester, which allows students to incorporate their culturally and aesthetically relevant ways of expression, such as poetry writing and photograph taking, into their constant contact and connections with nature. The course encourages creative exploration of posthumanist learning, which results in

the students producing various forms of research and experiential projects as the final assignment. All these assignments and products were voluntarily shared among the students at the end of the course and used as data sources for our exploration of posthumanist education toward love and respect for nature.

INCORPORATING POSTHUMANIST LEARNING INTO A GRADUATE COURSE

Next, we share what happened in this course, focusing on global climate change and education, how we let our imaginations fly, and how we adopted some practical strategies to learn not only to use our mind, but more importantly, our heart and spirit, to connect with nature. We call this first-person learning. We adopted indigenous learning methods by learning to become like others, including our nonhuman relatives, connecting body, heart, mind, and spirit. We share our voices from Asia, Latin America, and North America, and discussed how as teachers and students, we can co-create curriculum that helps us to emotionally relate to our non-human kin in the natural world. We visited a forest and put signs on the trees in protest of plans to cut down the trees, using the voices of the trees to author their stories. We sought to multiply the frames of references: how would trees look at us? Deer? Eagles? Ants? In all, we share how we open our spiritual eyes and see beauty and sacredness in everything and see all beings on Earth as both teachers and students. Love, wisdom, harmony, humility, respect, and gratitude are what we aim for through such a learning process.

Objectives of the course

As mentioned previously, Jing, a professor in the College of Education at UMD, started to design the course on Global Climate Change and Education: Policy and Practice in 2020 and offered it during 2021 and 2022 in the Fall semester. The course was offered the second time when this class took it. The course stresses how anthropocentrism and capitalism, focusing on accumulation of wealth and governments pushing GDP growth, have caused devastating consequences on nature, causing climate change, species extinction, horrendous pollution, and so on. The course aims to help students develop an understanding that humans do not exist in isolation on this planet and are not separate from other forms of creation around them; in fact, we harm ourselves when we harm nature. Therefore, this course explores the intersection between climate and geopolitics, economics, social justice, ecological ethics, and inner work through transformative spiritual pathways. It attempts a comprehensive re-envisioning of education.

Contents of the course

The semester for the course ran from late August to the first week of December. In this semester of 13 weeks, we explored a broad array of issues connected with the environment and how humans and nonhumans perceive, and are affected by, climate change. Our first four classes included readings, presentations, discussions, and videos that raised our awareness of climate change, its root causes, manifestations, and consequences. As a class, we also discussed the importance of having a positive stance for addressing this challenge and the ability to envision and communicate paths toward making changes possible. Our subsequent sessions addressed key actors and international agreements. We also discussed the solutions proposed by different stakeholders, the failures of international agreements, and the gaps that national and international institutions should address soon – such as the protection of the oceans – and the tensions between climate change’s urgency and the lack of effective accountability measures and committed actions at local and global levels.

Later in the semester, we examined the dire consequences of climate change for communities worldwide, including mass migration and displacement. We dedicated the second half of our semester to expanding our understanding of Western and non-Western worldviews, ethics, epistemologies, and cosmologies related to human relations with nature. In addition, we learned and became aware of how our local contexts inform our worldviews and epistemologies and how different contexts embrace different stances toward nature. Our class reflected on Buen Vivir (Chuji, Rengifo, and Gudynas 2019; Norren 2020), Ubuntu (Norren 2020), ecological Botho-Ubuntu (LenkaBula 2008), indigenous perspectives and animism (Lin et al. 2020; Eysers 2017; Bai 2009; Madjidi and Restoule 2008), and the world’s spiritual traditions and philosophies. We explored ecological ethics in religions such as Buddhism, Taoism, and Jainism. We studied epistemic justice, social justice, and the role and importance of civil society and social movements in igniting change. At the end of our class, and in fact throughout the course, we studied the importance of inner work, meditation, biophilia, healing and well-being, and the role of education and art in healing and restoring compassion.

