The role of EcoTypes in engagement across difference

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Abstract

In our current political context, engagement across difference appears to be more difficult, yet more necessary, than ever before. Engagement does not require total agreement, but rather a commitment to open communication and respect across ideological divides, skills that can and should be taught in higher education. EcoTypes is a new survey instrument designed to disaggregate environmental ideas in order to uncover and articulate both agreement and disagreement in environmental thought. Within Environmental Studies and Sciences programs, a tool like EcoTypes can help identify ideological divides within a student population that sees itself (either accurately or not) as relatively monolithic in their beliefs and worldview. More broadly, EcoTypes can be used to move populations away from their initial perceptions of each other as "for" or "against" environmentalism toward more nuanced understandings of diverse environmental ideas. I describe in detail my experiences using the EcoTypes survey in the classroom and explore how this tool could also be useful at various scales outside of the Environmental Studies and Sciences classroom context.

Keywords Engagement · Pedagogy · Environmental ideas · Survey · Disagreement

Engagement across difference

Engagement across difference is critical to fostering environmental action (Proctor et al. 2018). While increasing polarization in the USA is a problem for all of civil society (Iyengar and Westwood 2015), environmental decision-making in particular warrants urgent attention. As environmental crises become more severe, we no longer have the luxury of treating environmental issues as a fringe concern or a partisan issue (IPCC 2018). We must confront environmental challenges in collaboration with people of diverse political ideologies, and consensus is not a realistic goal given the need for broader participation. Engagement in this context goes beyond simply including diverse stakeholders; rather, engagement entangles us with ideas, people, and places with whom we may deeply disagree in order to reach unexpected conclusions and creative outcomes (Proctor et al. 2018).

Environmental education has a long history of engagement with ideas, spaces, and people (Carter and Simmons 2010; Palmer 2002). This type of engagement encourages the development of democratic skills, the adoption of pro-environmental behavior, and wider social change, which are all key goals of environmental education (Chawla and Cushing 2007; Corner and Randall 2011; Heimlich and Ardoin 2008). However, environmental education has endured criticism for failing to produce meaningful reductions in our collective ecological footprint (Saylan and Blumstein 2011). This failure cannot be pinned onto one issue, but the complexity of defining, measuring, predicting, and encouraging environmental ideas/behavior is a key obstacle to this goal (Kollmuss and Agyeman 2002; Bamberg and Möser 2007; Neff and Alberston 2020). As we consider how to work within our education system to address current environmental crises, a policy of engagement can help environmental action be expansive as opposed to reductive, both in terms of people and ideas – and this inclusivity can help us identify new ways of thinking to solve our environmental crises (Orr 2002).

Within higher education, Environmental Studies and Sciences (ESS) programs are leading the charge to promote engagement for environmental change. So how do we best create opportunities to engage in our ESS programs? Assumptions that "environmentalists" are ideologically monolithic have largely been disproven (Tesch and Kempton 2004; Bernstein 2020). However, the students I work with typically assume fellow Environmental Studies majors are ideologically similar. Given these assumptions, the ESS

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classroom can easily become an echo chamber in which students learn how to speak with like-minded individuals but lack the ability to reach across ideological divides for deliberation and decision-making.

In my institutional context, students would very much like to cultivate the ability to engage across difference. The University of Montevallo is Alabama's public liberal arts college, and it houses the only Environmental Studies program in public higher education in Alabama. Most of my students are Alabama natives, and most (if not all) Environmental Studies students have close friends or family members with starkly different political views from their own. My students often articulate the desire to engage more meaningfully with their loved ones about environmental issues. In particular, they want to move past the rhetoric of "pro-" or "anti-"environment toward something more useful for collaboration and change. Thus, I need effective classroom tools to help my students practice this type of engagement so that they can bring these types of conversations to audiences outside of academia as well.

