Centering diversity, equity, inclusion, and justice in environmental studies and sciences by practicing compassionate pedagogies

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Abstract

The imperative to (re)center diversity, equity, inclusion, and justice (DEIJ) touches nearly every aspect of higher education today. The multidisciplinary fields of environmental studies and sciences (ESS) are no exception; mired in questions of land colonization, resource extraction, and the frequently white-washed, sexist, and ableist historic and contemporary narratives of environmentalism, it is imperative that we tackle DEIJ within ESS pedagogies of practice. In this article, we present the framework of compassionate pedagogies, the broad umbrella of pedagogical theories and intentional teaching practices that center self- and community care, connection and relationship, and empathy as an important axis for understanding and dismantling systems of oppression. We propose compassionate pedagogies as one route to promote DEIJ in ESS, drawing on the rich literature connecting this pedagogical position(s) to supportive learning environments for historically marginalized and underserved identities, a critical piece for student success and retention. We provide an overview of compassionate pedagogies and their connections to student support and success from an inclusivity standpoint. We then offer specific frameworks and examples of how we have used these theories and frameworks to guide our course structures, content, and assignments, ranging from first year experiences to upper-level seminars and from courses of small enrollment to large. We conclude by identifying lessons learned at the intersections of the examples provided as well as critical challenges related to the integration of compassionate pedagogies and opportunities for future practice and scholarship.

Introduction

The legacies of colonialism, racial capitalism, and imperialism continue to orient the fields of conservation, natural resource management, sustainable development, and climate change (Kashwan 2020; Purdy 2015; Yussof 2019). Scholars and educators alike are increasingly grappling with such violent, morally tarnished and oppressive legacies by challenging curricular practices, re-imagining syllabi, and fostering inclusive pedagogies. Especially in North American contexts, the work to undermine the pervasiveness of such oppressive structures embraces two central tasks. First, it seeks to concede that white supremacist and colonizing legacies have dominated the traditions of environmentalism as social and educational movements. Second, it inserts the integration of antiracist and other critical approaches into environmental education with an aim of creating transformational changes in the field (Bratman & DeLince 2022; Grover 2020; McLean 2013; Mott & Cockayne 2017; Taylor

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2018c). This article responds to both facets of these challenges by interjecting the notion of compassionate pedagogies into the scholarship on environmental education and DEIJ. We understand compassionate pedagogies both as a critical turn that sheds a light on academic practices that reproduce inequities for students of historically under-served identities, and as an approach that employs empathetic and relational communication as a particularly effective means of engaging, validating, and fostering learning for and by such students (Hao 2011; Pajewski 2022). In defending the importance of compassionate pedagogies as a practice, we recognize the long-acknowledged challenge in the ESS field of encouraging students' senses of belonging and self-efficacy, and contend that these can be improved upon through adoption of the theoretical and practical approaches discussed further in this article of compassionate pedagogies (Taylor 2018a).

Furthermore, the field's overwhelmingly white demographics evoke concern that the values of Diversity, Equity, Inclusion, and Justice (DEIJ) are undermined by the demographic of academic leaders and participants in environmental activities and activism (Martinez-Cola 2020). The predominance of such whiteness often leads to an inadvertent reproduction of racial hierarchies and structures, especially when racial consciousness is ignored or inadequately informs teaching and activist strategies (Brunsma et al. 2013; Inoue 2019; Joseph et al. 2016; Martinez-Cola 2020). The field's demographic and cultural legacy of whiteness presents problems for research, teaching, and policy alike. Without giving explicit attention to different cultural values and worldviews, the predominance of whiteness frequently renders invisible the diversity of participants and perspectives that the environmental field in fact contains. This creates what are often inadvertent perpetuations of exclusivity, cultural myopia, and epistemological erasures which (usually unintentionally) render marginal or altogether exclude the voices of the BIPOC community from full and equitable participation (Bratman & DeLince 2022; Molbaek 2018). Such realities are not uniquely detrimental to environmental educational experiences, but also extend to other fields, making it especially incumbent upon white faculty to adopt a racially conscious approach to teaching and mentoring on a broad level (Joseph et al. 2016).

In environmental studies and sciences (ESS) in particular, the main focus of concern is traditionally directed toward the conditions of the Earth and the life of its biotic ecosystems. While sometimes feelings of empowerment, awe, inspiration, and hopefulness arise from such experiences, Aldo Leopold's observation that "one of the penalties of an ecological education is that one lives alone in a world of wounds" (Leopold 1949) continues to be salient. Contemporary scholars express concern about environmentally aware individuals experiencing conditions of solostalgia (Bogard 2023), and grief, anger, distress, hopelessness, and anxiety, among other emotions (Hamilton 2022; Pihkala 2022; Ray 2021) in the face of learning about climate change, biodiversity losses, and other issues. A good number of valuable resources exist to try to support those experiencing psychological distress as they face the realities of a deeply harmed and catastrophically warming world (Wilkenson & Wray 2021). Still, even giving conscious attention to such psychological struggles of eco-anxiety and grief is frequently a social privilege produced by a highly unequal society; those with the means to do so can consciously grieve and mourn ecological losses, embrace climate therapy, and share stories of eco-anxiety while others are left to deal with the ongoing traumas of land dispossession, pollution, and climate-related displacement without such support structures or even attention to the emotional burdens of the ecological crisis (Wray 2022).

In this article, we explore how compassionate pedagogies can serve as an important path toward addressing and promoting DEIJ in ESS by dismantling systems of oppression and supporting students in the classroom and beyond. As a pedagogical framework, we posit that compassionate practices enable students to bring their whole selves to their educational experiences. This is particularly relevant for students who align themselves with historically marginalized and underserved identities. To facilitate this axis for dismantling systems of oppression, we define compassionate pedagogies broadly to include pedagogical theories and responsive, intentional teaching practices that center self- and community care, connection and relationship, and radical empathy. Recognizing that compassion is a central tenet of Buddhist philosophy and practice, we affirm that a "deeply felt dedication to alleviate the suffering of all beings" informs our definition of the praxis of compassion (Karmapa & Dorje 2011). Compassionate pedagogies, as we elaborate further below, include teaching that involves "cognitive kindness," but also extends to emphasize the co-constitution of classroom relationships within a larger moral umbrella of care and foster critical, nuanced, and complex approaches to understanding social and ecological justice (Yu 2023).

