

Ecologies of Collaborative Selves in the Writing Classroom

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DOI: [10.37514/DBH-J.2023.11.1.01](https://doi.org/10.37514/DBH-J.2023.11.1.01)

Introduction

It was about a month into the spring semester at the University of Hawai'i at Mānoa, and three students in a transfer section of first-year composition were sitting in my office for a mentor meeting.¹ For a group project, they each had to write their own paper but on a shared subject—in this case, three online educational tools. None of them had started yet. After only a few minutes of talking, though, one of the more assertive students in the group started asking questions, and suddenly, they were collaborating with very little prompting from me. Even in the moment, their spontaneity felt surreal, but it was precisely that quality that drew my attention from the project to their collaboration. While I did not record the conversation, my reflections on that day's meeting revolved around not so much the assignment or the nitty-gritty details of revision but, rather, the ways of being reflected in the students' interactions.

My students—who we will call “Jaime,” “Jason,” and “Jennifer”—likewise spent very little time digging into the assignment itself. Yet, they felt prepared to write a draft by the time they left based on the conversations they did have. Jaime, who often showed leadership and a great deal of confidence in group activities, talked about her own writing and worked with me to model a certain style of writing rather than to show off or take charge. For her, the report-like nature of the assignment made sense, and she brought a sense of style that could help unify their disparate compositions. Jason, a highly self-reflective and compassionate writer, and a few years older than the others, then took the conversation about style as a starting point to ask questions about his own writing, sparking a group-level self-reflection on the possibilities the assignment held. As the other two spoke, Jennifer listened carefully and introduced spaces for reflection. The ways in which she engaged invited Jaime and Jason to consider viewpoints other than their own, converting their view of the assignment from an individual product to be turned in to a more collaborative process to be worked through. As they bounced ideas off of one another and entered into an animated discussion about education, publication, and the value of group work, I observed again and again how well they worked as a group, catching a glimpse of the kinds of collaboration and critical thinking we will explore here.²

These initial observations, alongside the students' later sense of success in completing the assignment, serve as a starting point from which we look more carefully at

this kind of collaboration as something more than just another example of group work. Building from the mentor meeting, we will argue that the extra-textual elements—like audience—and the objects—like the specific programs they were looking at, as well as concepts like education or data—with which the students engaged fueled their conversation as part of the collaborative process and helped them to think critically about their individual essays. We would never claim that the students were not concerned with the final product and their grade, but they also showed concern about the collaboration itself, how their ideas developed within what we will consider a larger ecology that encompasses writing, objects, ideas and ways of living and being in the world.

It is this specific set of ecological connections that we will address here. We start with an overview of the problem my fellow authors and I see in the way collaboration is addressed in many of our classrooms, including the literature, professional writing, and rhetoric classes I teach each semester. While we appreciate the role group work has to play in the classroom, we resituate the conversation to view collaboration as an end in itself. We also demonstrate the ways in which collaboration fits into ongoing conversations about self-efficacy as a student's sense of their responsibility to both a group and to their larger community. It is within this framework that the following sections outline the original unit as it was taught at the University of Hawai'i, then iterations of the revision model as it developed in the first-year writing, as well as literature and professional writing, courses I taught at the University of Illinois Urbana-Champaign. The model is meant to help students learn to revise, but we also embodied that belief in revision by revising the model itself. What emerged from our revisions to the model and from students' use of the model is an ethic of collaborative self-efficacy that we encouraged in our students and employed ourselves in order to address both our work and the work of our students as entangled with and responsible to other ideas, objects, and people.³ Finally, we explore some of the ways in which others might employ and reimagine this model in order to teach collaborative self-efficacy, and revision itself, in their own courses. Ultimately, we argue that, by modeling our own practices as we do here with revision, and asking students to practice those models while revising them to meet individual needs, we foster habits of collaborative self-efficacy that emphasize the ways in which students are always thinking critically and writing in relation with other ideas, objects, and people.

We will continue to define and interrogate our use of collaboration and self-efficacy as we go, but we begin with a sense of both as foundational to debates about critical thinking. In *Double Helix* alone, a number of educators have linked collaboration or peer review to students' development of critical thinking skills. Justin King Rademaekers and Lauren Detweiler (2019) emphasized "the role of language in critical thought" and attended to critical thinking "not just as it happens in the mind" (p. 2). While they are explicitly interested in the collaborations between students and teachers when writing is assessed, their move away from the interiority of the mind and toward the need to communicate thinking through language begins to address the collaborative nature of thought. Justin Nedzesky, Meredith Bennett, and Kristin Klucsevsek (2022), in their analysis of a student-run scientific journal, made this relationship explicit, writing, "Peer review is, in itself, a critical thinking activity" (p. 1). For them, students learn at least as much when they peer review the work of others as they do from having their work peer reviewed. Reflection, or critical thought, occurs when the writer sees themselves in relation to the writing and thinking of others. We take those relationships seriously and extend them to include the many objects and ideas, as well as

people outside the classroom, that students encounter. In so doing, we redefine critical thinking as not simply self-reflection but also self-efficacy, a sense of responsibility to those relationships. Since early debates between Robert Ennis and John McPeck, educators have attempted to advance an understanding of critical thinking beyond a skill to be learned in the pursuit of vocational achievement (see Hayes et al., 2019). We continue that effort here by decentering the interiority of thought in favor of the relationality of responsibility. Toward that end, we use “self-efficacy” as synonymous with “critical thinking.”

Resituating Collaboration and Self-Efficacy

The other students in Jaime, Jason, and Jennifer’s class were also advanced writers. Most of them had already completed a writing course at another institution, and they felt confident in their ability to form an argument on the page. Yet most of them struggled with revision and gave the same kinds of surface-level feedback during peer review that we often see in first-year writing classrooms. Their early drafts and utilization of peer review and mentor feedback showed that, while they had learned to follow the rules, they did not know how to develop ideas and offer substantive feedback on their own. They could engage in the skill we call collaboration but struggled to make decisions in relation to other students. Review was treated as an activity to be completed in class for a grade. It was rarely, if ever, seen as a form of collaboration, an opportunity to engage with other ideas, objects, and people toward new ways of critical thinking and being. Reflecting on my own undergraduate experiences with peer review, I also felt frustration over how perfunctory the process always seemed. While it was valuable to get a sense of what was confusing, or of egregious grammatical errors, my peer review experiences always felt forced. Yet all three of us, as educators, really believe in peer review, so we wanted to find a way to reframe not only peer review but also collaboration in writing as an end in itself, rather than a standardized activity.

Scholars like Misty Anne Winzenried, Lillian Campbell, Roger Chao, and Alison Cardinal (2017) addressed this kind of student “talk about writing,” building the conversation about collaboration as a means rather than an end (p. 1). Because they are interested in student talk *about* writing, this more recent work on collaboration neglects both student responsibility, or self-efficacy, and the ongoing entanglements of students with ideas, objects, and people both in- and outside the classroom. Even more so, collaboration in the fields of writing studies and composition is nearly synonymous with assigned group work or peer review in which students converse with one another to produce something. The product is the end goal, and the conversation that produces it is expected to occur between two or more people who learn to compromise in order to achieve that goal.

