The Journal of the Assembly for Expanded Perspectives on Learning

Volume 25 *2019-2020* Article 8

9-2020

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JAEPL, Vol. 25, 2020

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Abstract: *This essay is a qualitative study of the experience of undergraduate students learning how to teach issues of sustainability to their campus communities through an innovative outreach program at a large northeastern research university, while at the same time learning to navigate complex emotional labor required by their outreach and activist work. While most previous work on science writing and rhetoric focuses on disciplinary, publishing, or genre practices, I examine the holistic student experience by placing outreach, writing, and the classroom in conversation with each other, illuminating how discourses can cross institutional and contextual borders. Additionally, while most previous work involving student engagement has focused on its positive and rewarding aspects, I examine how tension and critical moments can also be productive learning experiences for students, suggesting ways in which teachers might recognize the often-invisible aspects of students' emotional labor that impact their learning experiences. I consider ways in which moments of tension represent productive opportunities for education, wholly separate from traditional notions of success in learning. I propose a re-orientation towards how we view engagement and success in educational contexts to allow for and even welcome moments of frustration as valid and productive representations of emotional labor.*

Introduction

This essay is concerned with how student activists in Sustainability Studies at a large northeastern research university participate in roles that may function to re-orient how we talk about emotional labor in educational settings. Specifically, I examine how student activism and outreach in science represents a re-orientation in the circulation of scientific knowledge to include the explicit recognition of emotional labor as a component of scientific knowledge production. I am curious how these movements may suggest a popularization that gives us a better understanding of how those removed from traditional knowledge-making roles in the academy can both access and influence the creation of scientific knowledge. Here, students are outside the role of expert in traditional discussions of both scientific expertise and public intellectualism; however, their relationship with publics outside of their classrooms in their outreach work allows them to function as experts.

Because of its explicit focus on communicating to and informing the public, the field of Sustainability Studies is situated in a way that makes it a hybrid of the academic and non-academic. Examining the way academic and public sites are related in this field might help us address ongoing questions of public intellectualism that revolve around its appearance, necessity, and practicality in the 21st century (see Warner; Farmer). That is,

if we are to consider the relationship between the Academy and outside publics in a way that might best reflect (and foster) outreach and sharing of knowledge, we might discard the traditional notion that one specific kind of solitary intellectual must reach a specific kind of mass audience in order to be considered doing the work of public intellectualism, and also consider the ways in which localized, community efforts also fall within the realm of public intellectualism. In that sense, Sustainability Studies often positions relatively new initiates to the discipline as content knowledge experts when communicating to publics outside of the field, and these communicative contexts are often localized, personal, and community-oriented.

My understanding of the typical notion of public intellectualism borrows from Michael Warner, who writes that the public as a cultural form is "a matter of uptake, citation and recharacterization. It takes place not in closely argued essays but in an informal, intertextual, and multigeneric field" (145). As uptake is a crucial component of engaging with public audiences (i.e., engagement assessed in terms of what the audiences do with expert knowledge), then one of the key aspects of public intellectualism is learning; the public intellectual is a kind of teacher who seeks to educate people outside of the speaker's discipline. Unlike the necessity of mass audience appeal, this notion of the public intellectual is one that I do not believe needs to be discarded in order to redefine the idea, as it accounts for local, communal, and even individual levels of uptake.

Because persuading outside audiences to care about the disciplinary content knowledge of the field is such a clear stake of disciplinary success in Sustainability, teaching and research are not as formally separated as is traditionally the case for many academic disciplines. To clarify: public understanding of such issues as climate change and renewable habits, is, quite literally, a matter of survival of our planet. Those engaged in any aspect of Sustainability Studies are pursuing what may be one of the most vital educational projects of our time. Student-driven outreach in sustainability is horizontal, not vertical; instead of the already-established and successful disciplinary expert attempting to pass on knowledge to the uneducated in a top-down fashion, the kind of outreach often done in sustainability involves students just as likely as it might involve advanced experts. Outreach in this context creates a removal of the traditional hierarchical relationship necessitated by the idea of the public intellectual; novice initiates to the discipline, as part of their process of becoming disciplinary experts, teach the issues of sustainability to other audiences just as easily considered novices. At the same time, it is important to recognize the ways in which disciplinary expertise is not the only kind of expertise relevant to our contexts within Higher Education: students are, of course, the experts of their emotional labor, and we should recognize this expertise as equally valid to disciplinary expertise, as it is, of course, equally present.

This project is relevant to those within Higher Education teaching and administration who are concerned with inter-disciplinary pedagogy and student engagement. I posit suggestions for how writing pedagogy might help scientists and activists better formalize their outreach practices, and general suggestions for teachers and administrators who are curious about fostering increased disciplinary engagement with their students through increased recognition of the complex and rich emotional work that our students put into their learning experiences.