This article proceeds by discussing the connections between student success, DEIJ, and compassionate pedagogical approaches in ESS, in particular, and then offers a brief literature review about compassionate pedagogies and care-informed practices, as relevant to the examples examined in the subsequent sections. Next, we present three variations of compassionate pedagogies to illustrate the utility of the framework as a component of DEIJ work in ESS. These entail place-centered, psyche-centered, and praxis-centered pedagogical techniques, tools, and practices. Our focus is primarily on undergraduate higher education pedagogies, though many approaches may also have applicability in

both upper-level high school and graduate student contexts. We conclude by identifying lessons learned at the intersections of the examples provided as well as critical challenges related to the integration of compassionate pedagogies and opportunities for future practice and scholarship.

Conceptualizing compassionate pedagogies

Compassionate pedagogies draw upon multiple traditions of feminist, antiracist, and dialogical traditions in educational theory. An important intellectual fountain of work in compassionate pedagogies derives from a feminist *ethic of care* which centers the intentions of care and caring as both a political and quotidian facet of life (Monchinski 2010; Noddings 2013; Tronto 1993). This type of "moral education" allows for all of the usual outcomes of education—the so-called rationality, intelligence, etc.—while also giving students experience and practice in navigating moral situations and issues (Noddings 2013). In doing so, this care(ful) pedagogy focuses on an educator's consideration, approachability, and responsiveness to build interpersonal relationships with students (Tarlow 1996; Walker 1989). Eaker-Rich and Van Galen (1996) argue that a pedagogy of care is not just about invoking sentiment but is also a practice involving a dynamic approach to teaching and mentoring students. By meeting the academic, social, and psychological needs of students, a pedagogy of care has been proven to build these mutual relationships and increase student accomplishment (Walker 1989).

A reflexive, critical connection that deepens the transformational potential of compassionate pedagogies is also found through aligning this ethic of care to the critical pedagogies of bell hooks and Paulo Freire, whose work has helped educators to focus on co-constitutive classrooms, humanizing pedagogy, and practical ways to navigate, honor, and uplift students' intersectional experiences in service of collective education and justice (Crenshaw 1989; Freire 1970; Hooks 1994). We also invoke the process of what Hao (2011, p. 92) calls critical compassionate pedagogy which "stresses the importance for educators to be both critical and compassionate in the classroom." This critical-compassionate lens is not only turned toward the educational systems we work in, but to our own social positions and biases (Del Carmen Salazar 2013; Soto 2005). Allowing for reflexivity in our institutions, educational spaces, and teaching practices helps to foster intentionality in our pedagogies while simultaneously engaging our students' lived experiences to ground education in the political and personal (Kaufman 2017).

Thankfully, the toolkit of compassionate pedagogies cross-pollinates with frameworks of universal design (King-Sears 2009), trauma informed teaching (Crosby et al. 2018), engaged and social justice pedagogies (Hooks 1994), and transparent teaching (Winkelmes et al. 2016), among others which offer practical interventions. For example, in transparent teaching where accessibility and equity in the classroom are supported through an emphasis on metacognitive strategies for learning (McGuire 2015) and explicit communication, studies have shown that students enrolled in courses with transparent design and instruction have statistically significant higher academic performance (Kuh et al. 2014), have demonstrated links between transparent teaching and academic success for traditionally excluded or underrepresented student communities (Winkelmes 2015), and have shown student reported enhanced connections between transparent teaching and self-efficacy and belonging (Winkelmes et al. 2016). Functioning in concert with the foci of compassionate pedagogies to dismantle oppressive structures and be culturally responsive, these methods can demonstrate care for students and awareness of the heavy cognitive load they are carrying (Gelles et al. 2020) as well as inspire teaching innovations that challenge ineffectual ideas of rigor (Hurtado et al. 2011) or what college readiness looks like (Molbaek 2018).

These pedagogical approaches have a long history but have recently gained new attention within teaching spaces due to the COVID-19 pandemic and the Black Lives Matter protests of 2020. While trauma amidst global cataclysms is made explicit, Del Rosso (2021) rightly points out that students also experience traumas throughout various points of their lives and educational experiences. Many instructors made course-wide changes during this time; making policies, assignments, and classes more flexible to accommodate the unanticipated challenges of emergency remote teaching and the realities of living through extremely uncertain and overwhelming times (Hodges et al. 2020). However, many courses have returned to "normal," foregoing this flexibility and ignoring the transformative nature of these pedagogical changes (Bartholomay 2022). Building a compassionate, flexible course does not preclude, or even negate, academic standards, but in fact can address the social, political, and economic inequalities within educational access (Del Rosso 2021; Pajewski 2022). In fact, many faculty believe that empathy as a pedagogical tool creates "better" teaching (Wynn et al. 2023).

In the next section, we argue that bringing this critical compassionate approach to ESS programs and classrooms can help to address the whiteness of ESS's history and epistemologies while centering student experience and knowledge across a plethora of backgrounds and ontological foci.

Student success, DEIJ, and compassionate pedagogies in ESS

The field(s) of ESS do not lack for interested students who align themselves with historically and contemporarily marginalized identities. Numerous surveys of first year BIPOC

(Black, Indigenous, and People of Color) students have demonstrated their desire to focus their studies in environmental fields (Taylor 2018b); however, degree completion rates in these same fields decline precipitously for BIPOC students compared to white students (Taylor 2018a, 2018b). The lack of diversity among ESS graduates, ESS faculty, and internship/early workforce participation, and how these phenomena can reinforce farcical stereotypes of "who" is interested in the environment has been well documented (Perkins 2021; Salazar 2009; Taylor 2010; Finney 2014). It is no longer up for debate that ESS programs must meaningfully address issues of DEIJ—ranging from student (and faculty) recruitment and retention, decentering whiteness and colonialist narratives in curricula and student learning outcomes, to addressing institutional barriers of access, cost, and workforce preparedness—rather the question at hand, is how? Robert Larsen, of the Lower Sioux Indian Community, states, "An apology or an acknowledgment is one thing, but *what are you going to do next?"* (Native Governance Center 2021).