Often, critical thinking is likewise treated as synonymous with activities or materials, such as peer review or a clear thesis (Anderson et al., 2001; Ennis, 1993). While this work can be an effective way for students to produce better writing, students are typically wary of its value. Peer review is often seen by students as an activity relegated to the writing classroom; group work, no matter the discipline, is dreaded as a way for unmotivated students to leave all the work of a course project to others; and critical thinking is seen as a waste of time. In response, we follow scholars like Nicole L. P. Stedman and Brittany L. Adams (2014) in their shift from skills or activities to student engagement in classroom relationships. It is our hope that collaboration, as a way of thinking and being in the world, becomes more meaningful for students and that it might offer new possibilities for how they live and work within emerging ecologies of ideas, objects, and people. We include in these

ecologies the many disciplines in which students work, as well as our own applications of the model we demonstrate here in different contexts, as when I teach business writing or help students communicate scientific research. In our view, modeling is ideal for non-writing classrooms, where students can guide discussions about their own work with peers and teachers who are not necessarily trained to teach writing. In particular, we suggest that, through participation in what we call collaborative writing “habits,” students might emerge as responsive and responsible subjects who think and live in-relation.

As we began to think about collaboration in this way, we still found ourselves reflecting on the individual students before we could get to the ecology within which the group was working. In my emails to Tracy and meetings with Sarah, I kept coming back to Jaime and Jason in particular because they each had such a strong presence in class. It made sense that these two students could work so well in groups, given Jaime’s desire to lead and Jason’s compassionate questioning, but we weren’t willing to accept that it was simply a matter of the individual self. Other students might not enter consciously into everyday collaborations, but perhaps they could be invited in. Discarding the writer as individual would not do but neither would an essentialist consideration of the self. We felt we needed to better understand both the particularity of our students and their entanglements to explore the kind of collaboration we wanted to cultivate.

We went back to our reflections on the particularity of Jaime and Jason, and a relationship between self and the ecologies within which the self collaborates began to take shape. Jaime, Jason, and Jennifer, each in their own way, consistently showed in their group meeting that they were self-reflective and willing to critique their own ideas, as well as those of others. We usually ask students to critique one another’s work in the hope that they will eventually be able to do the same in their own work, but these students were *starting* from a place of self-critique. This kind of self-efficacy seemed to be the key. They knew how to ask productive questions and to respond to others’ thoughts because they thought critically about their own work. When I was asked to design a unit for Tracy’s class, we looked for a way to help students develop the same kind of self-efficacy in their cultivations of and contributions to collaborative communities in and out of the classroom. We wanted to see collaboration and self-efficacy together emerge as ongoing practices, rather than as obligatory writing activities.

We view collaboration and self-efficacy (and critical thinking), therefore, as entangled and ontological and not as isolated activities or skills to be mastered. William Duffy (2014) provided a useful foundation for rethinking this relationship in his own redefinition of collaboration, which “like all discourse production, never occurs in a bubble; there is always a complex of ecologies within which our discourse transpires, ecologies we (can ever only partially) distinguish by observing the various relationships between and among objects within these environments” (p. 423). An object-based understanding of collaboration, one in which the student enters into a dialogue with ideas, as well as other beings (broadly conceived), provides a framework for collaboration as an ongoing process. Sidney Dobrin (2011), in *Postcomposition*, similarly repositioned the writer as a part of a whole, which he considered to be writing itself. In this sense, the subject is not a determinable individual, or even a person, but “an intricate complexity inseparable from technology and language” (p. 86). This approach risks an erasure of the writer and their affect, but, when put in conversation with Duffy (2014), it begins to imagine the writer as just as responsible and affective as any of the objects, or ideas, in the ecological relationship. With Dobrin’s and

Duffy's models in mind, we look to decenter the singular project or individual while rethinking the role of the writing subject as both entangled and responsible. As we see collaboration, it was through their ability to ask questions and imagine connections as a practice of self-critique that Jaime, James, and Jennifer's project began to emerge within an ecology comprising online educational spaces, other educators, themselves as students, and an array of other, often implicit, ideas, objects, and people.

Writers, including our students, are always collaborating with the world around them, co-composing new and emergent relationships even as they are entangled in them. Critical thinking as self-efficacy, then, becomes an ethical practice, or what Aristotle might call a "habit," as the actively emergent subject (the writer) is necessarily made responsible as an entangled being who is simultaneously co-creating the world, even in small and constantly shifting ways. For us, such responsibility cannot be overlooked in or out of the composition classroom; it asks us to consider the entanglements in which our students write, however fleeting. Many of us, as writing instructors, do not wish to produce a particular kind of subject in our classrooms; however, we also look for ways to foster this kind of interdependent relationality within emergent ecologies through an understanding of self-efficacy and collaboration as part of ongoing processes of becoming. Teachers can encourage the emergent writing subject to collaborate through habits that increase their attentiveness to the ideas, objects, and people with which and whom they are (and could be) entangled. Within this framework, the writer carries responsibility as both (self-efficacious) co-creator and (collaborative,) entangled participant in structures that are in an ever-shifting process of becoming. We draw on our experiences with Jaime, Jason, and Jennifer, as well as a series of revisable models for peer review, to explore this set of relationships.

Collaborative Self-Efficacy in the Classroom

As I have moved from my master's to my Ph.D. and between universities and possible pedagogical spaces, the following model for peer review as an ongoing process of developing habits of collaborative self-efficacy has gone through a great deal of revision. We started with this first model and used it as a classroom-based "text" to be critiqued, revisited, and revised as we developed and tested it in collaboration with our transfer students, as well as an ecology of texts and objects (like the classroom itself).

For Jaime, Jason, and Jennifer, collaboration was an intuitive way to work because they knew how to seek help and how to provide it. As scholars and teachers, we often do similar work as we seek out colleagues' feedback and share resources with each other and with our students. To see how those three students may have arrived at their current level of self-efficacy, we thought back through our own education and writing habits. We wanted to know where self-efficacy starts for our students. The answer was pretty simple: time and practice, as well as feedback. While I had learned to write through both self-reflection and peer/instructor feedback, Sarah and Tracy felt they learned mostly from time and practice on their own, only learning to write *self-reflectively* once they became writing teachers. Ideally, our instructors and peers provide useful and substantive feedback that we then have the time and opportunity to practice integrating, but some of our students have not had that experience. Whether because they did not have the time or because they did not receive sufficient feedback or enough practice, they learned to fix errors as they were marked on the page and count that as revision. We wanted them to know how we went about critiquing and

revising, so I shared my process with Tracy's and my transfer class and had them practice it again and again.