Literature: Science, Rhetoric, and Emotion

Science communication with the public relies on both scientific experts understanding their audience and their intended audiences understanding the experts' messages, which is what Philippa Spoel and Chantal Barriault define as the "rhetorical challenge" of public engagement (87). Diana Wegner expresses the frustration often present in "studies of public participation in environmental decision-making…[which] yield scenarios of unproductive processes of public participation, usually generating frustration among citizens (114). "Frustration" among citizens is, I will discuss later, one of the recurring themes even in the microcosm of my study, and represents one of the common problems in scientific communication at both the micro and macro levels. As any teacher of technical communication well knows, the sharing of expert knowledge to non-experts always represents a multifaceted (if often exciting) challenge. As Michael Zerbe claims, however, it is to scientific discourse that "our society assigns the responsibility of performing the day-to-day work of making sense of ourselves and our surroundings, both epistemologically and ontologically. This authority should be reason enough to make scientific discourse a central component of rhetorical study for all students." (43)

Zerbe notes that one issue with science rhetoric is its relative inaccessibility to those in the humanities due to vast differences in disciplinary knowledge. This resonates with a perennial problem in scientific communication, namely, non-experts feeling either patronized or ill-informed (or both), and the combination of public frustration with a culturally dominant discourse creates a complex and always-changing rhetorical situation. Zerbe's notion of science as a culturally *dominant* discourse is a productive inquiry in part because it allows for an ideological awareness of power in society. The ideological dominance of scientific discourse elucidates how discourses and publics function together and can be examined from an inter-disciplinary perspective to consider questions of the Humanities' so-called crisis of cultural relevancy. Conceptualizing science as the epistemological and ideological giant of our society, however, misses scientific practice done in the name of outreach and activism that typically do align more clearly with our own disciplinary notions of rhetoric, including agent-driven communicative acts, community-oriented kairotic moments, and emotionally-driven persuasion. Furthermore, the emphasis on local, communal, grassroots efforts in Sustainability Studies and related fields reveals a different possibility of scientific discourse as one that does not necessarily function in ways that are ideologically marginalizing or exclusionary. In scientific discourse, this often takes the form of "gendered vocabulary" (Keller 33) or publishing practices that gesture towards interdisciplinarity while still failing to include ethical and other considerations from the Humanities (see Truana 1964).

One crucial aspect of student engagement is emotional work, as outreach by nature is frustrating, uneven, and even troublesome at times for those who attempt to engage audiences in issues in which the audiences perceive they have no stake. As such, my discussion is directly following a growing recognition within composition and rhetoric to take emotion more seriously as a category of analysis, to borrow Laura R. Micciche's phrase. Micciche writes that "to figure emotion as a critical term that can illuminate perspectives on the content of intellectual work in new, refreshed ways...is to take seriously the work that emotions do in the context of disciplinary formation" (7). With

regards to disciplinary formation, emotional work represents a combination of an individual's motivation to participate in the discursive practices of their field and the resulting knowledge production and sharing that comes from their participation. In adopting emotion as one of my methodological investigations (which, as I outlined, happened recursively as I explored my data), I am extending Micciche's claim that rhetoric benefits when expanded to the realm of the emotive. Disciplinary participation can itself be represented by the emotional responses of those engaged within the discipline, and a way of negotiating the means of communicating within the discourse community. As such, the goings-on of disciplinary participation necessitates engagement, and engagement necessitates emotion.

Compositionists who believe in the possible benefits of attempting to fold emotion into the realm of the rhetorical need to be careful not to, as Micciche suggests, "collapse" (3) it into a generalized abstraction. In order to do this, we may borrow from suggestions within affect theory regarding the relationships between emotion and work, while at the same time establishing modes of inquiry that rely on our already-established and perhaps *safer* methodologies. Here, as I will outline later, I have mostly done this by sticking to places where my case study participants have self-identified emotional responses. In doing so, I hope to help in a small way the larger project of developing research methodologies within composition that can be inclusive of emotional affect. In this area, compositionists can borrow from classical and modern rhetoric, which have long since recognized the primacy of emotion within the rhetorical situation. Regarding the relationship between emotion and persuasion, Aristotle writes that "the emotions [*pathe*] are those things through which, by undergoing *change*, people come to differ in their judgments and which are accompanied by pain and pleasure, for example, anger, pity, fear, and other such things *and their opposites*" (121, emphasis added). In *Rhetoric*, Aristotle realized that emotion was itself embedded into rhetorical situations through the interplay of ideas, thoughts and feelings between speaker and audience. In this project, my findings about the emotional responses and affective experiences I observed in my students draws on the way Aristotle conceives of the emotional realm of persuasion being developed through change and through the individual speaker's negotiation of disparate and conflicting feelings.

While rhetoricians have long since recognized the importance of emotion within the rhetorical situation, compositionists have been slower to recognize the possibility of emotion as a pedagogical and disciplinary bridge between the Humanities and the Sciences. Within composition, perhaps the closest we have come to formally crossing the disciplinary divide between us and the sciences is through the work of ecocomposition. While WAC draws together interdisciplinary concerns around writing (and often creates programs that are concerned with pedagogies within both the Sciences and the Humanities), ecocomposition seeks to establish an explicit connection between composition studies and ecology, as Sidney Dobrin and Christian Weisser write that "composition's roots do indeed tap into ecological sciences in their current incarnations…composition studies is very much an ecological inquiry" (*Natural Discourse* 259). Ecocomposition functions both as a theoretical frame and a possible methodological approach to the relationship between agents and systems. The ecological perspective argues for a conceptual framework where difference *is* the norm, as networks and ecologies are only made up of

relational differences. Ecocomposition remains the closest endeavor in Composition to move towards explicitly discussing environmental and scientific issues, and shares some of the concerns of the WAC movement with regard to the need for interdisciplinary examinations of writing and its contexts. Dobrin and Weisser suggest that ecocomposition must "become a site for... public intellectualism," and they argue that "ecocomposition sees the university as the public, all part of the same system, all the same place" (*Breaking Ground* 95). Furthermore, Dobrin and Weisser also claim that "compositionists already talk about the consumption and production of discourse in much the same way ecologists discuss the consumption and production of energy" (*Natural Discourse* 18). As a subfield, ecocomposition draws explicitly from earlier movements within the field to recognize the importance of considering physical location as part of our definition of context, as ecology is by necessity dependent on location. Ecocomposition provides for both a theoretical lens (writing-as-ecology) and a methodological framework for positioning disciplines of composition and disciplines of science in direct conversation with each other.