The course is multi- and interdisciplinary in that it explores sociological causes and implications of our ecological crisis and delves into creative arts, education, and contemplative inquiry to work on a regenerative future. It focuses on mass migration, refugees, poverty, feminism, racial and ethnic minorities, indigenous populations, eco-philosophy, and climate resilience. This helps us see socio-economic development in a new light and engage in ecojustice from different perspectives. The aim is to deconstruct colonial and cultural hegemony and revive the less explored or traditionally ignored epistemologies and ontologies.

By the end of the course, we learned to adopt a non-anthropocentric approach to the world around us. For instance, we began to rename things considered inanimate or insentient to impart a new personality, a significant shift from “what” to “who.” We also pledged to improve our relationship with nature. We endeavor to be conscious of our actions and how we impact the earth. These actions include recycling, waste management, reducing food waste, joining a petition, or giving up consumerist shopping tendencies.

Holistic pedagogies: Experiential, participatory, contemplative, place-based, and agency-oriented

This course is designed to be experiential, participatory, contemplative, and place-based. The course emphasizes developing agency and capacities for change. This is achieved through multiple modes of learning, knowledge acquisition, and expression, including nature contact, meditation, visual arts, and advocating for nature. The contemplative, experiential learning activities included journaling and reflecting on what we have learned, forming an activist group or joining a local group for change, writing blogs, giving a Ted Talk, practicing giving a policy pitch, and designing transformative curricula and programs. We as a class engaged in individual and group projects to transition from acquiring purely academic knowledge to integrate it with a lived, embodied experience.

At the same time, the class worked as a group to critique the current school curriculum and pedagogies that create a nature-deficit disorder and how place-based learning can empower the young generations to tackle environmental challenges. We learned to mobilize internal resources through meditation and mindfulness practices for addressing intergenerational traumas and enhancing our mental health. We investigated artistic ways of reconnecting with the environment and the role of traditional as well as modern aesthetics in addressing environmental education in formal and informal spaces.

REFLECTION ON OUR EXPERIENCE: SHARING OUR VOICES

A supportive and kindness-filled class helped to inspire our learnings and build our community. Starting each class with a contemplative activity, planned and led by one of us, set a tone of calmness that quieted our minds, making us ready to share. As Min shares: “As this is my first semester of my Master’s studies abroad, there were so many things I had to go through, which always made me anxious and constantly worried. But this class always helped me to feel conscious of myself and the nature around me with the meditation practices we do in our class.”

For a few members, this might have been the first time they led an activity like a

meditation practice. The contemplative activities typically employed all of our senses, which made us realize that classroom curricula do not always come in books or are not always related to our mind. We can use all of our senses in the learning process. Many of the readings in class supported the notion of using our heart, body, mind, and spirit to learn holistically (Bai 2009; Pulkki et al. 2017). Jing first modeled and later also led contemplative activities, validating its importance as a worthwhile classroom activity.

The overall class environment inspired each of us to contribute in our own ways and bring our whole selves into how we study. We sat in a circle of desks, which made it easier for us to connect to each other. Self-reflection was an important facet of the course. The topic of climate change was considered personally, not merely as an academic endeavor, but something each of us is experiencing at some level. From the beginning, Jing established the students as scholars and offered us ways to contribute as a group or as individuals, from adding our thoughts to reviewing an encyclopedia proposal, to designing a new journal on climate change and education. We were encouraged to share specific knowledge we garner about climate change outside of the class assignments. As a complement to Jing's presentations, we worked together and individually to plan curriculum activities for the class. Since our class members were from different parts of the world, we brought diverse learnings and backgrounds to the classroom setting.

One of the most touching and memorable classes began outside in nature. As a group, we walked around the gardens on campus, enjoying the beauty and fragrances of plant life. This shared experience, focusing on the senses, helped us see areas of campus in a new light. We recognized the connection between spending time in nature and our own well-being, a point stressed in some of our classroom readings. Throughout the class, we were reminded in our readings and classroom discussions that we as humans are part of the natural world, not above it. During one classroom presentation, Jing asked us, what opinion would the birds have of a particular environmental proposal? We realized that we had not considered that living beings other than us might have an opinion on our discussions or at the least would be impacted by what we decide.

The progression of the topics in the course helped us prepare for a more in-depth understanding of current events. For example, Denise comments: "The historical focus provided from the outset of the class, when we discussed early environmental studies in the United States in the 1960s, such as Rachel Carson's work, helped set the stage for later environmental developments and gave us additional important background to the current climate change crisis".