Over the course of three weeks, eighteen students were asked to write four drafts of a visual analysis. The final project was expected to be an approximately 900-word rhetorical analysis of one or two advertisements. The first draft was due in class for peer review. The second was due in a meeting with me, in which I revised one of the student's already submitted papers out loud to demonstrate my process and explain the thinking behind each comment. In so doing, I broke the process down into five steps that students could replicate when revising on their own: identify repeated mistakes, identify thesis statement, reverse outline with focus on evidence and analysis, connect each paragraph back to the thesis, and develop transitions. Then, they were asked to revise their second draft in front of me, using the process I had just shared with them in order to write a third draft. For their fourth and final draft, they were expected to go through the steps on their own and write a meta-commentary explaining what they changed and why, in effect commenting on their own papers. By the end, students reported feeling more comfortable with writing and revision, and we saw more interaction during group workshops held in preparation for their final research paper. Jaime even said in a mentor meeting that she wished she could go through this process with every one of her old essays. This habit-focused process serves as another starting point for our consideration of collaboration as ecological practice.

Collaborative Ecologies

Since Bruffee and Trimbur's initial debate, group work and peer review have been standard practices in the writing classroom, and in more recent years, collaborative writing in online spaces, like wikis, has also become a common assignment and practice. In these instantiations, however, collaboration has remained true to its earliest conceptualizations as a skill that produces better writing in the writing process, rather than an ongoing process in itself. As Megan Lynn Isaac (2012) explained, "Both employers and civic leaders continue to emphasize the importance of young adults developing the skills that enable them to succeed at collective efforts" (p. 88). Collaboration comes to stand in for a corporate working environment in which we assume our students will become enmeshed. While this approach to collaboration, and those that resemble it, is useful for thinking about pedagogical work in the classroom, especially as we consider the ways in which students might enter the working world, it does not address the ways in which collaborators are always working within and becoming with ecologies of writing. Instead, much like Bruffee's initial approach, group work is seen as an autonomous activity or skill rather than an ontology; it is entombed in the classroom.

Of course, much of the work we do will happen in the classroom, but it does not have to be viewed as ending there. The peer review model with which we started emerged, in large part, out of our own collaborations with each other and with other ideas, objects, and people in our environment—in other words, out of the everyday collaborations in which we are all already participating. Because of my role as a mentor, we also had director-TA, instructor-TA, instructor-director, and instructor-director-TA collaborations—as well as those with students—built into our environment. As such, we do not see our pedagogy or our students' thinking as stemming solely from our work with students. By having students revise again and again, rewriting one assignment at least four times and all in conversation with other ideas through peer review, we asked students to view their work as part of these

larger ecologies of collaboration. Their work does not just stem from their own thoughts and opinions or, for that matter, from a prompt an instructor provides; it emerges from ongoing, everyday collaborations with ideas, objects, and people. They will work with the model in class, but, in working with others to revise their thinking as well as make corrections, they can develop habits that reach beyond the classroom. In other words, revision becomes part of the process, rather than a necessary task that comes after a student has already decided on a static thesis statement. Research includes revision and vice-versa; the peer-review collaborations are built into the classroom, but students' thinking and writing also emerges in everyday interactions. Collaboration is ontological, part of the ways in which we live in the world, much like critical thinking itself. The built-in environments provide a model for the possibilities we see in other interactions. We want to continue modeling for students, but we also want the ways in which we do this modeling to make visible larger ecologies, as well as the students' embeddedness within them.

Our starting model was intentionally repetitive, an attempt to think through how modeling becomes everyday practice. We started with the logistic but then moved to the contingent and habitual. While the activity of collaboration (in this case, peer review) is still present, it resists closure as it opens into ongoing habits of self-efficacy. As Duffy (2014) explained, the "connection between thinking well and conversing well" (p. 421) (per Bruffee's [1984] claim that "thought is internalized conversation") has led to an overdetermined need to catalogue "types or degrees of collaboration to explain collaboration itself" (p. 639). In other words, "what counts as collaboration is determined by certain logistic configurations, but it is a third party that actually delineates these logistics beforehand and in such ways that arbitrarily render collaboration a generic moniker for specific [closed] activities" (Duffy, 2014, p. 420) rather than a mode of critical thinking and engagement. When we, writing teachers, ask our students to collaborate on a project, we, as the third party, typically assign roles (even if students can opt into the roles of their choice), scaffold smaller parts of the project and assign deadlines for each, ask students to log their contributions to the project and to evaluate their groupmates' contributions, and set detailed parameters for what the end product should look like.

These might be "best practices" to better guarantee the equal distribution of labor among participants and to create some quality control, but in order to work, these practices need to elide the inevitable imbalances of power, as well as the differences in student capacity and investment, instead of asking students to negotiate those differences. In short, difference becomes meaningless to the group, except in some empty valuing of "difference as such." Instead of drawing attention to students' ongoing entanglements with ideas, objects, and people in their daily lives as ontological relationships that we can help to develop in the classroom, group work as closed activity limits collaboration by focusing on a predetermined end product and its effect on an individual student's grade.

For example, in our very different experiences with the mentoring program at the University of Hawai'i, we found mentor and instructor discussions of collaboration quickly moved from what collaboration can actually do (e.g., offer students opportunities to participate in ongoing negotiations of meaning within shifting power relations) to the delineation of distinctly "collaborative" activities and how one can (or cannot) assess them fairly. In a telling moment of a graduate course on the "Theory and Practice of Teaching Composition," the key problem of collaborative learning was identified as assessment. While we readily acknowledge that it is difficult to assess collaborative projects and content, the

focus on assessment locates collaboration in products. It does not acknowledge that collaboration is happening as an ontological relationship that is ongoing, whether or not it is assessable.

Duffy's (2014) object-oriented definition begins to respond to this blind spot in composition's approach to collaboration. Writing is situated within a complex of ecologies, no longer the work of a unified Enlightenment subject who enters into a conversation to produce a unified, individual product. Instead, relationships—including with ideas, objects, and people—emerge in discourse, written or otherwise, through their entanglements. The unified subject or text, that which is, becomes impossible as “interlocutors share meaning in passing, not a systematic theory of meaning that exists prior to actual moments of discourse” (Duffy, 2014, p. 423). Meaning, like the text and its interlocutors, is always in a process of becoming through collaboration.

This process is why, as we continued to revise our own model, we started with student's interactions not only with each other and with us but also with objects (as well as ideas and other people). By providing a model, rather than a singular correct way to write and revise, we asked students to interact with their own writing as an idea or object—a text rather than an assignment. (Within any classroom, students will be completing assignments; we are concerned here with how they approach writing, not with getting rid of assignments.) They started in discussion with peers and with me, allowing them to develop their own thinking from that of others. We did not expect them to have a developed process as such. They were instead asked to view their writing process as always in development as they learn from models and ideas they encounter in the classroom and beyond it. Finally, though, they must also revise their own text, without input from others. While such a step might seem to negate collaboration, it instead extends collaboration to the writing itself. As they develop their ideas, they must also understand those ideas as implicated in larger networks of meaning and critique them accordingly. They employ critical thinking as self-efficacy to take responsibility for their own ideas in relation. Not only does modeling ask students to move beyond sentence-level revisions, but it also asks them to move beyond a consideration of writing as assignment. They become responsible for their thinking and collaboration in emergent ecologies. We also consider our model as part of such ecologies, however, so we do not expect it to work as an object for every student or even every group of students. Just as their writing emerges, itself participating in larger ecologies, so do we consider our model as emergent and mutable.