The restorative justice and programmatic (re)imagining work in ESS programs will require pedagogical and institutional change. To that end, pedagogies of compassion and care are dynamic, intentional, and relational teaching strategies with radical and critical commitments. These commitments challenge institutional customs of higher education that fail to recognize—and thus harm—students as people both inside and out of the classroom who bring their own experiences, understandings, and prior knowledge. So too, they are central to the authentic practice of DEIJ in ESS classrooms.

Drawing on Thompson's work (1998), it is important to first recognize that practices and pedagogies of care must be plural and intersectional, thus demanding that we include and honor the multiplicity of lived experiences present in our classroom. Foregrounding this plurality makes plain the connective tissue between pedagogies of care and inclusive teaching. The wealth of feminist scholarship of theories and practices of care (Gilligan 1995; Thompson 2003) which are bound up with pedagogies of compassion have been critiqued for their perspective of whiteness (Thompson 2003; Mattias and Zemblayas 2014). Creating classroom environments where diverse student communities feel supported and where their knowledge is valued is a requisite for inclusive teaching (Molbaek 2018), and it can be enriched by a positionality of compassion where educators work to understand our own positionality as well as who our students are. This must include assessing how traditional academic practices create and maintain roadblocks to student success (Hao 2011). This work of discovery is supported by tenets of compassionate pedagogies that encourage self-reflection; first to ask how we will change our teaching modalities and assessments to recognize the richness of knowledges in the room (Soto 2005), and second, how we will challenge deficit model thinking that suggests first generation students, students from low income districts, and students from traditionally excluded communities are in need of intervention in order to be ready to learn (Green 2006; Tewell 2020).

Prior research has suggested that students from historically and contemporarily marginalized identities perceive higher rates of non-belonging on college campuses, both in terms of academic learning structures and social cohesion (Ahn & Davis 2020; Museus et al. 2018); this sense of non-belonging can contribute to declines in retention and persistence (Cook-Sather 2018). As practitioners of critical compassionate pedagogies, wherein we as educators intentionally "observe" who our students are and invite them to share what resources they need and want, we can foster learning environments that challenge isolation and marginalization (Pajewski 2022). This kind of holistic support and cultural responsiveness is aligned with the *Culturally Engaging Campus Environments Model* (Museus 2014) that offers an informed framework for supporting sense of belonging for racially diverse student communities, thereby increasing rates of student success. Second, this practice of critical observation can push back against institutional stereotypes that formalize first generation, BIPOC, or low-income students as *at risk*, or that perpetuate outdated meritocratic models of student success (i.e., the hidden curriculum) (Margolis 2001). Students need support, assuming some students will not be ready to learn can serve to reinforce perceptions of non-belonging (Cook-Sather 2018).

The *hidden curriculum*, the collection of academic, social, and cultural ideas that are (re)produced at colleges and universities (Margolis 2001), is also a useful schematic to think about what implicit values are being upheld in ESS teaching and practice that devalue or exclude the lived experiences of diverse students. Compassionate pedagogies demand that we actively challenge institutional and pedagogical practices that disadvantage historically and contemporarily excluded student communities, *and* that we incorporate new equity focused teaching modalities (Hao 2011; Cook-Sather 2018). Thus, centering care is a pedagogical pathway to including multiple ways of knowing, deliberately co-creating learning environments with students that "invites their stories, experiences, and cultural wealth," (Pajewski 2022, pg 25) and that is explicitly antiracist, anti-colonialist, and intersectional (Bratman & DeLince 2022; Maina-Okori et al. 2018). This relational classroom and syllabic representation are necessary to counteract the legacy of whiteness in ESS (Bratman and DeLince 2022), and are part of fostering a sense of belonging through inclusive curriculum to help retain diverse student communities (Molbaek 2018). (See-ya John Muir.) Countering oppressive pedagogies with compassion also extends to dismantling the entrenched disciplinary boundaries that persist in ESS and

which reinforce the supposed supremacy of the natural sciences (Lloro-Bidart & Finewood 2018), and it extends as well to adjacent field experiences that privilege heteronormative and ableist accounts of environmental science (Cram et al. 2022; Pickrell 2020). In the most extreme examples of the former reside the politics of positivism and androcentric science that reject collective traditions of Indigenous science (Charley et al. 2004), or relegate environmental justice to a third wheel (Shilling et al. 2009). In the latter, first-hand accounts of student experience describe the fear of being the racialized other in remote field settings and homophobic language (Ali et al. 2021; Pickrell 2020), as well as pervasive depictions of field research as a masculine endeavor (Lemke 2011; Shilling et al. 2009).

The adoption of compassionate pedagogies allows several important advantages that extend to the academic experience as a whole, beyond environmental studies and sciences. First, the theoretical commitments of compassionate pedagogies encourage a critical look at those academic practices that maintain inequities for underserved student communities. At the same time, compassion as a process employs empathetic and relational communication as a means of engaging, validating, and learning from diverse students (Hao 2011; Pajewski 2022). Centering care is also about those concrete practices that can lessen stress (Vogel & Schwabe 2016) and increase transparency around learning (Winkelmes et al. 2016), ultimately contributing to students' sense of self-efficacy. Akin to the research linking sense of belonging and student persistence (Museus et al. 2018), higher rates of perceived self-efficacy are correlated with retention (Chemers et al. 2001; Landry 2003). Harkening back to Taylor's (2018a, b, c) work, as a field ESS does not have a diverse student interest problem, we have a problem *retaining* diverse student communities. To walk the talk of DEIJ in our ESS pedagogical spaces we need to increase a sense of belonging and self-efficacy for our students. To that end, the next section offers a variety of ways the authors have integrated compassionate pedagogical approaches into our teaching praxis at the undergraduate level.