The combination of disciplinarities that results from considering rhetoric and emotion as two emergent necessities of communication also draws attention to another cognitive domain: the ethical. Alan G. Gross and Arthur Walzer write that, in the *Challenger* disaster, the failings of scientific deliberation revolved around "an ethical dilemma, a problem that required that a cognitive dilemma be viewed from an ethical perspective. This ethical dilemma was not even perceived" (86). Earlier, I outlined the importance--more simply, the urgency--of sustainability. The insufficient public appreciation of the importance of climate change may be seen as a failure of scientific discourse to adequately create ethically-informed systemic change. The failure to include the ethical domain is something that feminist scholars such as Nancy Tuana have criticized (1963) with specific regard for how science can benefit from becoming increasingly interdisciplinary. As such, if disciplinary success in the sciences relies on some form of what we might call uptake in the form of public change, it is evident that scientific inquiry alone is not enough to create mass persuasion. What seems to be missing in scientific inquiry, *especially* as it relates to interactions with its publics, is the ethical and emotional as a domain of critical thought equal to the rational.

The Study

In order to address these concerns, I spent a semester conducting a case study of the writing, pedagogy, and outreach practices of the "Ecology Representatives" (henceforth "Eco-Reps") program at what I am pseudonymously referring to as Northeastern Research University. The Eco-Rep program is an innovative opportunity that combines coursework with outreach in an attempt to train undergraduate students to become skilled at raising community awareness of sustainability issues. According to institutional description, the Eco-Rep program is an opportunity for students to become engaged in

> environmental literacy and leadership both within the program, and on the campus at large… Eco-Reps build a foundational knowledge surrounding issues of sustainability and explore how best to raise awareness about these

issues amongst their peers. Focusing on the role and impact of the individual, Eco-Reps work to promote environmentally responsible behavior in the campus community.

The Northeastern Research University Eco-Rep Program represents a localized site for the now-national Eco-Rep movement that began at Tufts in 2001. In 2015, the Association for the Advancement of Sustainability in Higher Education (AASHE) created specific criteria for universities seeking to establish their own Eco-Rep program, which individual universities can adapt to their own communities' needs. The AASHE, however, dictates that each nationally-recognized Eco-Rep program must include components of "training peer educators, educating residential students, educating populace who practice environmentally-sustainable behaviors," with the goal of a "stabilized, decreased ecological footprint of campus operations; tangible cost savings; and greater understanding of facilities and infrastructure issues of the campus" (Erickson). At Northeastern Research University, the Eco-Rep program consists of a 2-credit College of Natural Sciences course which includes student participation in projects and outreach across campus. There are six sections of the course every semester, with each section being offered across campus in a different residential area. Each section typically has 6 to 8 students in it. The course is a dialogue-based seminar that is taught by undergraduate course facilitators who are themselves former Eco-Reps. Each section is overseen by a program manager, who is also an undergraduate and former Eco-Rep and course facilitator. Together with a faculty advisor, the program manager and course facilitators collaborate to develop pedagogy through training and regular meetings. The goal of the Eco-Rep program is for students to build a foundational awareness of issues of sustainability and use that knowledge to foster sustainability awareness within their communities on campus.

The Eco-Rep program classroom overlaps with students' involvement in their residence halls and campus community with the course facilitators spending class time collaboratively developing outreach activities. Students use their Eco-Rep work in the class to craft activities and material explicitly addressed to the larger campus community. The classroom emphasis is on the individual's involvement in sustainability and critical consideration of the best way students can impact their own communities. Working collaboratively, students are tasked with developing, over the course of the semester, a variety of materials to achieve this. Students create outreach materials like videos and posters, and host awareness-raising social or outreach events. The goals of these activities are twofold: educating their peers on sustainability issues and suggesting individual behavioral changes to address these issues. Students work closely with Residence Life staff and other on-campus departments and offices in developing, promoting, and publishing these events and materials. These outreach projects often directly reflect the thematic content of the class; examples include innovative recycling programs, student-led educational activities across campus, increased access to green resources in academic offices, and visible campus events designed to spread awareness of the dangers of pollution and waste mismanagement.

In this paper I examine what the student Eco-Reps are doing with the knowledge and identity of the Eco-Rep program; identities that are strongly identified by an orientation towards the importance of sustainability and sustainable outreach. As members

of the Eco-Rep program, each of my five case study participants engage in numerous moments of explicit and implicit self-reflection that suggest how the role influences their own evolution and growth as students, scientists, and activists. Furthermore, participating as active members of the Eco-Rep program also creates moments of tension with other discursive identities; moments that are, understandably, handled differently by each of my case study participants.

The study involved eight course visits; four interviews with current student Eco-Reps; and three Eco-Rep outreach activities on campus which I attended. I collected writing and outreach material produced in the class and Eco-Rep work, totaling approximately 30 pages of written and visual material from the students. I also collected written pedagogical material from the course facilitators, including lesson plans and activities and their own reflective writing written for their lesson planning meetings, totaling approximately 20 pages of written material. When analyzing my research data, I coded for important themes and ideas that seem suggestive of how the Eco-Reps themselves view their work. Following Anne Haas Dyson and Celia Genishi (85), I allowed my coding process to lead me from larger ideas to more specific ones as I re-read the interview transcripts. As I will discuss later, this recursive coding process led me to realize that my initial consideration did not account for the importance of emotional labor within the students' activist work.