As a result, the models and examples we offer are only iterations of a larger set of possibilities. We aim to center collaboration and self-efficacy as mutually constitutive, not to construct yet another fixed paradigm for group work. When I moved to the University of Illinois, I encountered an entirely different student population, as well as the online environment in which most of us in higher education found ourselves teaching in 2020. Without the in-person mentoring environment in which the three of us collaborated, the starting model ceased to be feasible. While the online environment was temporary, the lack of a built-in collaborative environment was not. We cannot always expect to teach alongside mentors or in programs that structurally encourage ecological pedagogies. Our students may also respond differently based on the ecologies in which they are already embedded. When the starting model proved ineffectual in an online environment that dramatically muted classroom interactions, and in which students could easily turn off their cameras and remove themselves from that environment, we intensified our focus on student texts as objects and

ideas, as already present texts within a field. We hoped that these texts would come to model larger ecologies by enacting collaboration, as well as habitual self-efficacy, on the page. My class began to incorporate other already present texts and everyday collaborations, including conversations with friends or informal writing practices like journaling, as well. In peer review, we incorporated annotations through which students could collaborate outside of, or even without, a shared classroom space. Utilizing annotations in lieu of in-class peer review, these combined practices asked students to engage critically with their ideas and the ideas of others as part of ongoing conversations.

In this annotation model, instead of meeting with a mentor, students were asked to annotate their own text, asking questions and commenting on their choices. They took responsibility for the text and their ideas and guided the peer review process with their own questions. Then, in an asynchronous peer review session, another student responded to each and every annotation and included their own comments and questions. I, as the instructor, then did the same.

Unlike the starting model, the annotation model also allowed us to track students' collaborations in more demonstrable ways. The visible ecologies that developed as one sentence was connected to an annotation that was then connected to a comment that was followed by additional comments helped us, and our students, to physically see the text—including a number of ideas, objects and people—as its own collaborative space, which then extended to a larger ecology. In an iteration of a rhetorical analysis, I asked my students to write in two stages. They started with an analysis of a favorite song, a text with which they already felt comfortable, then received feedback, then continued the drafting process by putting that song in conversation with a related news piece. The news article could be anything from a review to a reflection on a similar topic, so long as they could make the connection clear in their analysis. This assignment was designed to compound the possible collaborations—a song was put in conversation with its source, which was put in conversation with the student's ideas, then expanded via conversation with a peer and with the instructor. More importantly, perhaps, the assignment made those collaborations visible, at least for the people who participated in them. In this excerpt from the analysis of one of my students, Abigail or Abbey, we see a number of collaborations begin to emerge:

In the beginning of 2020, the world witnessed the COVID-19 pandemic start to make its way internationally, and during March of 2020, it became much more prevalent and threatening to the United States, causing a nation-wide lockdown. The case numbers began to climb drastically, people could not attend their jobs in person, and health workers were bombarded with staggering amounts of infected patients who needed critical care and attention. In fact, a psychiatric, cross-sectional study done by ScienceDirect showed the mental health effects on healthcare workers caused by stresses of the pandemic. In the same month when all of this was worsening, country singer Thomas Rhett released a song called “Be a Light”, which includes four other well known country artists. While the article focuses on displaying harmful effects of the pandemic on mental health of medical workers through data and scientific evidence, Thomas Rhett’s song utilizes its country genre, lyrics, and music video to encourage kindness and to be a good neighbor, especially during the pandemic.

Abbey: I'm pretty sure anyone who reads this is already aware of the pandemic. Should I rephrase this while keeping in mind that my audience is already aware of this? Or should I leave it since it helps transition into the rest of the intro?

Olive: I think you should keep this. It is a good introduction sentence to set the tone of the rest of your paper.

Erin: Yes, it is short and to the point, giving context without burdening a reader who is already familiar with that context. Plus, you're giving the piece more reach because now someone could read it in 20 years and still know what's going on.

Erin: Study? > see suggested edit.

Erin: Say more! This is an excellent specific introduction to your topic, per the lesson on Introductions. Plus, since it is part of your thesis, it would be good for us to have a little more context.

Erin: Excellent!

Olive: Great feedback

Abbey began with a pretty standard introduction, giving context for the comparison she will make, introducing the two sources she will compare, and providing a thesis statement. Her writing, then, could be that of the isolated Enlightenment subject who exemplifies the writer of academic discourse, yet her thinking did not stop at the boundaries of the assignment. With the very first sentence, she gave context, not as a required task in the process of writing an introduction but, as her comment shows, as a way of considering her readers as collaborators who will help to construct knowledge as they read a document that is no longer in her control yet still in progress. When she asked, “Should I rephrase this while keeping in mind that my audience is already aware of this?” she opened up the space of her writing to a communal experience of the COVID-19 pandemic and took responsibility for her ideas as they are affected by and affect that shared experience.

Her peer review partner, who we will call “Olive,” was then able to enter into the process of peer review as a member of that community, not only as a fellow student who is asked to understand the text within the confines of the classroom but also as a part of the emerging ecology that COVID continues to construct and reconstruct. She did not substantively change the writing in this initial paragraph, but she and Abbey were able to enter into revision as ecological practice. The point is not change for change’s sake but an engagement with the processes of meaning making of which the text is a part. They each also came to realize that not every reader will have lived during the height of the pandemic, anticipating future readers beyond the one-semester class.

We are also struck, even in this first paragraph, by the ways in which Abbey viewed her chosen song and source as in conversation with one another. Compared with the lists we often see from students when they write a rhetorical analysis—“This text shows ethos/pathos/logos by . . .”—the indirect citationality that Abbey noticed in the ways the song entangles affect with the scientific data of the article develops an ecology (however small) encompassing the two sources, as well as her analysis of them and other, sometimes implicit, ideas, objects and people:

which is important to recognize during this time. By acknowledging that we have a role to be selfless and kind to others, this helps better the situation for everyone. Rhett’s song is a reminder doing an act of kindness or being supportive of others in general can make a difference that someone facing adversity, like the health care workers, need to feel appreciated and cared for in difficult times. The encouraging message within the lyrics of Thomas Rhett’s song is further illustrated visually in the music video which shows how people are making a difference in another’s lives.

Last, the music video for this song includes people in various settings showing their artwork of the lyrics in the song, as well as acts of kindness, which brings a feeling of enlightenment and inspiration to make a difference. While most music videos can have extensive creation processes, this music video was actually fan made as there are montages of different pieces of artwork showing the lyrics of the song, such as chalk on the sidewalk and paintings. In addition, there are clips of people thanking essential and health care workers. Those front-line workers all made sacrificial services to others, and sometimes showing a little bit of appreciation towards those people can help make a difference in their lives, too. Many new stressors derived

Abbey: Are these warrants too repetitive?
Olive: It does sound a little repetitive but this is okay here because you are wrapping up the paragraph.
Erin: Some repetition can help drive a point home to your reader.