Compassionate pedagogies in ESS practice

This paper originally arose out of a session organized for the 2022 Association for Environmental Studies and Sciences Conference (entitled: "Practicing Compassionate Pedagogies in Environmental Studies & Sciences"). Through preparing the session materials and subsequent conversations, the themes and approach of this paper emerged. When considering the ways in which compassionate pedagogies or pedagogies of care are integrated across the co-authors teaching experiences, three distinct (but overlapping) pedagogical themes emerged: place-centered, psyche-centered,

and praxis-centered. In the following section, the authors will describe and provide practice-based examples of how these themes are implemented in their undergraduate student teaching and mentorship.

Because these examples are offered from our own personal experiences, we also want to situate our writing in our own teaching contexts. To that end, each section offered below includes brief details about our individual institutions, student bodies, and our teaching loads and focal areas in order to further contextualize the examples offered in that section. These details are offered in order to support readers in more concretely envisioning the applications and reaches of compassionate pedagogies within different ESS and institutional contexts.

Place-centered care (Larkins)

I am an educator at Fort Lewis College, in Durango, Colorado, situated upon the ancestral lands of the Nuuichu (Ute) people, and connected to the cultural and ceremonial spaces of the Jicarilla Abache, Pueblos of New Mexico, Hopi Sinom, and Diné Nations. Fort Lewis is one of thirteen Native American-serving, non-Tribal colleges worldwide; of this cohort, we award the most bachelor's degrees to Native American and Alaskan Native students. Our Indigenous student community represents over 185 Tribes; overall our total undergraduate population is approximately 58% students of color, 60% Pell Grant eligible, and 46% are first-generation students. Fort Lewis also has a complicated past as it has moved through iterations as a military post, an Indian Boarding School, and various educational models; as a college, we continue to move through a restorative justice process—this work is not done. Today as a public liberal arts college, one of our four academic pillars is the "Power of Place," a commitment to engaging students in learning in "natural and community laboratories," (Fort Lewis 2023).

A focus on place-based education is often a part of ESS programs; however more explicit attention to the ways in which we do and situate place-based education—and the power and equity dynamics therein—is needed. As an early career, tenure-track faculty member at a minority serving institution (MSI), I am supported and encouraged in my efforts to innovate my teaching and try out new practices that bolster DEIJ in my courses. For me, this requires teaching about the legacy and contemporary practices of colonialism and racism, positioning Indigenous sciences and lived experience as legitimate epistemologies, and creating comfortable learning spaces where students feel validated (and not re-traumatized) in sharing (or not) their stories.

Taken together, critical pedagogies of place (Gruenewald 2003) and pedagogies of compassion (Hao 2011; Pajewski 2022; Thompson 1998) have given me tools to work toward *reinhabitation* in classrooms, in place, and in community. A

full review of the literature of critical pedagogies of place is beyond the scope of this paper; but specifically, in Gruenewald's (2003) work, a critical pedagogy of place requires the disruption of settler ideologies and practices toward the confrontation of dominant institutions (Hooks 1994). Therefore, reinhabitation—the act of living well in a socially and ecologically just way—is only possible after recognizing and addressing the harm of colonization, and by deeply embracing the local knowledges of people and place. There are rich interstices between pedagogies of place and compassion, their combined practice is an effort to recognize where harm is, to honor lived experience, and to create new pathways of inclusive belonging. Teaching in place aligns with compassionate pedagogies wherein both seek to upend dominant narratives that exclude the knowledge and needs of diverse communities, and ask us as educators to take actionable change.

My teaching spans first year introduction courses, specialty classes in environmental justice and sustainable food systems, to courses in service to the department—such as research methods and senior capstone. Some of these courses are intentionally designed to counteract historical (whitewashed) and disembodied ESS curricula (e.g., environmental justice). However, students need to experience representation and belonging in place-based education across their undergraduate experience. I consider my syllabi to be living documents that become more specific as students share more of who they are and what they really want to learn within the semester; however, in practice it is necessary that I set the stage for an embodied focus on place that encourages students to experience and imagine new socially and ecologically just relationships. For example, I have restructured field labs to include intentional time at the beginning to share stories about the original and continuing stewards of the land, and to give students reflective time to connect with these stories before thinking about data collection. Regardless of project orientation in senior capstone, students develop community focused media in conjunction with their research papers to further their efforts to democratize environmental knowledge. A summer field school on renewable energy transitions, where we are guests of the Navajo Nation, gives students the opportunity to see the sacred lands where coal and uranium extraction have fueled settler lifestyles and where satellite imagery suggests critical minerals may reside – juxtaposing questions of sovereignty and climate futures.

In my introductory courses, students begin with a project to recognize landscapes and spaces where they experience positive place attachment. They start by sharing photos or videos and telling stories to one another of how/why these places invoke emotional connection. Practically speaking, this storytelling exercise helps to build community in the early part of the semester; it also allows students the opportunity to affirm home and identity. Academically, we talk about how these emotional connections can inspire pro-conservation behaviors, and that for many, these special landscapes are either where they consider their home to be or may be a place in proximity that they visit frequently (Morgan 2010). The latter point helps students to think through how they might encourage positive place attachment among their peers on campus, thereby inspiring pro-conservation behaviors and greater connection to the landscapes near our campus. Students work together to identify these spaces, what pro-conservation behaviors they want to encourage, and as part of *positively reinhabiting* place, draft interpretative signage that honors Indigenous place names, and how the land was and still is in relationship with these communities. Linking back to compassionate pedagogies, the examples above move beyond a critical practice of place to center the plurality of student lived experiences present within the classroom, and encourage opportunities for belonging in social and academic settings (Ahn & Davis 2020; Museus et al. 2018). This is not to suggest that critical place-based learning does not foster community building (Gruenewald 2003); rather, I would argue that beginning with compassion is necessary to honor the differential perceptions of place—from the sacred to the sacrificial—and to encourage the relational trust within the learning community to imagine and enact new ways of being as members of the ESS field and humankind.

Psyche-centered care (Bratman)

The institution where I teach, Franklin and Marshall College, is a private liberal arts college located in Lancaster, Pennsylvania. Lancaster is the ancestral land of the Susquehannock, Lenape, Nanticoke, Piscataway, Seneca, Haudenosaunee Confederacy, Shawnee, and others in the millennia before settler colonialism and racial capitalism. Our student demographics are predominantly female (53.3%) and white (56%), while also being notably diverse in other ways, with a broad array of international students (18.9%, from over 50 countries). About one fourth of students heralded from China in 2018 (Jaschik 2023). Within today's student body on campus, 17% are Pell-grant eligible, and 20% are first-generation college students. I am a mid-career scholar who teaches five undergraduate courses per academic year, with average class sizes around twenty students per course.