In this essay, I explore ways to use EcoTypes both in and outside of the classroom and describe my experiences with EcoTypes in the classroom at the University of Montevallo. EcoTypes assesses the expression environmental ideas through an online survey (Proctor 2019). This work follows from the recent publication by authors in this symposium titled, "Environmental engagement in troubled times: a manifesto" (Proctor et al. 2018). In this piece, we defined engagement as "connection, commitment, and communication" and considered how engagement could be employed at the program, university, national, and global scales to promote environmental action. Here, I specifically consider how EcoTypes can serve as a tool to achieve this engagement.

EcoTypes defined

EcoTypes was developed in order to meaningfully explore environmental ideas (Proctor 2019). In its current form, EcoTypes consists of 15 axes each centered on a key question (Table 1). By answering 60 Likert-scale questions (4 per axis), students generate a unique profile consisting of a numerical position on each axis ranging from −10 to +10. EcoTypes was designed to uncover differences between individuals in a variety of environmental ideas so that they can more precisely articulate their respective positions. Ideally, this restructuring of environmental ideas beyond a single green scale (e.g., the New Ecological Paradigm scale) facilitates engagement with diverse ideas. In other words, EcoTypes provides scaffolding to uncover the inner workings of our greenness and identify our "shade(s)" of green both in relation to ideas and to each other (Proctor 2020).

Engagement: with whom and at what scale?

EcoTypes was built with the ESS classroom in mind, but it could be used in a variety of contexts beyond this scale with varying time commitments. It can be a brief thought exercise or a deep dive, with many possibilities in between. The key is articulating nuance in environmental thought to spark engagement. This nuance invariably will recast similarities and differences so that participants can see similarities with those who initially appear to be different and vice versa.

Table 2 articulates four basic ways in which EcoTypes can shift or reinforce alliances. The rows represent participant perceptions of each other before engaging in EcoTypes, and the columns represent the directions EcoTypes can take them – either closer together or further apart in terms of ideological similarity. In our engagement manifesto (Proctor et al. 2018), we envisioned engagement at four scales: ESS program, University, national, and global; I also consider how one could facilitate each of these four potential outcomes at different scales.

In the top right corner of the matrix, EcoTypes can help similar groups further articulate their own agreements. While this might be an enjoyable experience for participants, I have labeled this corner the "echo chamber" because this is where engagement is the most insular. However, some level of agreement is an inevitable part of the process given the limited potential positions within each axis. Echo chambers can occur at all scales, but I envision them being most pronounced in settings in which individuals have self-selected for their environmental views. Most ESS classrooms would fit this description, but I also envision potential echo chambers in other gatherings of like-minded individuals, including online environmentally focused groups or interest groups such as conservation/environmental advocacy organizations.

In the upper left-hand corner, populations who perceive themselves to be ideologically similar may uncover previously unexplored differences through the EcoTypes experience. This is what I call "discovering conflict." This outcome, like the "echo chamber," will also feature prominently in the ESS classroom, where students have self-selected for an interest in environmental issues. Of course, ESS programs (like any group of individuals) must contain come form of ideological diversity, but in my experience, similarity is the dominant narrative within these communities. Herein lies the value of EcoTypes – by fracturing environmental thought into 15 dimensions and forcing participants to take definitive stances along a spectrum, we will invariably find some "epistemic friction" that is so invaluable to discourse (Medina 2013; Brush 2020). Additionally, since the poles do not map onto a "pro-environment" and "anti-environment" scale, even within a group of self-identified environmentalists, there is bound to be diversity.

Table 1 EcoTypes themes (Proctor 2019)