Abbey: Should I be more descriptive with this?
Olive: Since you are talking about what is in the music video, you should say “for example” instead of “in addition”. Then give a couple more examples.
Erin: You can use “In addition” here. But I do agree that

In other words, her text is not simply a product to be turned in to show her understanding of the elements of rhetorical analysis that were taught in class. It also adeptly fits itself into a larger conversation. We see this not as a freshman's advanced grasp of the conventions of academic writing but as an understanding of her text in collaboration. As the draft continued, Abbey, understandably, began to lose her grasp of those conventions, lapsing into broad generalizations and even losing track of the ways in which the song enters into conversation with scientific data.

What Abbey does not lose sight of, though, is a sense of collaboration. With her use of the pronoun "we," which we discourage only for its generalization and not for its use of first person, she implicated herself and, presumably, her readers—as well as the audience of Rhett's song and the readers of emerging data on COVID—in the responsibility of care she identified in the song. Her analysis considers the ways in which collaborations emerge out of this responsibility, showing "how people are making a difference in each other's lives." Writing—whether it be of song lyrics or of analysis—moves beyond the individual writer or reader and into a collaborative ecology. Her concerns about repetition and description show an ongoing consideration of audience and the ways in which she was creating meaning alongside the texts she analyzed. Collaboration emerges on the page via the web of comments, the comparative work of the analysis, and the content of that comparison. The modeled peer review process and assignment asked her, and her fellow students, not simply to accomplish the task of peer review but to view their work as itself always collaborative.

In many ways, Abbey's text was exemplary of this process; other students did not necessarily respond in the same way. We view these differences, however, as exactly in line with our understanding of collaboration, in which any singular model creates just another activity. Models should be ever shifting, just as collaborations are, bringing students into conversations and showing how they are already implicated in ongoing collaboration. Now, I invite students to find their own models in writings by their favorite authors and in genres that are meaningful to them, allowing this model to work across disciplines. Even though few of us teach both science and writing courses, our students can look to other scientists to learn about their own writing. The annotation model is just one way of asking students to enter into those conversations in more explicit ways. We model it here because we hope it will continue to emerge and change. We also feel that Abbey's specific example allows us to imagine the connections between collaboration and self-efficacy as mutually constitutive. Once the students had received feedback, they were asked to revise their final draft and, in so doing, respond to each comment thread, even if only to check it off. In other words, they were asked to take responsibility for their ideas and to imagine the final submission as something other than a final product. Because the comments remain in the text as an ecology of their own, a visual web of questions and ideas, the text could be considered as still in progress. Even if the student never returns to that particular piece of writing, the collaboration, not the product, is centered.

The Responsibility of the Writer

As we have explored them so far, and particularly in their relationship to Duffy's (2014) object-based model, collaborative ecologies should look familiar, resembling the various forms of network theory that have become salient in the field. Unfortunately, they also present some of the same pedagogical problems—namely, the question of the writing subject. We respond by looking to the subject as emergent in collaboration, in line with

Dobrin's (2011) theory of postcomposition, which seeks an understanding of writing beyond the unified student subject and "free[s] the subject [and, by extension, writing] into a constant process of becoming" (p. 75). The writer is not just the author of a text, nor are they a unified subject outside of writing. In fact, Dobrin asserted that "the subject must be removed not just from the center of the stage but from the theater and perhaps the entire theater district" (p. 76). His critique is interested in "the collapse of the subject as an individual" (p. 86), allowing for an understanding of collaboration as ontology. By asking the writing subject to leave "the entire theater district" of writing, however, he ignores the subject who emerges in the fleeting, mutable moment in which interaction, or entanglement, occurs.

Dobrin (2011) was not specifically interested in collaboration (which typically privileges human interactions), but when his networks that constitute writers and writing are viewed in conversation with Duffy's (2014) object-oriented definition, postcomposition, like most network theories, is inherently collaborative. As the study of writing itself, writing beyond the subject, postcomposition requires mutual and progressive entanglements among ideas, objects, and people. Accordingly, Dobrin saw "writing not as the product (or process) of a producing subject but as a never-ending (re)circulation in which larger producing/desiring machines generate and perpetuate writing throughout network, system, and environment" (p. 77). For Dobrin, networks and systems—what we are calling ecologies—are particularly important, in part because they account for the ways in which writing is always entangled in larger networks that extend beyond the classroom. As we saw with Abbey's draft, writing is an ecology in itself, one with its own entanglements and responsibilities. We are with Dobrin and Duffy up to this point, but we would like to bring the writer back into the district to think about what that entanglement can look like and how the writer might learn to explore more fully the relationships and responsibilities that constitute that entanglement.

To put it another way, we are not quite willing to go as far as Dobrin (2011) does in seeking to dislocate the writer from their entanglements. Instead, we refocus on the writer as what we are calling the actively emergent subject who participates in collaborative writing habits *within* emergent ecologies. Rather than separate self-efficacy and collaboration, or dismiss the self altogether, we locate effective and ongoing collaboration in the writer's self-reflexivity and critical thinking inside mutually constitutive relations with ideas, objects, and people. Self-efficacy and collaboration emerge as mutually constitutive and ongoing processes of becoming, thus shifting away from more traditional views of both.

Rhetoric and composition scholars have developed an understanding of self-efficacy in terms of students' beliefs in their individual writing performances, as something other than collaboration. Albert Bandura (1993) defined agency as "people's beliefs about their capabilities to exercise control over their own level of functioning and over events that affect their lives" (p. 118). The focus on control promotes an individual student approach to self-efficacy, in which students can rely on only themselves and work toward only their individual achievements, even in group writing assignments. For example, Isaac (2012) called for instructors to "focus attention on the issue of 'fairness'" (p. 85) in the way groupwork is facilitated. She explained that "what I consider both an inevitable and in some ways desirable aspect of group work—different contributions from different members—seems like 'unfairness' to students" (p. 85) and called for clarity in "assignment design, group formation, and assessment" (p. 85), mirroring Bruffee's (1984) five steps for consensus

group design: “provide a task, usually designed [...] ahead of time”; divide the class into small groups; and “evaluate explicitly the quality of students’ work” (p. 21).

These models, while providing a good foundation from which instructors can design group projects, do not help students see how they are always implicated and responsible in emergent ecologies, both in and out of the classroom. For example, when students call for more fairness in group work, they are atomizing collaboration as an activity they must complete for a grade. Both the student who has developed self-efficacy as a sense of discipline or control but does not relate their ideas to those of others and the student who participates in classroom collaborations for a grade but does not see themselves as personally implicated in those collaborations struggle to collaborate effectively. A critical thinking framework, on the other hand, helps us redefine self-efficacy in terms of responsibility to a larger field or ecology of ideas, objects, and people. The emphasis is not put on assessment or simple completion of an activity but on student decision-making in relation to others.