Also, moving from a “sense of urgency” towards exploring “alternative solutions” was vital for us in feeling a sense of agency. As Denise comments, the balance between having a critical perspective while identifying alternatives solutions “was helpful in making the climate change issue seem real and something that can be addressed by each of us”. Wuqi also comments on the same topic: “The combination of the urgency of the crisis and the alternatives from theoretical and practical approaches inspired me to see hope and be positive about the power of my agency. In this way a positive vision was embedded in my commitment and action”.

Our class addressed the topics of climate change and educational transformation holistically; we connected the curriculum with emotions, values, ethics, and a deep reflection on the meaning of our life and human and nonhuman well-being. The holistic nature of our class was present, for example, in the study of values, such as compassion and creativity, in connection with climate change and education. This perspective helped us understand the multidimensional challenges that climate change poses to humans and nonhumans. As Catalina shares: “This course connected areas I had never studied together (e.g., contemplation and the environment). This approach helped me to gain a deeper understanding of the issues studied.”

A significant element present in the content of the class was the emphasis on different epistemologies, cultures, and histories worldwide. The class studied different epistemologies that had in common a non-anthropocentric understanding of life on earth, such as views on nature from Deep Ecology (Seed 2019), and Buddhist, Jain, and Indigenous perspectives (Madjidi and Restoule 2008).

Catalina shares: “During this course, I learned about many traditions that acknowledge nonhumans as part of ‘society’. Learning about different epistemological views helped us decenter our experience and consider how our cultural perspectives have shaped our understandings and behaviors towards nonhuman beings. Learning from many examples of non-anthropocentric experiences also increased our awareness of local examples in our countries or regions.”

Harpreet also avers: “Climate change had been at the back of my mind, but this course was able to bring it to the forefront of my consciousness because of its holistic treatment of global crises and then mindfully brought us back to our local context. I was able see beyond the reductionist, scientific view of climate change. I found it amazing how the power of contemplation and creativity can be harnessed to the service of climate resilience.”

The contemplative practices helped us become conscious of ourselves and the nature around us.

Min shares: “As a teacher myself before entering the program, I am impressed by Jing’s passion and attitude towards the mental and holistic well-being of students in the class. Contemplative practices help ground us. I came to understand that to take care of our planet and our nature, we need to take care of our body and spirit on a daily basis as our body is a part of nature.”

Learning sources do not just come from teacher and student in the classroom but also extend beyond the classroom boundaries. Many guest speakers were invited to the class, including experts and young activists. Students’ experiences and expertise are also rich resources for learning for everyone. Jing cares about what students have to bring to the class; their background, knowledge, and previous experience matter in the class. She always pays special attention to the students’ presentations and gives valuable feedback after each presentation.

Our class also explored the connection between art and the environment. We discussed how art and its creative and contemplative spirit could help us reconnect with ourselves and nature. At the same time, we studied art as a way of self-expression as well as a way of representing environmental conflicts and struggles.

Within the class, one of our first experiences with art as a form of expression was during a workshop organized by two classmates. The workshop’s main goal was to increase awareness of our feelings during the learning process. For example, in one of the workshop activities, we had to collectively create a solution for people affected by a natural or human-made disaster, prototype our proposal, and explain it to the class. The activity made us reflect on the role of our emotions, develop our teamwork skills, and explore creative solutions while envisioning positive change for the world.

For another class, Jing asked us to bring an art piece that, from our perspective, had a connection with nature. The six of us brought very different objects and experiences. We presented the object/experience we wanted to highlight to the class and the rationale behind our decision. The experience allowed us to connect with our creativity. At the same time, we created more profound relationships with our classmates based on empathy and a deep understanding of each other’s feelings and experiences.

Jing designed our last project in a way that allowed us to choose a format to freely explore nature and climate change issues. This flexible approach allowed us to continue exploring our creativity while putting into practice what we learned in the course. Our final class projects tackled various issues, formats, and locations, such as:

- A workshop for young students with Collaborative Action for Climate Change Education
- The planning and design process of a contemplative garden for dialogue and sensing nature

at UMD's Memorial Chapel.