EcoType axis	Key question
Aesthetics	Is beauty primarily to be found in untouched, wild nature, or in landscapes crafted by humans?
Change	Can we achieve desired environmental change incrementally, or is more radical change needed?
Diversity	Is environmentalism sufficiently diverse given efforts to date, or should broader participation across race and class receive higher priority?
Domain	Should we approach environmental issues by focusing more on ideas and beliefs, or on material practices and behaviors?
Ecosystems	Are Earth and its ecosystems inherently stable, with change arising from human disturbance, or are they more dynamic over time?
Ethics	Should we care about the nonhuman world for its own sake, or for how it serves human interests?
Future	Is our ecological future most likely one of looming crisis, or of possibility for positive change?
Nature	Is nature typified by its own inherent order and harmony separate from humans, or is it now fully hybrid, interwoven with humanity?
Science	Should we trust the ecological findings of alternative claims to truth, or those of orthodox science?
Social scale	Can individual-scale practices make an ecological difference, or should we focus on key institutions?
Society	Should environmental action build on social consensus, or is it better to assume that social difference and conflict are inevitable?
Spatial scale	Is environmental action best taken at local scales, or do we need to find ways to act globally?
Spirituality	Is it best to approach environmental issues from a sacred perspective or a secular perspective?
Technology	Should we be afraid of technology in context of environmental issues, or should we welcome technological solutions?
Time	Should we look back to more harmonious times in past to find environmental solutions, or is it best to move into the future?

In the ESS classroom, I consider "discovering conflict" to be practice conflict as opposed to deep conflict. Disagreement in this setting has relatively low stakes; students often have preexisting relationships with each other that help diffuse conflict, and (in my experience) the conflicts do not alter existing alliances. I have not implemented EcoTypes in non-ESS classroom settings yet, but I imagine that uncovering these differences in groups where individuals do not have preexisting relationships (such as in larger-scale organizations or online communities) might be more emotionally fraught. I would compare this to in-fighting within a political party, where participants expect ideological agreement based on affiliation but uncover disagreements through discussion of specific ideas (anecdotally, I see a lot of this type of conflict as friends discuss potential 2020 presidential nominees). I could also envision a University community perceiving itself to be relatively homogenous ideologically (Neff and Alberston 2020) but discovering conflict around a particular environmental issue, such as natural resource use decisions; EcoTypes in this case could help articulate those differences for collective input into decision-making.

The outcome in the lower right-hand corner occurs when people who see themselves as dissimilar initially discover areas of agreement. This might be the most productive result of a public engagement session for decision-making. I envision EcoTypes being used similarly to the Hunger Banquet or World Climate Simulation, in which an evening event is organized that is open to the public. This event would have the explicit goal of helping politically diverse and/or polarized communities better understand each other so that they can move forward together in local environmental planning. While these bridges might be somewhat tenuous for long-term shifts in alliances, they can help identify specific areas of environmental policy that might have broad support. Most importantly, the act of uncovering similarities can build trust among community members, which might help them tackle

Table 2 Matrix outlining engagement across similarities/differences

	Divergent views in EcoTypes	Similar views in EcoTypes
Perceived pre-EcoTypes ideological similarity	Discovering conflict	The echo chamber
Perceived pre-EcoTypes ideological dissimilarity	Clarifying conflict	Discovering solidarity

problems in other sensitive areas as well. In Montevallo, the David Mathews Center for Civic Life has hosted several forums like this, most notably on a recent LGBTQ+ anti-discrimination ordinance. These forums helped the community better understand opposing views, which helped the community accept the outcome of the deliberations even though they did not end up reaching consensus on the ordinance (Sharp 2019). This outcome is most likely when the group in question is assembled based on a feature *other than* their ideological similarity – either local, state, or national political constituents are a good example of this.

Lastly, EcoTypes can enable people who already see themselves in opposition to more clearly articulate their disagreement – I have labeled this box "clarifying conflict." This outcome is perhaps the most exciting one of all, because it acknowledges that no exercise can guarantee to create consensus or build alliances when there are deep disagreements. Instead, EcoTypes can help participants reframe disagreements in a way that could disarm them, moving away from incendiary or ad hominem attacks to more specific critiques that participants can debate with less drama and more thoughtfulness. For example, a discussion on whether you favor large- or small-scale action is less politically charged than debating whether climate change is real. Thus, even if participants end up disagreeing, they are not as entrenched in their position and might maintain more flexibility throughout the discourse. This type of engagement could happen at any scale, but I envision the power of this engagement both in public forums in person but also online. While experimental evidence has shown that both civil and uncivil disagreement online lead to negative emotions and aggressive intentions (Masullo Chen and Lu 2017), I would hypothesize that moving the conversation away from less "hot-button" topics and toward purer ideological framings could help diffuse negative response. This allows individuals to engage more fully in these conversations without becoming ideologically entrenched or emotionally overwhelmed.