Where postcomposition and earlier theories of collaboration elide this responsibility, they also build on ecological theories of writing that necessarily include the writing subject. In an earlier work, Dobrin with Christian Weisser (2002) described such ecological writing as “the study of the *relationships* [emphasis added] between environments (and by that [they] mean natural, constructed, and even imagined places) and discourse (speaking, writing, and thinking)” (p. 6). The part, or the writer in relation, is reconstituted within the whole, or the ecology. Ecological writing does not throw out the human rhetor, but it does not reduce rhetoric to the human either. Similarly, in Marilyn Cooper’s (1986) ecological model, “writing is an activity through which a person is continually engaged with a variety of socially constituted systems” (p. 367). Unlike a human constructivist model of common-sense collaboration—or the imposition of human knowledge, activity, conversation, and collaboration onto everything else—this ecological model, one that also accounts for self-efficacy in the relationship, resists the sense of process as something students already have in some definitive sense. It instead privileges process as itself in-process, reflecting the recent willingness among scholars, as we see with Dobrin (2011) and Cooper (1986), to challenge the dichotomy between being and becoming and the conceptions of the human subject that go with it.

Within this framework, writing and collaboration are teachable but not as skills to be mastered. Rather, they are part of processes of becoming for a contingent (not normative) subject who deliberately contributes to the networks with which they interact through carefully inculcated habits. In our starting model, self-efficacy is viewed as a goal, a product of a long-term collaborative process. This product is still emergent; it must be returned to again and again and emerges with and from ongoing collaborations. As students learned and practiced a model through a series of collaborations then explored their ability to critique their own work by implementing and revising that model, they were gradually asked to become more and more responsible for their own work. The annotation model revises this practice of self-efficacy to return it to the ongoing collaborations of which they and their work are a part, muddling the distinction between self-efficacy and collaboration and asking students to further explore both. For Abbey, we saw this self-efficacy in both her initial comments and her responses and revisions in the final draft.

Abbey, like her peers, was asked to respond to each and every comment she received in the peer review. While it might seem tedious to ask students to respond to a comment

such as “Good!” it does help evade the seemingly ever-present temptation to simply not revise. Many of us, as writing instructors, have felt the frustration of working extensively with a student’s draft, providing detailed feedback, only to have the student turn in their un-revised draft as a final. Not only is such disregard disheartening to us as instructors, it also reveals the ways in which many students reject collaboration and see their writing as already complete, a product rather than a process. What we saw with Abbey, instead, was careful engagement with her own writing as part of a larger conversation. We saw her demonstrating a developing sense of self-efficacy even in the earliest steps of the process:

way internationally, and during March of 2020, it became much more prevalent and threatening to the United States, causing a nation-wide lockdown. The case numbers began to climb drastically, people could not attend their jobs in person, and health workers were bombarded with staggering amounts of infected patients who needed critical care and attention. In fact, a psychiatric, cross-sectional study done by several scientists showed the mental health effects on healthcare workers caused by stresses of the pandemic. Specifically, the scientists conducted a series of surveys among 2,299 individuals in the medical workforce which measured their levels of stress, anxiety, and fear using the Hamilton Anxiety Scale and the Hamilton Depression Scale. In the same month when all of this was worsening, country singer Thomas Rhett released a song called “Be a Light”, which includes four other well-known country artists. While the article focuses on displaying the harmful effects of the pandemic on mental health of medical workers through data and scientific evidence, Thomas Rhett’s song utilizes its country genre, lyrics, and music video encourage kindness and to be a good neighbor, especially during the pandemic.

Abbey: I’m pretty sure anyone who reads this is already aware of the pandemic. Should I rephrase this while keeping in mind that my audience is already aware of this? Or should I leave it since it helps transition into the rest of the intro?

Oliver: I think you should keep this. It is a good introduction sentence to set the tone of the rest of your paper.

Erin: Yes, it is short and to the point, giving context without burdening a reader who is already familiar with that context. Plus, you’re giving the piece more reach because now someone could read it in 20 years and still know what’s going on.

Abbey: After hearing your comments, I now feel more comfortable having this sentence starter for my essay. Plus, I never really think about how an audience 20 years from now would need this important piece of context.

Erin: Say more! This is an excellent specific introduction to your topic, per the lesson on Introductions. Plus, since it is part of your thesis, it would be good for us to have a little more context.

Abbey: After viewing your comment and reviewing my intro, I realize that having more context around the research study would be beneficial for the audience’s understanding. I will also include more detail about the research study within my body paragraphs as well.

As we already noted, her initial comment here attended to the larger collaborations in which her writing participates; it also shows a responsibility to those collaborations. She recognized that she must be able to critique her ideas, and possibly revise them, to better enter into larger conversations. She then reflected on that initial question in her final responses, which we have circled. She noticed the gaps in her awareness of the ideas, objects, and people with whom her work collaborates or could collaborate and, in so doing, extended that awareness, reducing the gap even if only a little. As a result, her revisions reflect an emergent sense of ongoing collaborations by bringing her two texts into closer conversation with each other and with the reader who might come to understand them differently. Even though the only substantive revision is an added sentence, that sentence elaborates the scientific evidence and data that she related to the more affective rhetorical devices of the song throughout the essay.

Later in the essay, she continued to elaborate the textual collaborations, even when she forgot to respond to the comments. Once again, Abbey made only a small change, adding one sentence that describes a scene from the music video. The scene she chose, though, makes explicit the collaborative effects of the article’s data on healthcare workers’ worsening mental health and the affective work by which the community offered thanks and care to those workers. Her ongoing collaborations and her developing sense of self-efficacy shifted her rhetorical analysis from a comparison of two texts to an elaboration of the collaboration already occurring between those texts:

addition, there are clips of people thanking essential and health care workers. To illustrate, in the music video, there are two little girls standing in front of a painted garage with hearts and thank you messages, and a person is also seen giving a gift to a delivery person (Rhett 1:04, 0:41). Those front-line workers all made sacrificial services to others, and sometimes showing a little bit of appreciation towards those people can help make a difference in their lives, too. Many new stressors derived from the pandemic, such as in health care workers, "...who were afraid of bringing the virus to families and incapability when facing critical patients" (Lu Section 4). These health care workers have been experiencing challenges which can be unimaginable to understand, but having compassion for them can facilitate this process by demonstrating appreciation and how thankful people are for what they do. The music video for "Be a Light"

- Abbey: Should I be more descriptive with this?
- Olive: Since you are talking about what is in the music video, you should say "for example" instead of "in addition". Then give a couple more examples
- Erin: You can use "In addition" here. But I do agree that some specific examples, either lyrics or descriptions of imagery, would be helpful.

Even though this later comment does not include the asked-for responsive comment, she, nonetheless, effectively revised with attention to her audience and to the texts themselves. We see her, perhaps accidental, choice as evidence of a developing habit of collaborative self-efficacy. Modeling leads to habit formation, which allows for more self-aware entanglements with larger ecologies.