This study directly extends some ongoing conversations within the field of composition and rhetoric. Specifically, examining my students' outreach work in conversation with their academic writing answers calls made by scholars concerned with student engagement (see Tinberg); I also seek to provide an addition to the important conversation regarding the relationship between engagement, literacies, and transfer (see Bacon; Depalma). Both of these disciplinary threads are concerned with what students take from the classroom setting or, rather, what students *do* with the knowledge they gain from the classroom.

During my time observing the Eco-Rep Program, I began to realize just how seriously the students take their own emotional experiences, often attaching their emotions, at least in part, to the kind of audience response their activist work was receiving. It became impossible for me to ignore the vast degree to which my students, in their outreach work, were grappling with complex and immediate emotional experiences that greatly influenced both the work they produced and their experience learning the content knowledge of sustainability. Through recursive coding and analysis (explained below), the emotional work in all of my student participants' experiences became impossible to ignore. My first rounds of coding did not count for emotion, and I believe this is partly to blame for my initial constricted coding schema; the students' performance of discourse and knowledge of sustainability through their outreach is very emotion-laden. So the added investigation based on emotion led me to consider: what is the role of emotion in students' engagement with sustainability? This became the guiding research question for the study.

Case Study Participants

During my course visits, I offered my informed consent documents and explained the nature of my study to the students. I allowed for students to approach me if they were interested in participating. I ended up with five student Eco-Rep case study participants. Their spread of majors as well as their mix of class standing make them an adequate, if not exhaustive, representation of the program.

Zhi

Zhi was the first student to approach me with an interest in being a case study participant. At the time of my study, Zhi was a freshman with an undeclared major, although she plans on studying "Business Marketing with a minor in Environmental Science." She tells me that she finds this combination attractive because, in her view, many businesses that claim to pursue sustainable practices "are not very aware of what Environmental Science is about and focus more on the business aspect. I think that's sometimes disappointing." As a second-semester freshman, she also took the Eco-Rep seminar her first semester, meaning that her outreach work became a year-long project.

Jaime

Like Zhi, Jaime was in her second semester as a freshman as well as her second semester in the Eco-Rep program at the time of our interview. When finalizing her class schedule at the beginning of her first semester as a Business major, she as well as her roommate decided to take the Eco-Rep class due in part to their Resident Assistant (RA) being a Sustainability Fellow. Like Zhi (and like all of my student participants, in their own way) she discusses some aspects of *difference* between her experience in the class and her experience in other contexts. However, for Jaime these moments do not seem to be ones steeped in disappointment or tension. For her outreach work, Jaime was able to work alongside her RA, meaning she had more of a ready support system in place for her outreach experience than Zhi did.

Ann

A second semester transfer student studying Psychology, Ann discovered the Eco-Rep program because she was visiting a friend's dorm on campus and she began talking to someone already involved with the program. She's interested in eventually becoming a course facilitator, and cited this possibility as part of her reason for initially wanting to be involved with the program. She also mentioned her course facilitator as being an inspiration for the kind of teacher she would like to be because she found the dialogue-based nature of the seminar to be very effective. Ann is also currently enrolled in a Sustainable Living class, and much of her discussion with me is focused on discussing how these opportunities allow her to see connections to sustainability that other students don't have. Broadly, Ann is very concerned with appealing to the widest possible audience with her outreach and spent a lot of time enlisting the help of residents in her chosen residence hall to try to maximize the effectiveness of her recycling advocacy project.

Pat

Pat is a nontraditional student majoring in Social Justice, who decided to add a concentration in Environmental Science because they felt that there was not enough attention to issues of sustainability in the Social Justice program. Pat's outreach work, as well as their writing, focus largely on two topics; the specific interdisciplinary connections between sustainability and computer science, and the role of personal responsibility in trying to improve the world.

Laura

Laura, an Ecology Major, was a late-comer to participating in my study; I first talked with her at the Eco-Rep end of semester potluck gathering, where she presented her outreach project. Laura went against the rules of the Program in choosing her sorority house, technically not part of campus, as the site of her outreach work. She pushed back against both the program's Faculty Advisor's request and the governing body of the sorority to create a recycling program in her sorority house.

My revised coding schema led me to look for a set of common referents based on what I found in recursively reading and annotating my interview and writing samples. These codes were as follows: "positive emotion," "negative emotion," "work/labor," "sustainability/science," "success," and "failure." This set of codes allowed me to examine cross-referents in each student's writing and interviews, as well as finding where and to what degree they expressed positivity or negativity with regard to their experiences. The following table represents a breakdown of how these codes appeared in each student's data.

Analysis: Investigating Emotional Labor in Activism

In my investigation of emotional labor in student activist work, I draw on Patricia Ticineto Clough's definition of the affective turn in composition and rhetoric as being driven by "information/communication systems including the human body…including the circulation of value through human labor… and in biopolitical networks of disciplining, surveillance, and control" (3). The outreach work my students participated in represents affective work in that it is embodied by each individual student engaging in their own labor; further, this work happens in the specific context of the Eco-Rep program. Following Sara Ahmed, my examination of emotion necessitates considering how emotion and affect influence and are influenced by students' relationships with their communities. As such, I am less concerned with defining emotional responses and more with looking at the "work" of the emotions (Ahmed). In other words, as I recursively engaged with my data, I came to realize that it would have been impossible (or at least reductive) to talk about the richness of the outreach work my students were doing without talking about the emotional context for this work.