EcoTypes in the classroom

I have used EcoTypes twice in the classroom (Spring 2017 and Fall 2018), and these experiences have solidified my endorsement of EcoTypes as a tool for engagement and given me ideas for future classroom or community use.

In both iterations of the exercise, I devoted approximately 90 min of class time to the EcoTypes activity. For homework preceding the activity, students read chapters from our textbook *Conservation Psychology* (Clayton and Myers 2015) that introduced some ideas about how to define and measure environmental attitudes, values, and beliefs. I also asked students to complete the EcoTypes survey online, which required them to answer Likert-scale questions about environmental

ideas (example "Nature knows best; people should get out of the way and let natural processes flourish"). I also asked them to read some of the materials describing the axes and their meaning on the survey's home page (Proctor 2019). After taking the survey, the website sent them each a personalized report showing their position (between −10 and 10) on each axis. Finally, to prepare for class discussions, they wrote responses to the readings and to these questions about the EcoTypes assignment:

1. Where do you fall on the "change" and "social scale" axes relative to others who have taken the survey (you can look at the response distribution chart to figure this out)?
2. Why are these two axes particularly relevant to our work in environmental education and behavior change?
3. Read about one more axis (you pick) and explain why it's relevant to our work in this class!

I chose to focus the students' work on "change" and "social scale" for two reasons. First, I wanted them to reflect on how to distinguish between two closely related concepts (does radical change always happen at the large scale, for example?). Second, these two axes were central to the question of how and when to advocate for change, which connected to the course's focus on the role of environmental education in facilitating behavior change. In reality, I could have picked any axes to focus on, but I wanted to make sure we took a deeper dive on at least two of them. EcoTypes consisted of 11 axes in 2017 and 14 axes in 2018.

In the classroom, students brought printouts of their reports so they could refer to them quickly and compare with each other. I asked the students to line up in front of the room based on where they fell on each of our chosen axes (change and social scale) as well as a few others based on student interest. This activity also included a social team-building component because they had to work together to figure out their order. They also got an immediate visual on the distribution of students.

As they stood and moved in formation, I asked extemporaneous questions of them based on where they fell both individually and collectively. Borrowing from the reading exercise, we talked about the difference between change (incremental/radical) and social scale (individual/institutional) and why these axes are distinct but connected (they are correlated at .64, the highest correlation between any two axes in EcoTypes; Proctor 2019). We noted interesting outcomes at the group level, and I asked about why they thought the group skewed so strongly for some axes, but not others, and why some axes might be more important for an environmental educator to consider while delivering an education program. We also discussed how, as an educator, you might use ideas from EcoTypes to create a shared narrative with audience members with different political views. We discussed why

we might see such diversity in the relationships between axes in a group that shares so many values and how these relationships might look in a general population outside of the ESS classroom. We explored the relative fluidity of each of these axes depending on the context and whether students took any issues with the questions themselves; many of them found it difficult to answer questions because they did not have enough contextual information or because they saw truth in both poles. These challenges connected to another ongoing conversation about the limits to social science surveys for capturing complex concepts like values and beliefs.