- A new curriculum for a course on Education for Sustainability for teachers in Myanmar, which focuses on including and activating local indigenous knowledge.
- An academic article that studied Eco philosophy in Sikhism.
- An academic article that addressed China's environmental education policy and practices.
- An essay on art that reflected on extractivism (involving lithium) in Chile and its impact on local communities.

The course's impact on us

Before taking this course, the discourse around climate change and human's responsibility to protect nature was not a new phenomenon for us to hear about. We saw and heard about it on TV, on the Internet, in books, and in all types of media. Some of these sources talk about the urgency of the crises we are in, some talk about strategies we need to adopt. Yet, these contents are seldom attached to our hearts. The values and actions that were preached to us throughout these mediums seem remote or irrelevant. It was not until taking this course that for the first time we started to connect to the issue of climate change emotionally and spiritually. The emotional and spiritual connection to the topic of climate change became the tone and foundation throughout our learning experience and contributed to our inner growth in terms of adopting new worldviews to see and feel about the things happening in the world as well as gaining a sense of agency.

In this course, we were encouraged to keep a journal of daily or weekly interactions with nature throughout the Fall semester. The journal gave us an opportunity and the space to dive deeper inside ourselves and find that connection with the outside world at a spiritual level. Many of us have passively walked this earth for many years without truly absorbing the depths of nature's beauty. Recognizing that nature is not a separate entity from us but rather a part of us that makes us whole was essential for us to live and *be* in/with the world. From our journals, we share the following experiences.

Trees began to exclaim their voices throughout our journals, clearly demonstrating an interconnection between us and nonhuman beings as we began to engage in more meaningful connections with nature. Conversations emerged quite naturally with the trees, who so keenly listened to our concerns about their future. Perhaps to our surprise, the trees spoke back to us. Harpreet, Min, and Sarah described the living spirit resting within the trees as they walked past them. As they became living spirits to us, their energies became more powerful to our souls, in such a way that feelings of empathy and compassion emerged. Furthermore, Harpreet and Sarah

remarked that the roses outside of their academic building eagerly invited them to stop and admire their presence on multiple occasions. Sarah stated that she was stressed by the work and study that day as we walked in the college gardens, but she felt a great sense of peace when smelling a rose: “What does peace smell like? It smells like this white rose. I could feel my nerves slowly calm down as I inhaled the warm fragrance of acceptance.”

Harpreet shared another spiritual experience with a different rose bush nearby. She wrote in her journal: “I know there are beautiful roses just outside the former building. I *looked* at them and then looked past them many a time. I never *saw* them. This went on for quite some time. And then, one fine Tuesday, I decided to stop. It was as if the roses had been beckoning, and I could ignore them no longer. I gazed at a few of them and reveled in their beauty.”

These moments struck us both with pure jubilation and as a result of this course, we formed a profound kinship with roses and many blessings of nature. It is no longer “them” or “the roses,” rather it is “us”.

Taking this course liberated us from the strict boundary of human-centric perspectives and knowledge shaped by our society. It allowed us to go back to review different issues in our society with a transcendent worldview that recognizes the interconnections of all existence in our cosmos. This is a culture and value-embodied journey. We begin to embrace the value of peace, equity, oneness, and love. These values are translated into benchmarks we use to interpret, understand, and react to justice and injustice in beliefs and practices in human society and beyond. Our worldview changes started a process of moving towards a new positionality, where we feel in our body and spirit the underlying inequitable relationship among human beings and between humans and nature as the source of tension and conflict. We began to see inequalities in human society as parallel to our exploitation of nature and other beings. We see human greed running through the wars among humans and between humans and nature. In the meantime, we understand we are never separable from what we see and feel. We are part of the conflict and part of the peace, and always related to and influenced by the ever-changing dynamics of things happening in the world. Hence, the feeling and sense of interconnection with all beings in the cosmos encourages us to act with love and compassion; we have begun cultivating within ourselves and embedding them in our personal and collective endeavors toward transforming toward a posthumanist paradigm. To us, finishing this course is not the end but the start of a journey of self-cultivation and pursuit of posthumanist solutions to challenges in human society and beyond. We continue to reflect. Below are reflections on our current state of education and the need we see to move toward a posthumanist curriculum.