Table 1: Coding Breakdown and Frequency

Case Study Participant	Frequency of Emotional Expression (percentages indicate comparison of positive and negative referents)	Frequency of success/failure referents (percentages indicate comparison of success and failure referents)	Most commonly used referents	Most frequent cross-references
Zhi	Positive: 55% Negative: 45%	Success: 30% Failure: 70%	Work/labor ("living wages," "doing more work than in a lecture"), Failure ("What did I get for my work?")	Positive emotion + negative emotion ("overpower the negativity," "people may not care but it's still worth it")
Jaime	Positive: 63% Negative: 37%	Success: 57% Failure: 43%	Sustainability/Science, Work/labor: ("we're talking about inequality," "environmentalism is in everything")	Positive emotion + Work/labor ("I'm going to force people to notice the poster,"We drove around encouraging people to recycle and it was a big success")
Ann	Positive: 55% Negative: 45%	Success: 52% Failure: 48%	Negative emotion, ("I use things that are harmful,") Sustainability ("I've learned to care about the environment and it makes things a lot harder")	Negative emotion + Work/labor ("The happy posters didn't work so I'm gonna make the next ones sarcastic")

Pat	Positive: 33% Negative: 67%	Success: 54% Failure: 46%	Sustainability, ("I was better at sustainability before I came to college," Work/labor ("It takes real effort to bring sustainability to computer science")	Sustainability + Negative emotion ("I tried to teach them about e-waste but they didn't seem engaged," "People tend to be cynical about others but not themselves")
Laura	Positive: 64% Negative: 36%	Success: 59% Failure: 41%	Positive emotion ("I felt good after doing the trivia night,") Success ("People were surprised at told me they learned something")	Sustainability /Science + Positive emotion ("The event was a fantastic idea because we felt good getting people to donate")

In order to identify emotions in my students' writing and interviews, I coded for places where emotion was either specifically mentioned (e.g., Ann writing that the work of sustainability can be "saddening") or implicitly expressed (e.g., Laura writing that the low attendance to one of her projects was "tough for me to see"). As such, I try to identify emotional responses in each students' experience that seem to be clearly present and intentionally expressed. As I suggested earlier, these emotions seem to be connected to the ways in which my students both define sustainability and perform sustainability outreach. The relationship is not a causal one; to infer that these students are simply feeling positive or negative emotions based on how their work is going would be to reduce the complexity of the dialogic connection between emotion and knowledge, and how emotional labor influences the material realities of students' work. As Aristotle explains, inhabiting emotions during a persuasive action often requires a speaker to feel opposites (121), and the nature of rhetoric itself requires a speaker to combine "analytical knowledge and knowledge of characters...of mental faculties [and] sciences" (53).The emotions I refer to here from my data analysis are, again, ones that have been directly and specifically expressed by my case study participants and, as such, represent only one aspect of their discursive performance of outreach.

For Zhi, her feelings of frustration are directly connected to why she also feels hope. Feeling "frustration" when she entered her chosen Residence Hall to find the recycling bins mis-labeled and inaccessible allowed her to find positive motivation to work against

a perceived injustice. "I thought I would get in trouble," she says in our interview, "because I was crawling up these recycling bins trying to move them and change the labels" (Interview 2/20). In her reflection on her outreach experience, appropriately titled "Recycling: A Myth in Sycamore Hall," Zhi again emphasizes both frustration and the importance of personal responsibility in her conception of what it means to work in sustainability. Zhi writes: "consciousness, leadership, awareness – these are all qualities and characteristics thought to be associated with Honors students. However, in the case of recycling, that does not ring true whatsoever, especially not in Sycamore Hall." This is reflected in the higher representation of "failure" referents in her data while at the same time still having a higher overall frequency of "positive" emotional referents. For Zhi, the tension between her expectation (perhaps magnified by her subject position as an especially eager and motivated first-year Honors College student) of what it means to be in the Honors College and the material reality she encountered during her first Eco-Rep reconnaissance venture is especially difficult for her. Consciously drawing on the University's own philosophy of the Honors College experience, Zhi here uses her awareness of that mission statement to emphasize her frustration with the messy and disorganized (and therefore ineffective) state of recycling in her chosen outreach area. Reflecting on how her role as an Eco-Rep has changed her idea of what it means to be a student, Zhi says: "I feel more responsible" and "I feel like my decisions are more important now" (Zhi Interview 2/20). Furthermore, the language of these statements possibly reflects the personal and intellectual development in progress of a first-year college student, which may account for some of her challenges and frustration throughout her outreach work.