In terms of classroom practice, then, habit is a way by which we can help students recognize and further engage with the emergent ecologies in which they are already entangled. As we consider them in our models, which we see as mutable and emergent, habits do not entomb students in a singular sense of what writing can be; rather, they act as a series of emergent practices by which students can engage with their own ideas, as well as with other ideas, objects and people, in continually shifting ways. Habits are tied to collaborative self-efficacy as an ontological practice—a relationship we see with Abbey’s revisions and with Jaime, Jason, and Jennifer’s abilities to collaborate effectively with little guidance. Self-efficacy as collaborative practice asks for such awareness, which we can model for and develop alongside our students. Habits are part of the practice by which the writing subject is reimagined, not as a construction of the social or a unified Enlightenment being, but as an active and responsible agent in larger ecologies.

Habits for Composing in Relation

Habit is not static but mutable and emergent. It is intricately tied to the kind of self-efficacy we imagine, as students cannot learn if they are not exposed to different ways of being and thinking in the world. To imagine the possibilities, then, in habitual practice, we draw on the Aristotelian ethics of habit formation explored in *Nicomachean Ethics*. For Aristotle (ca. 240 B.C.E./2002), excellence in both thinking and being comes from a careful play of modeling and emergent practice, or what he calls "habit." In his words, "active states come into being from being at work in similar ways" (p. 23). It is these "active states" that interest us. They allow us to imagine habit formation as an ontological practice, one in which we and our students take the passive work of collaboration in which we are always engaged and make it deliberate. Collaboration, then, becomes a habitual practice of critical thinking as self-efficacy. To put it another way, self-efficacy and collaboration rely on habit formation over time. With this relationship in mind, instructors can intervene in the ongoing processes of collaboration to help students develop an ontology of collaborative self-efficacy. By modeling practices of self-efficacy and collaboration that are not fixed but emergent over time, we are

able to work alongside our students to reimagine their ongoing and habitual interactions in emergent ecologies, as well as the ways in which we understand collaboration as classroom practice.

Habit, as a practice of responsible collaboration, means that collaboration is not simply about bringing a bunch of different ideas and perspectives together in dialogue and then cohering them into a single product; it is about engaging carefully—paying attention to differences and processes, for example—to see what might emerge. It also requires self-efficacy, or at least its ongoing development, in us and in students. Consequently, rather than return to the three areas that continue to plague instructors—activity design, group formation, and assessment—and keep students focused on external elements of group work, such as grading and skills, we want to insist on focusing on the students themselves as actively emergent subjects who are responsible for their own writing as well as for their construction in and of emergent ecologies.

As we continue to explore the possibilities in collaborative self-efficacy, we should also find ways to bring our students into these processes (not of design but of collaboration itself), to encourage them to take responsibility for their own writing and its position in larger conversations. As we saw in both peer review models, it is not so much the fact of collaboration as the ways in which collaboration and self-efficacy are modeled for students then repeated again and again toward habitual, yet mutable, practice that invite the emergence of collaborative selves. Abbey was able to engage with her text through ongoing revisions, even when she forgot to respond directly to the comments in her draft. Our students at the University of Hawai'i developed their own sense of revision as they practiced the revision model they were offered. Not all of our students have a sense of self-efficacy when they enter the university, but by building self-reflective and self-regulating habits into the regular work of the classroom, we provide them with a starting point from which to develop their own processes. We approach student collaboration with the understanding that processes must become habits for students to act in the world. In other words, students require self-efficacy, which can be developed through habitual practice.

Such habit formation as pedagogy gives us the opportunity to share our own emergent processes while encouraging students' own. Although cognitivists such as Flower and Hayes (1981) worked with individuals to uncover student processes as they already exist, this work can be time-consuming and impractical for a single semester. It also assumes that students are already prepared to communicate their ideas with little to no help from others. Both assumptions suggest the process is innate or fixed instead of slowly and painstakingly developed and redeveloped over time through practice and reflection. Self-efficacy and collaboration are both difficult for students who adopt this view. In their study of the relationship between self-regulation and revision, Feltham and Sharen (2015) noted that students who believe in fixed intelligence rarely improve as writers because they believe that they are already intelligent enough or that they are irreversibly inadequate. If we understand process to come from experience and practice, from habit, on the other hand, then it no longer has to originate in the student. It can instead be located in ongoing entanglements in and beyond the classroom.

Beyond the Classroom

To consider our students as collaborative and efficacious subjects in emergent ecologies, we consider writing to be a process of making and unmaking. This process allows us, as humans,

to deconstruct and reconstruct our environment, even for the most fleeting of mutable moments, in order to better understand our own entanglement in emergent ecologies. In other words, structures, of which writing is one, are a human ontology of (sometimes unwitting) making. In *The Order of Things*, Anna Kornbluh (2019) considered the structure or form of writing to be what she called “composed relationality” (p. 4).⁴ As an ontology of building, writing is a way in which humans construct ecologies, even as they are constructed by them. Subjects compose themselves in a specific relationship or instance, taking on the responsibility inherent in making. “Composed relationality” is then exactly that; it is a relationship that we compose—either literally in writing or more figuratively in other acts of building—and by which we are composed. When we consider students’ collaborative self-efficacy, we cannot dismiss their responsibility in and to that relationship. By helping them to build habits of self-reflection and relational idea formation, we acknowledge that the writer and their writing have effects in the world and that those effects result in and from entanglement in emergent ecologies. Students’ collaborative self-efficacy implicates them in an ontological relationship with their writing and its ecologies.

I chose revision for the models we have explored here because we wanted students to think critically with their own work as habitual practice, but transparency can be enacted in any interaction we have with our students, and in any discipline. By breaking down what we do into manageable steps, we help students to understand what a series of habitual writing practices looks like and give them a series to replicate and revise toward their own habitual practice. Instead of creating a “particular sort of text,” students are asked to practice writing as an ongoing process of entanglement with the text and with other ideas, objects, and people.

The ecological and ontological turns in rhetoric and composition call our attention to connectivities, to elaborate relations in which all are implicated. No more the autonomous rhetor persuading an audience with perfectly effective prose. No more the citations that stop at the white space at the bottom of a page. No more the localized without what might exist beyond our narrow horizons. If we can encourage students to practice more attentive ways of seeing in their engagements within ecologies in which they are already implicated, then new ideas, objects, and positionalities might emerge as things-that-matter. We are not suggesting a morally coded techne; rather, we are thinking about ways to deepen students’ attentiveness in writing, to help them to see in ways that can account for not just objects/issues but also the larger ecologies within which those objects/issues are implicated. But that attentiveness, we suggest, requires that they see themselves as ontologically implicated in those ecologies. This kind of work can begin in the classroom, but it must ultimately become a way of living in the world, wherein each idea or point of contact is part of an ecology or ecologies that affect and are affected. Collaboration and self-efficacy come to enact an ontological relationship, a process of becoming in which students are always entangled. The writer resurfaces as an actively emergent subject who is responsible and implicated beyond the needs of a single assignment or moment.