Wuqi shares: “To me, the impact of taking the course is dramatic, profound, and long-standing. I begin to ask why the educational effect of a posthumanism curriculum is so powerful, whereas my previous education experience fails to inspire me at the same level of internal transformation. Growing up and receiving K-12 education in China, I found the educational content in schools and the discourse in the society barely go deep enough to help me question the unequal structure embedded in the relationship between nature and humans. There are beautiful pictures and articles that present the beauty of nature in our Chinese textbooks. There are activities for identifying and finding solutions to local air pollution in our science class. However, that never struck a chord with me nor inspired me for any reflection or change. In other words, they were not able to go inside me and triggered deep reflection from myself on the fundamental challenges we are facing.”

“The inability of education to ignite a spark in us is not unique to China but an educational crisis worldwide. The continuity of colonialism and the spread of neoliberalism keep reinforcing the anthropocentric framework in our educational systems. Transformative pedagogy centering on meditation, reflection, community-building, the agency from civil society, and the wisdom from indigenous knowledge as well as spirit-embodied nature contact are all essential pieces to be incorporated into a posthumanism curriculum. It is this climate change course that allows me to experience all these valuable components in a cohesive educational experience, which equips me with a new lens and agency to envision and strive for a better future for education, society, and our mother earth.”

Sarah shares: “To offer another perspective from my own experience as someone who not only grew up in the K-12 school system in the United States, but who has also taught in it during a critical time in our history, a posthumanist curriculum is essential. Similar to the curriculum in China, the United States does not address the human and nature relationship as one of equal partnership. Through hidden curriculums, it emphasizes an anthropocentric model of behavior to students. As a child I had innate instincts to hug a tree or play with a bug, just as I would my peers, until I reached a level of consciousness that I was superior to both a tree and bug. This change began as soon as I was given books about the biology of animals, the raw materials that we can extract from Earth, or the dangers of the wild rather than stories of animals, plants, and people coexisting amongst them. It is quite shocking that those types of literature are considered ‘mythical’ or ‘legends’ instead of a reality that can and does exist.”

“As a teacher, I witnessed the little significance that connection with nature has in schools. State standards primarily focus on science and basic understanding of the environment and animals. For example, I was required to teach the properties of a rock, rather than ask the students to think about how rocks may support us or their significance to the ecosystem. The standards put into practice rarely offer the space for contemplative thought on environments and their relation to humans, or animals. Furthermore, I want to discuss the implications of schooling outside of a curriculum focus. In the United States context, going outside during the school-day is treated as a privilege and not a right. Students are often assessed on their behavior throughout the day and any unsatisfactory behavior results in limited or no outside time. It is unfair, and personally I believe it is unjust. Moving towards a posthumanist educational system, we must reframe our *relationship with nature and understand how we are interconnected with space.*” (Blaikie et al. 2020).

Denise shares: “Our natural world is an astounding place for all of us, every living thing together,

to enjoy and preserve. We must take account of every part of our natural universe, from the tiniest fly to the tallest tree; no part of our natural world is insignificant and we as humans are all connected to everything. This course has forged my bond to nature and deepened my commitment to imparting to others the importance of connecting our heart and spirit to the environment we call home. This way of teaching and learning must be infused through our school curricula at every level from pre-school through graduate school.”

Catalina shares: “This course has encouraged me to reflect on the anthropocentric belief that we, as humans, are above nature, which has separated us from the non-human world. The much-needed paradigm shift at a result of our class learning and reflection has deep and meaningful consequences for me, as it is an invitation to for me and my classmates to reflect on every aspect of our shared life —without this artificial division of human and nature as separate entities. In years to come, I aim to continue to learn from posthumanism and its significance for life on earth.”

Min shares: “The course discusses not only thinking about our planet, but also how the universe, particularly the moon and the sun, play a vital role in our planet. As an international student in the United States, home sickness hits terribly almost every day. It gets worse when your country is in chaos and with the brutal oppression from the military. Seeing the moon at night gives me comfort as I know the light from the moon will also comfort the refugees and young resistance fighters hiding in the dark jungles in my country as they have to. The moon will give them peace and hope in the dark place. And children in refugee camps have a chance to play under the moonlight, as I used to when I was a kid in the village with no electricity. I am glad I came from a place where we understand that moonlight cannot be taken for granted. It should be part of the posthumanist curriculum.”