In Jaime's case, her knowledge of sustainability as an interdisciplinary, performative action helps her to feel both pride and community inclusion as someone working towards positive change. Because Jaime sees more positive connections between her work as an Eco-Rep and her experience in other classes, she doesn't express tension between these two different sets of experiences. Instead, her experiences create for her a holistic and interconnected educational setting where the various roles that she participates in on campus and at home are constantly in dialogue with one another. To illustrate this dialogue, Jaime tells me an anecdote about going home to visit her family for a weekend shortly before our interview:

> When I was home this past weekend I told them I would not use a Styrofoam plate because of what I'd learned in this class and the NRC (Sustainable Living in the 21st Century) class, and I just learned a ton of information about how Styrofoam is terrible, it never fully decomposes, and all that. So I literally put my food on the tablecloth and ate from there, and everyone thought I was ridiculous but I was making a point. (Jaime Interview 3/4)

In this reflection, Jaime shows confidence in her ability to "make a point," even while she laughs at the absurdity of eating directly off the table. Jaime identifies as not being "environmentally-aware" before college, and notes that she has also started "forcing" her family to recycle and compost (something that she slyly attributes in part to her being the oldest of three children and having some degree of clout in the household). She says that her family, then, has also been "changed" by her experiences in the Eco-Rep program, believing that while they wouldn't have started practicing green habits at

home without her influence, they now would continue to do so even if she wasn't there to monitor it. While Jaime expresses mostly positive emotions in response to sustainability, this does not result in her becoming complicit or lazy; rather, these reflections show a motivated activist who is experiencing positive reinforcement and wants to keep getting better at what she is doing.

In Ann's case, her emotional responses exist in a near-constant state of tension between feeling confidence in her work and guilt for her own participation in hurting the environment. Ann's understanding of sustainability is defined by what it reacts *against*, as she writes about her "fear for the day that nonrenewable resources are used up" and speaks for the human community by saying that "we are not giving back to the Earth." As with Zhi, however, these feelings of fear allow her to feel some degree of motivation, urging that "everybody must be educated in the destruction that we are creating and spread the *feeling of importance* everyone has on this Earth for making a change" (my emphasis). Ann also writes that attending the group events during Earth Day was "great" and "exciting… to see so many people interested and participating in the events that the university had to offer; it brought a sense of community" (Earth Day Reflection). Like Jaime, Ann's emotions help her to feel that sustainability itself creates a community which, among other things, helps its members feel like important actors toward positive change.

For Laura, the tension between emotions exists between her optimism regarding the work of sustainability and her disappointment at being met with low attendance at her outreach events. She writes that it was "difficult," a "tough turn-out for me to see" and, when some of her audience members were loud and disruptive, it was "hard to hear." She was, however, optimistic that while her projects did not reach a wide audience of students, she was able to talk to a large number of Resident Assistants at outreach events and Earth Day; as I suggested earlier, this led to her changing her concept of audience in performing outreach. She also eventually expressed positivity ("that was a good way of looking at it") and suggested ways to revise future work to reach a wider audience. Similarly, Laura found a "pleasant surprise" ("Earth Day Reflection") at the Earth Day events that allowed her to feel like part of a larger community.

Pat's emotional responses are perhaps the most consistently negative; much of their reflection in both the interview and their writing involves a degree of cynicism and pessimism, both about themselves and the campus community. Pat writes that they were "blown off" by the Resident Director of their chosen hall, and that the Earth Day events did not, for them, "foster a sense of community in the Eco-Rep program" ("Institutional Change Unit Reflection") because of low turnout at the events they attended. Connecting to their understanding of sustainability as ever-present, however, Pat is able to develop a sort of angry imperative regarding what it means to work in sustainability. Pat claims that the Eco-Rep class allows for a chance to learn "from other people," which they argue is important because "people here are following personal beliefs… generally people I know in other majors aren't all that cynical about themselves, they think of themselves as outside of these problems" (Interview 3/7). For Pat, cynicism is not an excuse for apathy, but rather a reason to continue learning and working.

Below is a summary of my findings of the "dominant emotions," which I define as those most commonly expressed, in each student's data set in their discourses around sustainability outreach.

Table 2.

	Dominant emotions	How emotions are used	Role of negative emotions	Role of positive emotions
Zhi	Disappointment, humility, guilt, anger, hope	To express imperatives: to reflect on what should be done	Disappointment leads to personal responsibility	Expressing connections between people
Jaime	Pride, inclusion	To teach others	Frustration at not being seen/public leads to desire to be more public	Welcoming others into the discourse community
Ann	Uncertainty, frustration, guilt, confidence, optimism	To self-reflect	Reflecting on challenges and trying to develop solutions; being motivated by fear	Gratitude and confidence at being informed
Pat	Cynicism, certainty, disillusionment	To imagine the kind of community that would be better	To reflect on personal failings and imagine change	To feel included in a community
Laura	Disappointment, excitement	To engage in self-reflection	To imagine solutions	To reflect on success and consider how to improve

So, in each of my case study participants, there are moments of emotional tension in their discourses that in some way reflect their understanding of sustainability-as-knowledge or sustainability-as-outreach. I suggest that these moments of emotional tension are productive learning experiences, fostered at least in part by intentional pedagogical choices made by the course facilitators and program managers. Furthermore, as I have suggested, in each of their own ways my case study participants balanced negative and positive emotional responses to help them find motivation to keep working. Lastly, for

my student case study participants, the language of emotion works in conversation with their developing content knowledge of the discipline of sustainability to help them navigate moments of tension. For these students, when the content knowledge "matters" (as in, when it must be tangibly used outside of the classroom), it exceeds the sole realm of content knowledge and gains new complexity as it is re-contextualized in other settings. Whereas the course facilitators, as more advanced undergraduates, are able to draw more expertly on disciplinary content knowledge, the student Eco-Reps "fill in the gaps" with their more familiar language of emotion. As such, emotions may be given more credibility in classroom settings as something that, as Ahmed suggests, helps assign value to ideologies, bodies, and contexts.