Even though the aggregate EcoTypes data tend toward normal distribution (Proctor 2020), each individual class produces a unique profile to create new data comparisons each time the assessment is used. For example, on the Aesthetics axis, while the larger sample population's mean is negative, my entire 2018 group scored below zero, meaning that every student prefers wild nature to human landscapes (Table 3). While this is unsurprising in an Environmental Studies course, differences between the larger and smaller samples are made for interesting discussions about the difference between statistical meaning and other types of meaning; smaller samples tend to produce less normal distributions (Gerstman 2014), but as qualitative data, they can spark discussion about conformity and personal experience. Another example: on the "future" axis, the overall sample was close to a zero mean, whereas my two classes leaned much harder toward the crisis narrative – is this partly influenced by state-level politics in Alabama being so overtly against environmental protections? Finally, in 2017 my entire class fell on the "pure" side of the nature poll, whereas in 2018 there was a mix of pure and hybrid responses. Does this represent a shift in thinking over time, or just an anomaly of the class? We could not answer this question definitively with this data, but generating hypotheses about these questions would be a fun future activity. In this case, students could consider whether changes were a result of changing perceptions at a larger scale (climate change predictions have become increasingly dire), a change in this specific sample (the increasing number of students in the ES program has increased ideological diversity), or whether the differences across years are totally random (sometimes you get a classroom full of hardcore "traditional environmentalists," sometimes you do not).

There were also two axes in 2018 with a single outlier; on the ethics scale, only one student was anthropocentric, and on the spirituality scale, only one student (not the same one) was secular. The latter difference was particularly stark given the class average of −5.5 on the spirituality scale. Having single students be exposed as outliers provided an opportunity for students who may not otherwise have engaged with the question to be "put on the spot" for better or for worse. Part of the goal of the EcoTypes activity is to uncover disagreement, even if this might produce discomfort for some; one could argue this is exactly the kind of low-stakes discomfort that classroom activities should produce. We also discussed how the EcoTypes measure might have failed to capture some of their thoughts about an issue – many of the students found it difficult to "choose a side" but also felt that the middle of the axis did not represent their views. Perhaps because of this reluctance to choose a side, there were very few extreme values in the entire sample – less than 20% of all values fell above 5 or below −5.

Table 3 EcoTypes data from University of Montevallo compared to the overall sample

Axis (left/right poles)	All EcoTypes data	University of Montevallo 2018	University of Montevallo 2017
	Mean ($n = 1350$)	Mean ($n = 15$)	Mean ($n = 13$)
Aesthetics (wild/crafted)	−2.1	−3.4	n/a
Change (incremental/radical)	0.3	−0.8	−1.4
Diversity (low/high priority)	1.8	3.5	n/a
Domain (ideal/material)	0.3	−1.2	−2.7
Ethics (biocentric/anthropocentric)	−2.4	−3.1	−4.3
Future (crisis/possibility)	0.5	−1.6	−4.1
Nature (pure/hybrid)	−0.3	−0.9	−3.0
Science (heterodox/orthodox)	2.4	1.3	2.6
Social scale (individual/institutional)	2.4	2.5	−2.6
Society (consensus/conflict)	−0.9	−2.9	−1.5
Spatial scale (local/global)	−0.9	−2.4	n/a
Spirituality (sacred/secular)	−2.4	−5.5	−1.4
Technology (technophobic/philic)	1.4	−0.8	0.3
Time (past/future)	−0.6	−2.0	0.2

In their homework responses, the students largely articulated the value of EcoTypes similar to how its creator understood it. EcoTypes can help individuals better understand and communicate their ideas to each other in order to find areas of agreement, make policy decisions, and, in the context of environmental education (the topic of the course), target their audience appropriately so that they can best facilitate both connection and change.

Moving forward: what next?

I am interested in exploring several modifications to EcoTypes in future iterations. First off, I would like to devote more time and energy to the activity. Proctor provides online resources to link EcoTypes with data methods course content, other class topics, or an entire course as a periodic touchstone. I could see EcoTypes serving as an underlying topic in my Principles of Sustainability class, which serves as the general introduction to sustainability theory and practice for Environmental Studies majors. I could also connect the activity to our social science research methods course (which is required for Environmental Studies majors) so the students could better articulate how data collection methods and sample size affect results. Additionally, I would like to have students compare EcoTypes to different environmental idea metrics, such as the one described by Neff and Albertson (2020), to better understand both implications of how metric design affects outcomes and how surveys capturing these complex personal characteristics are anything but convergent. This exposure to this particular frontier of scientific research might even inspire some of them to pursue their own research projects to capture this type of data, either with existing or new instruments.