Harpreet adds: “I have never been totally detached from nature. Nature has nourished my spirit and sparked my creativity. However, I had only gone a little far beyond self-gratification when it came to connecting with nature. Establishing a reciprocal relationship with nature occurred to me more fully after taking this course. This has enabled me to break my myopic vision and acknowledge my complex relationship with the web of life. I look back at my own experience as a student and a teacher and wonder why deep connections were seriously missing from our curriculum and learning spaces. And when I say connections, I refer to everything in nature – the entire range and diversity of beings, animate or inanimate. When curricula are controlled by the profiteering market and political forces, we fail to do justice even to fellow human beings, let alone nonhuman kin. Our educators and administrators also lack posthumanist vision. No wonder we have raised a whole new generation of human beings who are struggling to resist the pressures of consumerism. It is not that all of them are insensitive, but their educational experience never immersed them in the real joys that were readily accessible in their environment. However, this course has offered me a novel perspective of revitalizing our education. I am already thinking of little steps I can take as an educator or administrator in the future to make education a fulfilling and meaningful experience for our youth.”

CONCLUSION

As researchers and practitioners in the field of education, we came out of the class with a deeper

understanding of the interconnectedness of our planet. The posthuman pedagogical practices throughout the class, such as contemplative practices, activism to save an endangered forest, interacting with a young activist, and many other inspirational activities which we describe in this article, enriched our worldviews beyond anthropocentrism. This class is evidence that embracing a posthuman curriculum is possible if we have the will to do so, even in large higher education institutions, and it gives us hope and inspiration that change and transformative learning are indeed possible.

The posthuman pedagogy, curriculum, and contents of the course gave us the opportunity to have hope, even though we recognize the devastating impacts we are facing now and in the future in terms of the climate change catastrophe. Through the course, we have come to see the problematic anthropocentric approach of our civilization reflected in modern educational practices, and have delved into indigenous ways of knowing and a holistic approach to our roles as educators, scholars, and researchers. We now stand with marginalized and oppressed communities on our planet called trees, rivers, oceans, forests, flowers, mountains, the animals, and in our human society, the indigenous communities, women, minorities, historically marginalized, and oppressed groups worldwide.

The climate crises we are in call for the combination of new, transformative knowledge and ways of knowing arising from embodied practice. Simply, our inner heart and soul are not alienated from but connected in love with nature. The new form of education we have illustrated allows reflection and action to emerge powerfully from the heart and spirit.

According to Blaikie et al. (2020), a key feature of posthumanism is its entanglement worldview, whereby every entity is part of various assemblages with permeable boundaries. Therefore, every entity has an agency that has an impact on others. Breaking the binaries and hierarchies is the aim of the posthumanist pedagogy. This implies that relationality is at the heart of this pedagogical approach where students view themselves responsible for other humans, nonhumans, the environment, other planets, and the entire cosmos. The pedagogy challenges our current value system and insists on the reframing of student to teacher hierarchies and on moving away from considering some students as part of a deficit model. Further, the posthuman ethics put forth by Braidotti (2013) call on us to shift from an ethics based on self-interest and individualism to one built on our interconnections between self and others, an enlarged sense of community.

We concur with Lynch and Mannion (2021) and Blaikie et al. (2020) who suggest that experiential education allows us to embrace the natural world. It requires taking education beyond the physical classroom. Therefore, it is pedagogy situated not only in intellect but in

multimodal contexts, including affect and experience. This is because setting has the potential to teach, just like a teacher. Herbert Read (1943) also proposed a pedagogy of peace and social justice through arts and humanities. We see all of this as necessary components of a posthumanist curriculum.

We hope that the experiences and learning in our graduate course will shed light on the nature of posthumanist learning and inspire faculty and students to imagine what posthumanist education would look like in their classrooms. We want to help them envision a future with and for all human and nonhuman beings on Earth.