Further, the primary difference that emerged from students' experience with expressions of positive or negative emotions is in the way their reflection is directed, typically either inwardly or outwardly. Students who express or encounter more negativity in their outreach express more inward-directed self-reflection, while students who express more positive emotional responses express more outwardly directed reflection, often towards how to teach or help others. In this regard, I hope to offer suggestions for complicating the conversation around student engagement to include a more holistic understanding of how engagement relates to emotion. The students who define sustainability in negative, pessimistic, or cynical ways are more likely to also express negative emotional responses to their outreach work, while students who define sustainability in positive or optimistic ways are more likely to perform such definitions through their outreach work. This has theoretical implications for the relationship between prior, existing knowledge and how students process new and learned information. This suggestion also has pedagogical implications regarding how teachers contextualize disciplinary knowledge.

As I have outlined, these students' emotional responses matter for this study because: emotional responses and content knowledge have a dialogic relationship; students use emotional responses to help them *navigate* moments of tension; students' willingness to perform outreach work is not seemingly affected by what kind of emotion they experience during their work, but rather these emotions affect where their reflections are typically directed. To repeat, in places where students experience negative emotions, they would engage more directly in inward reflections, considering questions about self-improvement and what else could be done in order to eventually reach positivity, and when experiencing positive emotions, students would reflect outward on their larger communities.

One final example of this outward reflection on a more macro-scale is a recurring Eco-Rep annual participation within the university's Earth Day activities. Each year, a number of student Eco-Reps and other members of the sustainable community at the university lie on the ground outside one of the university's busiest public walkways, as pictured in Figure 1:

Figure 1: "Earth Day Activism"

Each student has a piece of paper on their chest or back, with a word written on each that symbolizes people who have been killed, diseased, or displaced as a result of human failure to live sustainably, words like "flooding," "drought," or "pollution." This activity, which was started by a student Eco-Rep in 2013, continues to be one of the most visible and most popular of the students' options for participating in Earth Day events. Of my case study participants (students and facilitators), all but one of them chose to participate in this event. In their reflection on participating in this Earth Day activity, Pat explained that "this was one of the more directly and easily visible things we did… it made me feel like I was showing people in a way where we all need to come to terms with what we're doing to harm the environment" (Interview 3/7). This activity could be seen as an expression of the sense of frustration typically felt by many activists, and turned here by the Eco-Rep Program students into a hopeful teaching moment for their peers.

Discussion

Each in their own ways, my student case study participants found themselves experiencing *conflict* with their surrounding environments as part of their Eco-Rep work, or perhaps more broadly, simply by *being* Eco-Reps. In each case, this conflict led to them acting differently than they would have anticipated had the conflict not been a factor. I believe the program (and ones like it) would benefit by including more explicit focus on the tensions students are likely to encounter in outreach work. My findings are suggestive of WAC-oriented pedagogical moves that could allow a program like Eco-Reps to more formally recognize these tensions, and future research would examine the possibility to use emotional engagement, including negative emotions, as a way to enrichen

students' learning experiences across the curriculum. Emotional labor, at least as it exists in our current social milieu, tends to be conflictive because it begins as invisible and then needs to be justified (often by those engaging in the labor) before it is recognized as valid. As such, these moments of either tension or even outright contradiction are ones that should be recognized institutionally and made visible so that the onus is not placed on the laborer to engage in the additional work of explanation and validation.

With regard to recognizing these tensions, I would no sooner suggest that Zhi is developmentally *behind* Jaime for having her first year as an engaged student be met with disappointment than I would suggest that Jaime is developmentally behind Zhi for *not* encountering disappointment in hers. What I might suggest, however, is that Zhi could have benefited from having a more supported, holistic network between her different contexts, and that Jaime could have benefited from having a bit more tension between hers. I'm reminded of Joe Harris' suggestion that we approach discussing community by allowing "for both consensus and conflict" (18). Within the Eco-Rep program, students design their own outreach activities based on how *they* assess the needs of the physical space on campus that *they* volunteer to cover, which is evocative of Harris, who writes that his work within universities has been universally accompanied by a "sense of difference, of overlap, of tense plurality, of being at once a member of several communities and yet never wholly a member of one" (11). The self-directed nature of the Eco-Rep work done in the classroom models the kind of work necessitated by the outreach and, for each of my case study participants, allowed them to craft their own individual relationships with that work.

In that sense, the student Eco-Reps and others doing similar work both use and need rhetoric to help them craft their persuasion to their audience and to understand their own role in the relationship. Bryan Garsten claims that the relationship between emotion and rhetoric exists as a criterion for the practice of judgment as "keen perceptivity and relatively steady habits of emotional response. When people have all these traits, they find that they can draw upon their various perceptions, feelings, and opinions to respond in a relatively deliberate way to whatever particular situation confronts them" (8-9). In this sense, I argue that through their emotional experiences, the students, while applying the disciplinary content knowledge of sustainability and performing outreach, complicated and enriched their ability to engage in a domain of rhetorical persuasion with their audiences. Garsten further draws this comparison between rhetoric and emotion in his reading of Aristotle, arguing that Aristotle "thought citizens tended to judge better in deliberative settings, where they were situated in *their own perspectives and experiences*...they exercised their judgment best when they could draw upon structures of perception and value acquired throughout their lives" (119, emphasis added). For the students, this gives their experience the kind of diversity characteristic of healthy ecosystems as defined by Greta Gaard (163) and, as the findings of this study suggest, allows for productive (if challenging) educational experiences as students negotiate their individual experiences, emotions, and outreach work with the disciplinary content knowledge of the classroom. Raúl Sánchez argues "for agency [implicated]... more thoroughly with the environment without immersing it entirely in that environment and thereby removing the possibility of responsibility" (31). The Eco-Rep program, by emphasiz-

ing students' own agency in choosing the sites for and makeup of their outreach work, allows for discursive participation outside of a pre-determined framework.