One area worth further exploration is the goal of generating discomfort. Students tended to diffuse disagreement rather quickly in the classroom, with very little real investment in dissent. Thus, the goal of cultivating dissent for civic engagement was largely unmet. As social conflict can lead to a stress response (Lepore 1992), I would not want to encourage too much emotional conflict, but I would like to nurture some discomfort more directly in the classroom. In environmental psychology, there appears to be a "goldilocks" level of stress that is best for encouraging environmental action – too much stress leads people to shut down and avoid the issue, but not enough stress leads to a lack of engagement (Gardner and Stern 1996; Kaplan 2000; Lazarus 1991). So how do we create safe yet authentic opportunities for disagreement? Can we lean into that disagreement instead of immediately moving past it to something that results in more agreement? I would like to explore this discomfort more directly in future iterations of the EcoTypes activity. One option would be to rely more on the outliers, requiring those students with extreme scores to mount an argument in favor of extremism, even if

they may not fully support it – this process could perhaps help students feel less intimidated by the prospect of "taking sides."

Along these same lines, while EcoTypes provided the class with an interesting opportunity to explore the *idea* of difference, these differences did not challenge students' general agreement with each other. Thus, I wonder if I used this activity with groups that perceived themselves to be in opposition, would the opposite hold true? In other words, if one sees another person as the opposition, would the discovery of some shared ideas help shift that fundamental opposition? I would love to try this out in a public forum in the City of Montevallo. The City and University communities have some underlying opposition that we could explore with EcoTypes, but in order to plan this type of forum, the goal would have to be clear: why *are* we bringing the community together to explore environmental values and beliefs? What do we hope to accomplish? What will do we do if we fail to find any areas of agreement?

I would also like to advocate for the inherent value of difference in future iterations of EcoTypes. I could provide students with a synthesis of key points from this symposium to spark discussion about celebrating disagreement; perhaps explicit attention to the value of deep disagreement might help embolden them to pursue it more directly in the classroom. Related to this conversation on difference, we could explore the problematic power dynamic often fostered in environmental communication, in which educators work to convince people to care about the environment and act on its behalf (Brulle 2010). Perhaps abandoning specific action goals in favor of genuine engagement might paradoxically be more effective at creating the outcomes they wish to produce (Brush 2020).

At the end of the EcoTypes activity, I asked the students to reflect on their experience. They said it was interesting, but their personal results did not surprise them: they appreciated learning new language to articulate their existing worldview. This might also be a key benefit to using EcoTypes in the classroom or the community: students can better articulate their own perspectives to improve self-awareness. With this information, students can focus their own efforts, be they professional, personal, financial, etc. For example, knowing that they are more interested in the small scale, or the human-dominated landscape, might help them narrow their interests within the larger environmental arena. Improved self-awareness might also help lessen their anxiety in moments when they perceive difference with loved ones – with clarity of purpose, they can better articulate ideas across political divides. I may include more contemplative practices like journaling to help students explore the value of EcoTypes to their own lives.

While EcoTypes has many potential uses at scales beyond the local, I have not yet figured out how to create engagement opportunities with diverse stakeholders using EcoTypes in an online setting. I imagine webinars or live chat forums of some

kind could work, but recruiting diverse participants to these conversations would likely be quite difficult. Perhaps individuals who are interested in exploring differences via EcoTypes online could be encouraged to invite at least one person they perceive to be ideologically opposed to them. That way, EcoTypes would initially attract environmentally focused individuals, who would then be responsible for helping to diversify the conversation.

In conclusion, the EcoTypes activity was an effective introduction to engagement across difference in my classroom. Given the limited time spent on the activity, the perceived homogeneity of my students, and the inherent tendency to downplay conflict, we did not fully realize all of the ways in which EcoTypes could facilitate engagement. However, the students articulated that the "practice" with conflict, and the discussion about how to engage with those who disagree fundamentally, was useful to them as they develop their own environmental ideas. I hope to expand the audience for EcoTypes activities beyond the ESS classroom to diversify ideological participants so we can practice with deeper disagreement and hopefully more radical engagement.