REFERENCES

- Aikenhead, G. 2001. "Integrating Western and Aboriginal Sciences: Cross-cultural Science Teaching." *Journal of Research in Science Education* 31: 337–355. <https://doi.org/10.1023/A:1013151709605>.
- Badmington, N. 2003. "Theorizing Posthumanism." *Cultural Critique: Posthumanism* (Winter 2003), 53: 10–27. <https://www.jstor.org/stable/1354622>.
- Bai, H. 2009. "Re-animating the Universe: Environmental Education and Philosophical Animism. In *Fields of Green: Restorying Culture, Environment, Education*, ed. M. McKenzie, H. Bai, P. Hart, and B. Jickling, 135–151. Hampton Press.
- Bekoff, M., C. Allen, and G. M. Burghardt. (Ed.). 2002. *The Cognitive Animal: Empirical and Theoretical Perspectives on Animal Cognition*. Cambridge, MA: MIT Press.
- Blaikie, F., C. Daigle, and L. Vasseur. 2020. *New Pathways for Teaching and Learning: The Posthumanist Approach*. Canadian Commission for UNESCO. <https://en.ccunesco.ca/-/media/Files/Unesco/Resources/2020/12/PosthumanismAndEducation.pdf>.
- Bolter, J. D. 2016. "Posthumanism." In *The International Encyclopedia of Communication Theory and Philosophy*, ed. E. R. K. B. Jensen, 1–8.
- Braidotti, R. 2013. *The Posthuman*. Cambridge: Polity Books.
- Bybee, E. R. 2020. "Too Important to Fail: The Banking Concept of Education and Standardized Testing in an Urban Middle School." *Educational Studies* 56(4): 418–433. <https://doi.org/10.1080/00131946.2020.1757451>.
- Chuji, M., G. Rengifo, and E. Gudynas. 2019. "Buen Vivir." In *Pluriverse, A Post-development Dictionary*, ed. A. Khotari, A. Salleh, A. Escobar, F. Demaria, and A. Acosta, 111–113. Tulika Books.
- Clandinin, D. J. and V. Caine. 2013. "Narrative Inquiry." In *Reviewing Qualitative Research in the Social Sciences*: 166–179. Routledge.
- Culham, T. and J. Lin. 2020. *Daoist Cultivation of Qi and Virtue for Life, Wisdom, and Learning*. Palgrave-Springer.
- Deloria, V. 2001. "American Indians and the Wilderness." In *Religions and Environments: A Reader in Religion, Nature and Ecology*, ed. R. Bohannon, 2014: 85–92.
- Dickinson, E. 2013. "The misdiagnosis: Rethinking 'nature-deficit disorder'." *Environmental Communication: A Journal of Nature and Culture* 7(3): 315–335. <https://doi.org/10.1080/17524032.2013.802704>.
- Dolby, N. 2015. "Flint's Story: Education and Justice for Animals." *Teachers College Record Online* 24 January.
- Eyers, P. 2017. *Decolonization – Meaning What Exactly?* Stone Circle Press.

<http://www.stonecirclepress.com/blog-9658-ancient-spirit-rising/decolonization-meaning-what-exactly>.