Applications for Pedagogy and Disciplinarity

What we can learn from these findings is that the unpredictable nature of outreach work does not make it a necessarily unacceptable risky learning environment for students. A teacher who shies away from assigning outreach-based projects because she is worried that her students will be met with resistance (or have difficulty being met with *anything at all*) can, by including in the work moments of critical self-reflection, help her students engage in productive learning opportunities regardless of audience reception. By its nature, outreach work involves a complex agentive subjectivity for students, helping them engage more directly and critically with their surrounding environments, and leading to productive learning experiences. Similarly, teachers may consider ways to upset the conflation of positive emotional experiences with success and negative emotional experiences with failure. Self-reflection and directed learning can help students synthesize their emotional experiences into effective learning moments, understanding how their negative emotions are just as valid and useful as positive ones. As with my participants (especially Pat and Jaime), negative emotional experiences can be especially useful as moments to understand and appreciate their own expertise and passions, as well as to reflect on their potential role as agents of change against an apathetic or unappreciative audience. Equipping students with this kind of rhetorical orientation potentially provides them with a strategy for negotiating and productively incorporating processes of failure into their learning and development rather than merely disengaging from negative emotional experiences.

This study was limited in its scope because of the small number of case study participants, although I believe a deep inquiry into students' writing, interview reflections, and classroom experiences was helpful in creating a complete picture of each students' lived experiences. While my recursive coding scheme helped me arrive at some important and exciting realizations, I believe this analysis could also have benefitted from additional coding to consider neutral emotion or the lack of emotion, as well as internally versus externally-oriented reflection. Lastly, future investigations into the relationship between science and emotion within Composition Studies would do well to draw more heavily and explicitly on feminist criticisms and methodologies, an area that lies beyond the present scope of this article.

While disciplinary knowledge might be external to public discussion, the public can and often does change the *stakes* of and consequences for disciplinary knowledge. Within the sciences, there have been discussions of both public intellectualism and popularizations of scientific thought. Drawing on Ulrich Beck's concept of the world risk society (the capacity for lay audiences to question foundational societal concepts as industrial and natural disasters increase), Robert Danisch claims that science functions to "produce uncertainty, fear, and danger" (173) in the general public. The management of risk, according to Danisch, has become more important to the function of society than the production of goods, and scientific discourse is how the public communicates discussions of managing risk. Furthermore, advancements in science and technology

that seek "to improve the human condition is the central causal factor for the explosion of risks and the deepening of uncertainty" (179). Beck imagines a "public science" (Danisch 185) that would function as a sort of watchdog against some of the dangerous consequences of unchecked scientific discourse, which I would define as anthropocentric, and prone to both capitalist influence and misogynistic disciplinary traditions (see Merchant). Danisch contends that Beck's idea of a public science is limited because he offers "no generative conception of how this competence will emerge" (185). However, as Danisch suggests, a more practical (and possible) realization of this function may come from the field of rhetoric. Alan Gross claims that "rhetoric mediates not only the development of knowledge in all disciplines, including science, but also the existence of entities upon which this knowledge is developed" (285). Taking this assertion a step further, Heather Graves claims that "if we study the language that scientists use to conceptualize their objects of study… we can gain insight into the role that rhetoric plays in both the epistemology...and the ontology of science" (181). Graves further asserts that we should not "collapse the fields of study [rhetoric and science] into one another," (191) but rather look for places where rhetoric can be productively applied to scientific inquiry and epistemology. I would also suggest that scientists in other fields outside of sustainability look at the ways in which Sustainability Studies is emerging as a field both academic and public, precisely because of the way direct and actionable communication to their various publics is a crucial component of disciplinary knowledge production.

So how do rhetoric and emotion save science? In essence, they can help save it from itself: specifically, its most dogmatic and exclusionary ideological tendencies. Feminist scholars such as Patricia Sullivan have critiqued the "objective-subjective and rational-emotional dichotomies central to the scientific enterprise" (56) that make scientific inquiry tied to inherently masculine ideologies. Likewise, the publication practices of scientific genres (see Gross) creates an abstracted, idealized laboratory space that intentionally ignores the messy, human-centered and often emotional labor that are inherent to scientific progress (see Keller 34). By recognizing and even foregrounding emotion as a critical domain of scientific inquiry, I believe we are upsetting this masculinist dominance. Further, as scientific *outreach* relies inherently on persuasion (drawing as it does from modes of persuasion other than logos), outreach by nature is a subversive, agentive action. This is a further emphasis on what Sustainability as a field can offer the wider discipline of science. As such, I might generalize the theoretical *and* pedagogical takeaways of this project by making two interconnected suggestions: that rhetoric is necessary and needed in the realm of science, and that the study and teaching of emotion are necessary and needed in the realm of composition. As such, emotion and emotional labor become explicit throughlines for composition teachers and theorists to talk with our colleagues in the sciences. Our students are constantly engaging in visible and invisible labor: often the emotional labor is what our institutions and our disciplines, by their nature, make invisible. We may create richer educational opportunities for ourselves and our students the more we validate emotional labor as part of the educational process, and our academic disciplines will be the better for it.

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