References

Bamberg S, Möser G (2007) Twenty years after Hines, Hungerford, and Tomera: a new meta-analysis of psycho-social determinants of pro-environmental behaviour. J Environ Psychol 27(1):14–25

Bernstein J (2020) (Dis)agreement over what? The challenge of quantifying environmental worldviews. J Environ Stud Sci 10

Brulle RJ (2010) From environmental campaigns to advancing the public dialog: environmental communication for civic engagement. Environ Commun 4(1):82–98

Brush E (2020) Inconvenient truths: Pluralism, pragmatism, and the need for civil disagreement. J Environ Stud Sci 10

Carter RL, Simmons B (2010) The history and philosophy of environmental education. In: Bodzin A, Klein BS, Weaver S (eds) the inclusion of environmental education in science teacher education. Springer Science & Business Media, pp 3–16

Chawla L, Cushing DF (2007) Education for strategic environmental behavior. Environ Educ Res 13(4):437–452

Clayton S, Myers G (2015) Conservation psychology: understanding and promoting human care for nature. Wiley

Corner A, Randall A (2011) Selling climate change? The limitations of social marketing as a strategy for climate change public engagement. Glob Environ Chang 21(3):1005–1014

Gardner GT, Stern PC (1996) Environmental problems and human behavior. Allyn and Bacon, Boston

Gerstman BB (2014) Basic biostatistics. Jones & Bartlett Publishers, Sudbury

Heimlich J, Ardoin N (2008) Understanding behavior to understand behavior change: a literature review. Environ Educ Res 14(3):215–237

IPCC (2018) Summary for policymakers. In: Global warming of 1.5°C. an IPCC special report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty. World Meteorological Organization, Geneva

Iyengar S, Westwood SJ (2015) Fear and loathing across party lines: new evidence on group polarization. Am J Polit Sci 59(3):690–707

Kaplan S (2000) Human nature and environmentally responsible behavior. J Soc Issues 56(3):491–508

Kollmuss A, Agyeman J (2002) Mind the gap: why do people act environmentally and what are the barriers to pro-environmental behavior? Environ Educ Res 8(3):239–260

Lazarus RS (1991) Emotion and adaptation. Oxford University Press, New York

Lepore SJ (1992) Social conflict, social support, and psychological distress: evidence of cross-domain buffering effects. J Pers Soc Psychol 63(5):857–867

Masullo Chen G, Lu S (2017) Online political discourse: exploring differences in effects of civil and uncivil disagreement in news website comments. J Broadcast Electron Media 61(1):108–125

Medina J (2013) The epistemology of resistance: gender and racial oppression, epistemic injustice, and the social imagination. Oxford University Press

Neff MW, Albertson Z (2020) Does higher education prepare students to bridge divides in today's democracy? J Environ Stud Sci 10

Orr DW (2002) Four challenges of sustainability. Conserv Biol 16(6):1457–1460

Palmer JA (2002) Environmental education in the 21st century: theory, practice, progress and promise. Routledge

Proctor JD (2019) Ecotypes: Exploring Environmental Ideas. https://www.jimproctor.us/ecotypes. Accessed 18 Aug 2019

Proctor JD (2020) EcoTypes: exploring environmental ideas, discovering deep difference. J Environ Stud Sci 10

Proctor JD, Bernstein J, Brick P, Brush E, Caplow S, Foster K (2018) Environmental engagement in troubled times: a manifesto. J Environ Stud Sci 8(3):362–367

Saylan C, Blumstein D (2011) The failure of environmental education (and how we can fix it). Univ of California Press

Sharp J (2019) In Alabama, protecting the LGBTQ community has become a 'very local issue'. https://www.al.com/news/2019/06/in-alabama-protecting-the-lgbtq-community-has-become-a-very-local-issue.html. Accessed 15 Jul 2019

Tesch D, Kempton W (2004) Who is an environmentalist? The polysemy of environmentalist terms and correlated environmental actions. J Ecol Anthropol 8(1):67–83