- Fiore, A. and J. Lin. 2023. (Forthcoming). *Restorying our Relationship with Nature through Love: A Guide to Transformative Learning and Being*. Bloomsbury Publishing.
- Gundermann, H. and B. Göbel. 2018. "Indigenous Communities, Lithium Companies, and Their Relations in the Salar de Atacama." *Chungara: Revista de Antropología Chilena* 50(3): 471–486.
- Howlett, C. 2018. "Teacher Education and Posthumanism." *Issues in Teacher Education* 27(1).
- Johnson, J. T. 2012. "Place-based Learning and Knowing: Critical Pedagogies Grounded in Indigeneity." *GeoJournal* 77: 829–836.
- Kessler, R. 2000. *The Soul of Education: Helping Students Find Connection, Compassion, and Character in School*. Association for Supervision and Curriculum Development.
- LeFay, R. 2006. "An Ecological Critique of Education." *International Journal of Children's Spirituality* 11(1): 35–45. <https://doi.org/10.1080/13644360500503290>.
- LenkaBula, P. 2008. "Beyond Anthropocentricity – Botho/Ubuntu and the Quest for Economic and Ecological Justice in Africa." *Religion and Theology* 15(3): 375–394.
- Lin, J. 2006. *Love, Peace and Wisdom in Education: Vision for Education in the 21st Century*. Rowman & Littlefield Education.
- Lin, J., G. Hildebrand, A. Stoltz, and A. Rappeport. 2020. "Environmental Justice Must Include the Rights of All Species to Life and Respect: Integrating Indigenous Knowledge into Education." *International Studies in Sociology of Education*. <https://doi.org/10.1080/09620214.2020.1854827>.
- Lin, J. and Y. Khoo. 2022. "Knowing Our True Self and Transforming Suffering Toward Peace and Love: Embodying the Wisdom of the Heart Sutra and the Diamond Sutra." *Religions* 13(5): 403. <https://doi.org/10.3390/rel13050403>.
- Liu, W., D. B. Agusdinata, and S. W. Myint. 2019. "Spatiotemporal Patterns of Lithium Mining and Environmental Degradation in the Atacama Salt Flat, Chile." *International Journal of Applied Earth Observation and Geoinformation* 80: 145–156. <https://doi.org/10.1016/j.jag.2019.04.016>.
- Louv, R. 2006. *Last Child in the Woods: Saving Our Children from Nature-deficit Disorder*. Algonquin Books.
- Lynch, J. and G. Mannion. 2021. "Place-responsive Pedagogies in the Anthropocene: Attuning with the More-Than-Human." *Environmental Education Research* 27(6): 864–878. <https://doi.org/10.1080/13504622.2020.1867710>.
- McCarty, T. L., T. S. Lee, J. Noguera, W. Yepa, and S. E. Nicholas. 2022. "'You Should Know the Name of the Wind Where You Live': Relationality and Relational Accountability in Indigenous-language Education." *Comparative Education Review* 66(3): 417–441. <https://doi.org/10.1086/720509>.
- Madjidi, K. and J. P. Restoule. 2008. "Comparative Indigenous Ways of Knowing and Learning." In *Comparative and International Education: Issues for Teachers*, ed. K. Mundy, K. Bickmore, R. Hayboe, and K. Madjidi, 77–106.
- Mbeme, A. 2021. "Planetary Entanglement." In *Out of the Dark Night: Essays on Decolonization*, translated by D. Ginsburg. Columbia University Press.
- Norren, D. E., 2020. "The Sustainable Development Goals Viewed through Gross National Happiness, Ubuntu, and Buen Vivir." *International Environmental Agreements* 20: 431–458.
- Pulkki, J., B. Dahlin, and V. Värri. 2017. "Environmental Education as a Lived-Body Practice? A Contemplative Pedagogy Perspective." *Journal of Philosophy of Education* 51(1): 214–229. <https://doi.org/10.1111/1467-9752.12209>.
- Read, H. 1943. *Education through Art*. Faber and Faber.
- Seed, J. 2019. "Deep Ecology." In *Pluriverse, A Post-Development Dictionary*, ed. A. Khotari, A. Salleh, A. Escobar, F. Demaria, and A. Acosta, 145–147. Tulika Books.

- Smith, H. 1991. *The World's Religions*. HarperOne.
- Snaza, N., P. Appelbaum, S. Bayne, D. Carlson, Rotas N. Morris, J. Sandlin, J. Wallin, and J. Weaver. 2014. "Toward a Posthumanist Education." *Journal of Curriculum Theorizing* 30(2): 39–55.
- Špago, D. 2022. "Animal Names as Insults: A Look through the Lens of Bosnian." *SKASE Journal of Theoretical Linguistics* 19(2): 53–68.
- Stoltz, A., K. Harmon, R. Newman, P. Brooks, J. Lin, S. Ayers, M. Aruch, and T. Thomas. 2022. "Tribal Collaborations and Indigenous Representation in Higher Education: Challenges, Successes, and Suggestions for Attaining the SDGs." In *Indigenous Methodologies, Research and Practices for Sustainable Development*, ed. S. Ajaps, M. F. Mbah, A. T. Johnson, and W. Leal, 117–133. World Sustainability Series, Springer.
- WWF Australia. 2020. *New WWF Report: 3 Billion Animals Impacted by Australia's Bushfire Crisis*. 20 July. <https://www.wwf.org.au/news/news/2020/3-billion-animals-impacted-by-australia-bushfire-crisis>.