Critical compassionate pedagogical approaches used in my classrooms aim to help surface emotions and establish students' focus at the beginning of class time. My inspiration to incorporate mindfulness derived from my sense that all too often, my students' affective responses to environmental problems were dulled by impersonal, data-driven presentations that left little space either for emotional responses to be felt (or discussed), nor for

more critical interrogations of the historical and social oppressions that yield such violences, both to humans and the natural world. The examples shared here are used to help us call out those oppressions—a necessary step in addressing our most pressing socio-ecological issues—as well as to help us, as environmental students, educators, and actors, manage the pressing nature of such work (Ray 2021).

It is worth recalling that psyche-driven pedagogical techniques may help to sidestep the hijacking of the mindfulness world by the business world (Eaton 2014; Halliwell 2014) and the appropriation of centrally Bhuddist values into the context of the American educational and corporate culture (Purser & Loy 2013), or they may entrench such problems. That said, sensitively approaching and contextualizing such techniques in the interest of promoting environmental education, alongside securing higher rates of both student retention and recollection of knowledge, and can certainly be achieved while promoting inclusivity goals.

I start from the goal of cultivating and centering insight, understood in the self-reflection sense of the word—explicitly in classroom settings. In entering the classroom, I begin with my own moment of personal introspection; Parker Palmer's reflections on teaching strategies for "staying alive in the classroom" are that "The more familiar we are with our inner terrain, the more surefooted our teaching—and living—becomes" (Palmer 1998). To that end, I consider what I personally want and need out of a few moments of meditation; one important practice of compassion is self-awareness, transferring what can sometimes be a frenetic pre-class scramble of preparation into instead, a brief pause, focusing on the central idea that the class will convey, or simply a mindfulness practice of surrender, and release of other stresses and anxieties, so that one can enter the classroom space with a greater level of equanimity. I open each class with a short breathing-centered meditation, and sometimes emotion-focused (i.e., lovingkindness or gratitude-centered) meditations. Offering students a chance to find grounding through breathing and in holding silence, while setting aside all other distractions, allows the students important moments to become more psychologically present in the classroom (Valim et al. 2019). These practices build upon evidence that meditation training also improves knowledge retention in higher education lecture classes (Ramsburg and Youmans 2014). Other evidence shows that deliberate work with emotions can function to drive desired behaviors for conservation (Williamson & Thulin 2022). Meditation can help bring a greater degree of equanimity and self-awareness to challenging conversations, which is especially relevant in cultivating a classroom setting in which to discuss topics like climate change migration, land displacement, and environmental racism that many students may have experience with on personal levels.

Another technique for fostering *in*-sight involves allowing students the time, especially at the beginning and/or end of class, to reflect personally about the feelings with which they are coming into the classroom, and what sentiments with which they are leaving. At the beginning of classes, especially those with smaller numbers of students in the classroom, these sometimes look like prompts that ask students, "If your psyche right now was the weather, what would the weather report look like?" I model this first, explaining that whatever they feel is fine, and reminding them of our class ground rules that embrace community, respect, and privacy. The exercise serves as a collective temperature-check which can help set the stage for the subsequent class discussion while also allowing for a more sensitive and individualized approach toward student learning. Toward the end of class, reflections may include academically informed insights, or intellectual "aha" moments, but for the most part the pedagogical aim is to help students step beyond the role of being critical outside observers, and instead to encourage themselves to be vulnerable. Usually such expressions entail an on-paper, private free-write reflection that is not graded nor collected, or a one-to-one share with a trusted peer, where the prompt is along the lines of the following: What feelings did the class material we covered today evoke in you? Why do you think you felt that way? Soliciting emotional responses and sharing from students is one way of creating a space to express care, such that pragmatic pathways for responsive action and productive conversations can be achieved, whether dealing with negative emotions or more hopeful, positive feelings (Martiskainen & Sovacool 2021; Obach 2023).

Brief ritual exercises also contribute significantly toward fostering a sense of community within the classroom. I adapted a ritual from Findhorn Ecovillage for application in my classrooms, which is called "holding the space." This brief practice involves an action that connects students to each other – figuratively, it looks like holding hands in a circle, as is practiced at Findhorn before meals. When enacted in my classes, holding the space means a range of class-initiation exercises that usually take no longer than five minutes. Sometimes holding the space means passing a secret signal like a wink from one person to the next, sending the signal all the way across the room. At other times, especially when students appear lethargic or stressed, having students stand in a circle and lead each other in quick stretches—each participating to the extent that they desire or are able—lends a sense of physical relief to many, especially those students who have been rushing between classes or hunched over computers all night writing papers. At other times, quick icebreaker-type games can also serve to hold the space. While lighthearted, such brief exercises are helpful to students' sense of physical well-being and functioning to level the perceived social distance between students. The

inevitable laughter that emerges is strong medicine (Khajuria 2018). After such exercises, students are asked to then spend a brief moment noticing what came up in their psyche, and have a chance to note it down, or to voluntarily share out loud, time allowing. Though there is only anecdotal evidence about the effects of such exercises in the teaching evaluation responses that I receive through teaching evaluations, the sense of community and cross-classroom interactions that are fostered do provide some evidence that the classroom students get to know each other and trust each other better, fostering a more inclusive classroom environment.

Praxis-centered care 1.0 (Engle)

I am currently an early career, tenure-track educator at McDaniel College, a small liberal arts teaching-focused institution in northcentral Maryland, the ancestral territories of the Piscataway, Shawnee, Susquehannock, and other Indigenous Nations. McDaniel College's undergraduate student body (~1800 students) is comparatively diverse for its institutional type and location (e.g., approximately 42% non-white, 40% first generation, and 38% Pell Grant recipients), and I currently teach a 3–3 undergraduate course load, with class sizes ranging from 15 to 30 students. I teach classes primarily focused on agriculture and food systems, environmental/climate justice, and sustainable development. About two-thirds of my teaching load is directed toward Environmental Studies majors and departmental requirements, with the remaining third geared toward non-majors/general education requirements.

Largely informed by my prior trainings and professional experiences in participatory action research, community-centered engagement, and restorative justice, some of the ways that I strive to align my teaching practice within compassionate pedagogies include integrating principles of co-creation. Co-creation is a broad praxis umbrella that is often grounded in critical pedagogical philosophies that encourage educators and learners to individually and collectively examine and challenge power structures and patterns of inequality (Hooks 1994), particularly through the intentional decentering of the instructor in course organization, content development, and classroom management (Bovill 2014; 2020). As opposed to more traditional forms of higher education in which learning is assumed to be a one-way transfer of knowledge from instructor to student(s), co-creation aims to enable students to be more active participants in the learning process, from overall course design to day-to-day classroom exercises. Co-creation does not inherently claim or imply equality or dismantled power dynamics between instructors and students; but it does provide a pathway for identifying and addressing those power inequalities by (1) encouraging greater transparency in course design, (2) meaningfully building instructor-student and student–student

relationships, empathy, and understanding through ongoing negotiation and exchange, and (3) striving for heightened student agency and empowerment – all tenants well aligned with compassionate and inclusive pedagogical theory and practice, as outlined above (Hao 2011; Molbaek 2018).

Co-creation informs the development of my course policies, specifically my "Presence & Professionalism" guidelines, which are used in lieu of a more traditional attendance policy. General guidelines for how presence and professionalism may be interpreted are offered as examples to each class at the beginning of the semester, (e.g., contributing to class discussions and exercises, submitting assignments by pre-determined deadlines), but then students are invited to discuss and edit the policy to reflect their values and practices related to being present and professional within synchronous and asynchronous class settings. In the five semesters I have done this exercise, some overlapping themes have emerged in student contributions to this policy, including: attendance and tardiness implications; how to be a supportive and accountable team member for group projects; ways to contribute meaningfully to class discussions (e.g., tone, curiosity, use of evidence and course materials); and moderated use of electronic devices during class time. This policy is maintained as a living document on our course Blackboard pages, which we revisit and edit as a class throughout the semester. This praxis approach allows for greater flexibility and individualized accountability, as students navigate diverse and uncertain demands on their time and attention. It also supports student buy-in and peer-to-peer accountability; instead of me, the instructor, policing their attendance or device use or group contributions, et cetera, the students have had the chance to discuss together what these practices can or should look like to support one another in having an effective and enjoyable learning experience.

To that end, students are also invited to complete their own self-assessments for this component of each course, which informs their ultimate "grade" for presence and professionalism. Students conduct these self-assessments at the mid-term and end of the semester, in which they rate themselves on a scale of 1–10 on various permutations of presence and professionalism, but also write short reflections about what they think they are doing well / demonstrating improved presence and professionalism; where they see opportunities for continued self-improvement; personal or academic challenges they may have encountered during the semester that are impacting their abilities to be present and professional; as well as suggestions for how the instructor may be able to facilitate increased presence and professionalism (for the individual and/or the class, writ-large).

Additionally, students are invited to co-create course content through a variety of methods. In the majority of my classes, I do not use a pre-assigned textbook or reader. Instead, students are encouraged to guide our classroom

content and discussion topics by either (1) choosing 1–2 readings from a regularly updated thematic list of resources (including more traditional readings but also multimedia resources, like videos or podcasts) and/or (2) identifying their own readings/resources related to a very general topic or current event and then contributing these as annotated citations as part of a living, open-access course reading list. This process allows students to have agency in the type of content and media they consume as well as co-design the discussion that follows during the next class period. In other words, as the instructor, I aim to provide a general road map in each of my courses, but also make intentional space for students to co-determine the stops we take along the way.

I also invite students to co-create on the assessment and grading components of our classes. In lieu of traditional forms of assessment, like reading quizzes or exams, I instead integrate regular forms of self-assessment and reflection as well as skill-centered, semester-long projects (individual or group). For example, in addition to the Presence and Professional self-assessments described above, most of my classes rely on weekly learning journal submissions—graded simply for completion—to provide checks on comprehension. In these weekly journals, students are invited to reflect on how the previous week's content compared to previous courses or personal experiences as well as what pieces of the content they found to be most engaging and informative. These weekly learning journals are also offered as spaces for students to privately share about progress (or lack thereof) on individual or group projects; personal or academic circumstances that may be affecting their course performance (chronically or acutely); and celebrate individual achievements or wins that they may not get to share otherwise.

As for the project-based learning, students are asked to submit individual reflections along with their final project deliverable (e.g., website, infographic, podcast, etc.) in which they share about the learnings they gained from the project process—both content- and skills-based—as well as reflections on the teamwork process, when relevant. In upper-level courses, students are also directed to review each other's assignments and offer feedback on project content and structure. Each of these strategies, among others, strive to de-center the instructor as the be-all, end-all mandator of course performance and demonstrated learning outcomes, and instead, reimagine the instructor as a course facilitator. The students are offered multiple opportunities, in the short- and long-term, to reflect on their own course journeys and report to the instructor in what ways they have experienced individualized learning and growth, relative to their prior experiences, backgrounds, and knowledges. In the end, I am facilitating the ways in which students are reporting their learning outcomes, but they are empowered to provide the details, which directly informs the grades they are assigned for specific projects and the overall course.

In the end, none of the practices or examples detailed in this section are specific to environmental studies and sciences courses—they can be considered and implemented, in some shape or form, across all academic disciplines. But this co-creation approach is particularly important for ESS instructors and students in part because it reflects the co-creation approach that is necessary for addressing our most pressing socio-ecological issues. Effective action toward greater environmental and climate justice requires broader participation, inclusivity, and agency, as well as the naming and breaking down of traditional hierarchical power structures; what better way to build these movements than to model them in our classrooms, in both small and big applications?

Praxis-centered care 2.0 (Higgins)

I draw from my experience teaching at West Virginia University (WVU), a large public land-grant university in the Appalachian region which enrolls over 20,000 undergraduate students and has over 1400 instructional employees, and is a primarily white institution (College Factual 2023). While a Visiting Assistant Professor at WVU, I have taught 350–400 students each semester through a mix of upper-level specialty courses and large introductory-level general education classes in the Geography program. My experience in constructing these courses is heavily influenced by my interdisciplinary degree training and experience as a student in ESS classes, alongside specific training in pedagogies and teaching methods.

The large introductory lectures are required courses for the Geography major but are often heavily populated by non-majors as they are general education requirement courses and typically have anywhere from 150 to 220 students. The upper-level specialty courses are primarily populated by Geography major or minor students and have anywhere from 12 to 25 students. My teaching practices in these courses align with compassionate pedagogies' ethic of care toward allowing students to navigate, honor, and grow within their own social positions and the wider world while simultaneously acknowledging limitations within educational settings. Ameliorating barriers in the learning environment allows students to focus on the topics at hand, which is particularly useful when discussing potentially contentious issues such as climate change. In honoring students' experiences and previous learning, they are more willing to navigate (sometimes hard) discussions about interrelating social-environmental systems and resulting crises. By uplifting their own knowledge, students are able to recognize where each other comes from and why there may be conflicting opinions about environmental issues.

Specifically, I implement Universal Design for Learning (UDL) into my course construction and pedagogical

practices. UDL started as a framework for curriculum design, but has now matured into an instructional-design theory which serves as an umbrella for numerous diverse learning approaches (Gronseth et al. 2022). UDL's main goals are to ameliorate barriers in educational settings and instruction (rather than assuming fault lies with student ability or willingness), and increase flexibility in course delivery and student engagement (CAST, Inc. 2020). This includes considerations of how courses are built—submission policies, physical classroom spaces, assignment types—as well as how they are delivered—including different representation of information and data, screen-reader friendly documents, low and no-cost required readings. While UDL is often discussed in terms of accessibility, Gannon (2020) and Tobin and Behling (2018) highlight UDL's commitment to equity and social justice in addressing these barriers. When thinking about classroom methods and pedagogy, "this means both the right *and* opportunity to utilize education, acquiring course materials, and the means to enter into spaces" (Higgins & Maxwell 2021). This is important for all classrooms, but particularly in thinking about *who* gets to participate in ESS (Perkins 2021; Salazar, 2009; Taylor 2010).

While UDL may seem daunting to incorporate into a course, it is important to remember you don't have to go all in from the beginning—it is okay to take small steps toward access and accessibility. When starting to implement UDL, this first things I did in my courses was to include my usual PDFs, but also Word versions of all course documents (syllabi, assignment instructions, rubrics, etc.) which allow students individual control to change font size, type, or color, rendering the document more usable. This was beneficial to students who may have had visual impairments, but additionally to those who access course material from smaller tablets or phones. Additionally, I have moved to exclusively using Open Education Resources (OERs) and other free material in all of my courses. If material was needed but not free for students, then PDFs were obtained and posted on the learning management system. With the increasing costs of attending higher education, this is an easy step to ensure all students can access material. Additionally, many OERs lend themselves to ease of use for students who use screen readers. All PDFs (an all other documents in general) were ran through Acrobat and Microsoft accessibility checks to make sure there were no issues with screen readers and to change the order of tables or change heading designations if necessary. This also included the addition of alternative text for pictures and diagrams in slides—which proved very handy when I had a visually impaired student one semester, but I did not have to go back and put these descriptions in as they were already there. Moreover, all course materials were provided before the lecture so students could use the slides for guided note-taking or as signposts for important information throughout class.

Regarding assessments, I changed my course design to honor the fact that an increasing number of my students had immense time and health pressures. These included ongoing chronic issues, acute illnesses, full or part-time jobs, heavy course loads, and/or caregiving responsibilities. Deadlines were set for 11PM in all classes to allow students who worked or had later classes to be able to submit on time, and weekly quizzes or reflection assignments were set up as formative assessments rather than summative ones so students could check in with their comprehension of course concepts and material and receive corrective instruction or feedback. For the large introductory courses, exams were not timed and students were allowed to use their textbook and class notes. This was done for a variety of reasons—prevalence of testing anxiety, the needs of students with ADHD, as well as the knowledge we instructors have that pressure does not equate to a good learning environment.

UDL is built from the belief and practice of equitable use in universal design (Connell et al. 1997), and the applications of these principles falls neatly in line with compassionate pedagogies. UDL's focus on access and equity allows for students to come to the classroom *as they are*—an important adjustment to learning environments which helps to meet all needs of students and create a more intentional pedagogy (Hao 2011; Walker 1989). Additionally, this allows for the creation of a transformational and supportive learning community of students who feel comfortable navigating conversations about social and moral issues such as climate change and other environmental crises because they have seen through the course policies around access how foundational those aspects are the classroom. After all, "If we believe that higher education is an essential part of creating a better future for all, then it behooves us to do everything we can to ensure that this better future *for* all is actively shaped *by* all" (Gannon 2020, p. 65).

Discussion

In relationship to the aims of this *Special Issue*—specifically, how to meaningfully address DEI in our work and classrooms, and the exploration of how critical and inclusive pedagogies can help to support retention and persistence in ESS—our collective approach suggests that pedagogies of compassion are an integral piece of an ESS educators toolkit. Commitment to this teaching approach requires that we reflect on who we are and the totality of who our students are, and it insists that we seek to better design inclusive learning experiences in our teaching environments, and where possible, use our platforms as faculty members to create institutional change (Hao 2011). However, reframing

teaching approaches to center care, while incorporating other critical pedagogies, provides a multifunctional framework for both bolstering the sense of belonging (Ahn and Davis 2020; Museus and Saelua 2018) for students from historically and contemporarily excluded identities (and thereby contribute to overall efforts to increase retention of diverse students within ESS and across our campuses), *while also* providing a pathway for doing the necessary work of dismantling oppressive structures and practices within ESS overall.

The examples offered above are not necessarily intended to be particularly innovative, as many of us, in ESS and beyond, are practicing intentional, reflexive, and flexible forms of pedagogical practice in order to support student learning and success. What we aim to offer here is a new reframing of these practices through a shared compassionate pedagogy lens, the innovation being the combination of all these intentional teaching practices under one pedagogical umbrella that strives for student success not only for the sake of student success, but also as a form of dismantling oppressive histories, structures, and practices within ESS. While each of the above sections contains its own nuances, particular themes do weave throughout the examples, including an emphasis on classroom community and considering not only the power dynamics embedded in the curriculum we teach, but also the power dynamics infused in our course designs and day-to-day classroom interactions. Acknowledgement and tackling of these power dynamics requires greater instructor and course design transparency, another theme that crosscuts the examples provided above.

Another theme that weaves throughout our examples of compassionate pedagogies of practice is the emphasis on student reflection, in a variety of forms and applications, some graded and some not. Just as we make room for students' reflections within compassionate pedagogies, this work also necessitates more reflexive educators. Reflecting on who we are is a multi-dimensional strategy. It is, as described in Hao's (2011) work on critical compassionate pedagogies, a means to consider what biases we need to overcome and what additional training we might need to teach the students who are in our classroom. Reflexive teaching also requires that we acknowledge the sociomaterial privileges we have—earned and unearned—as faculty members, even in instances where we share a partial identity (e.g., queer, differently abled, or first-generation) with student communities whose lived experiences have not been well integrated into ESS curriculum. So, too, reflection is needed as an exercise in self-compassion, as challenging institutional norms and (re)centering inclusive ESS curriculum will not happen overnight. It is from this relational standpoint, where students are co-contributors whose lived experiences are valued, that we can work together to dismantle dominant narratives and instead (re)construct our courses

to incorporate and represent the multiplicity of knowledges on the environment (Bratman and DeLince 2022). Practicing reflexivity as educators also allows us to openly model this practice for our students, furthering the compassionate pedagogical goals of relationship-building through vulnerability and shared learning.

We acknowledge that embracing pedagogies of compassion and care are not without their challenges. As when learning any new teaching innovation, these strategies must be practiced; and in some cases, centering care will not goes as planned. Anecdotally, we have had students who have been reticent to engage in compassionate and inclusive teaching practices, such as co-creating syllabi or mindfulness exercises, because this is an abrupt change from their other more positivist coursework. What we demonstrate, and what could be scaled to other campus environments, is that care-based strategies are flexible and dynamic to myriad class sizes or content areas, and can be used in a variety of ways, from building mindfulness and/or community (e.g., holding space in the first or last five minutes of a course) or to (re)design assessment strategies. They can be used to restructure an entire curriculum or course; or merely one reading or assignment at a time. What these varieties of applications hold in common is the overall intentionality, reflexivity, and inclusivity at the centers of compassion and care. Thus, as we seek to be ambassadors in our departments and to improve student experience across the major(s), we can (and should) model compassion by offering a suite of options to our colleagues that vary in time and intensity, as we have aimed to do in our sections above.

We also acknowledge that this is not a small undertaking and cannot be separated from a discussion of the precarity of academic faculty, or the continued overload of teaching and service expectations. As advocates of compassionate pedagogies, we hope to see these strategies diffused across our departments and institutions. However, that is easier said than done; especially because how to quantify/isolate the effectiveness of pedagogies of compassion is unsettled, and as faculty and staff are experiencing increasing levels of burnout and disengagement, further accelerated by pandemic-era pressures (Imad et al. 2022). It must be acknowledged that it is to female-identifying faculty, faculty of color, queer faculty, or faculty from other traditionally excluded groups to whom these service, mentoring, and teaching expectations frequently fall (Guarino and Borden, 2017), at times creating a double-bind where faculty may feel competing time demands, between helping students and their scholarly endeavors. As authors of this paper, it is not lost on us that as champions of compassionate pedagogies, we are among the faculty communities named above, and where "othermothering" (Esposito 2014) often occurs. Reflexivity about the potential disproportionate service and emotional loads of integrating more compassionate and

care-centered forms of pedagogical practice is fundamental to dismantling cycles of inequality—in ESS and higher education overall—as are the ways these forms of pedagogical practice could (and should) be recognized and rewarded in faculty reviews and promotion as well as supported through institutional resources and opportunities for continued professional development.

As for future work, we recommend the continued development of frameworks for and documented research on the effectiveness and outcomes of pedagogies of compassion, particularly in relationship to student belonging, retention, and persistence. When evaluating on a course-by-course basis, this has meant for some of us including pre- and post-reflective assessments that feature questions related to engagement and the experience of co-creating syllabic content. Others have the institutional opportunity to generate course specific ad-hoc semester evaluation questions, yielding qualitative and quantitative measures of compassion in action. Sometimes evaluation has also happened through informal class discussions or in one-to-one student mentorship or advising meetings. Other times, students share unprompted feedback within the process of completing self-reflection assignments already built into the course structure. Just as plurality of praxis is important, so too is plurality in the ways we document, evaluate, and reflect on the effectiveness of our teaching practice and the ways in which we invite students to be a part of that evaluation. We encourage this plurality to remain present in future iterations of compassionate pedagogical practice, research, and evaluation.

Conclusion

In this paper, we have described and offered compassionate pedagogies as a pathway for enhancing diversity, equity, inclusion, and justice in environmental studies and sciences in a way that also heightens student success and support—particularly for students of underserved and marginalized identities. As demonstrated by the multitude of examples detailed above, we see compassionate pedagogies as an extremely diverse pedagogical umbrella that can be integrated into our curricular planning and execution in ways both small and big as well as across a diversity of contexts, as long as it is done intentionally, critically, and reflectively. There is also opportunity in this diversity of approaches to create communities of practice that can not only trial and share in compassionate teaching best practices, furthering our own professional relationship and community building as educators, but also create opportunity to co-develop innovative evaluative techniques for documenting the effectiveness of such techniques in addressing student learning and success, among other goals. In the end, at a time that researchers and professionals are citing compassion as a

necessary, but currently missing, ingredient for the effectiveness of future scholarship and action on some of our most pressing socio-ecological issues (Eriksen 2022), it is even more imperative that we integrate and model what a compassionate approach can look like in our educational experiences, too.

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