As we’ve explained above, in order to become a way of living in the world, writing must be treated, taught, and practiced as “habit.” When students come to see themselves as responsible for the ecologies (or collaborations) in which they and their work are implicated, they are able to develop a personal investment in the work and in the collaboration. That investment suggests a different notion of self and of self-efficacy, and even of critical thinking. In this sense, self-efficacy, despite its name, can be understood outside of the

framework of the unitary self and, instead, as a condition of our attentiveness to and responsibilities for our entanglements within emergent ecologies.

As my three advanced transfer students talked excitedly about their project in that early mentor meeting, I paused to consider their writing and how we could relate it and their discussion to ecologies beyond the classroom. The assignment was perfectly designed to encourage both self-efficacy and collaboration since it asked them each to write about a different online tool while thinking through the relationship each paper had to the others from the group.

While some in the class ignored the relational aspects and wrote a completely isolated paper, these three students took the opportunity to help each other through the process. They took the questions they had about their own work and asked them of each other, recognizing a responsibility to help others in their own desire for feedback. Of course, they were still using collaboration as a means to an end—completion of the assignment—but they nonetheless demonstrated that self-efficacy is collaborative when individuals understand that their ideas are relational. Far from a return to the unified Enlightenment subject and the centralization of the human, self-efficacy is the recognition of a responsibility to and entanglement in larger ecologies. The self is no longer essentialized or self-contained, notions that, as Dobrin (2011) pointed out, “are holdovers from romantic notions of Enlightenment thinking that the individual subject is unique, identifiable (even self-identifiable), and somehow of value” (p. 75). It, instead, participates in what Dobrin called “contingent subjectivity,” which is valued in relation to a whole rather than an individual (p. 76). When we treat self-efficacy and collaboration in this way, we can help students engage with ideas, objects, and people in continually and actively emergent processes of becoming that acknowledge their affect and responsibility within those processes.

The move away from the Enlightenment subject, then, may allow for a more flexible and ecologically driven subject, a writer who can participate as part of an ever-changing whole—rather than an integrated whole interacting with other, external wholes. Though it may be impossible for us as teachers not to participate in the production of subjects, we can ask students to develop their own stakes in collaborative projects through an understanding of self-efficacy and collaboration as mutually constitutive. Unlike grades and other external stakes, stakes that are instead grounded in a student’s own sense of responsibility to and immersion in emergent ecologies implicate the student in various ongoing entanglements. In the classroom, the community is one of students and the collaboration is constructed, but students can come to recognize the collaboration in which they are always participating as actively emergent subjects. Collaboration becomes an ongoing process based on responsibility to their fellow students and, by extension, other ideas, objects, and people. In other words, students develop critical thinking as self-efficacy so that they will be able to act in relation to others, co-constructing others and themselves in an emergent relationship with an ever-shifting, living world.

Postscript

My experience with AI in the classroom extends about as far as student questions about the uses of ChatGPT, and my responses have been reticent at best. I am concerned, not with the existence of AI or the ability of students to use technology in their writing, but with the ways in which technologies like ChatGPT risk taking students outside of their relationships with ideas, objects, and people. In this article, we have argued that all writers, including students,

work within ecologies. We are all always already collaborating as we develop ideas and learn to communicate them. If, on the other hand, students let the technology do the work for them, then they are no longer adding their own ideas or really listening to those of others. The writing is only a product, not a process; it can only synthesize without participating in critical thought. But that is only a limitation of our use of AI, not of AI itself. In light of this special volume, we will argue that AI is instead *part of* the very ecologies we have advocated for here. In his own study of intelligence, artificial or otherwise, James Bridle claimed that non-human intelligences are “good *companions in thinking* [emphasis added] about technology. Both are endlessly generative, complex systems at both the macro and micro scales” (p. 64). The thinking of plants, non-human animals, and AI are all distinctly different from that of humans, making their intelligence unthinkable but not unrecognizable. We tend to view AI as useful or failed based on how closely it resembles human intelligence: Is ChatGPT good at writing student essays? Can it match what student writers can do? Can it create art, intelligent thought, ethical citation practices? If not, (and I think most of us agree that it can't do these things well), then it has failed and we must convince students that ChatGPT and other tools are just cheating, just ways of getting out of work. On the other hand, if we view AI as its own intelligence, a “companion in thinking” that does not think like us at all and might help us to think differently, there is some room for this technology in our lives and in the lives of our students. For instance, ChatGPT is much better at collating search results than are most of our students. Students can learn to think with this tool, rather than letting it think for them.

Of course, students can still turn in AI-generated essays, but such a practice values writing as product, an assignment to be submitted then forgotten. In an ecology, students are there to think with other objects, ideas, and people, and they practice writing in order to learn to do that. Process is key, and AI cannot replicate process for us. And, even if/when AI becomes capable of writing as well as we do, creating new ideas and crafting beautiful sentences, an ecology reframes that “threat” as instead a world of possibility. As a companion in thinking, AI becomes another intelligence with which we might collaborate. It might build on something written by a human, just as a human can build on something written by AI. Students might think alongside AI-generated ideas just as they currently think alongside their peers. And AI will learn to think alongside them as it pulls from the writing of others. With an understanding of writing as process and of students as both always already in collaboration and responsible within those collaborations, AI becomes just one more in a network of intelligences with whom we might think and create toward alternate ways of knowing and being.

Notes

¹This course was listed as ENG190: Composition I for Transfers, section 001. It was taught in the Spring 2018 semester under the instruction of Tracy Cissell. I served as a TA and classroom-embedded tutor-mentor to help students with their writing and with the transition to college life. Sarah was (and is) the director of the program.

²A note on authorship: While I (Erin) did most of the writing and in-class work to develop the models explicated here, none of that work was done in isolation. As the three of us considered collaboration and self-efficacy in the classroom, we also wanted to consider our own collaborative practices. Sarah, as the director of the mentor program at the University of Hawai'i at Mānoa, and Tracy, with whom I worked to develop these models in

the classroom, have been integral to both researching and writing this article. As such, we consider each other as equal collaborators in the project. The “I” in this paper represents my own thinking and engagement with students, while the “we” represents our collaborative thinking and research processes. We will discuss these at more length as we discuss collaborative self-efficacy below.

³We are using the phrase “ideas, objects, and people” as a simplified (admittedly, problematic) way of referring to all the living and nonliving “things” that are part of our everyday engagements with the world. Scholars like Timothy Morton, Karen Barad, Bruno Latour, and Donna Haraway offer a few frameworks for understanding this kind of engagement, and, while each has their own orientations to interconnectedness and agency, they all emphasize entanglements, engagement, and dynamism. Our work aligns with theirs in its attention to all writing as entangled, or collaborative.

⁴While Anna Kornbluh does not consider writing from the perspective of rhetoric and composition, she does work to resituate formal studies to consider literature, and all writing, and its form as an ontology of building. We consider this intervention to be important to the ways in which collaborative self-efficacy is composed in and beyond the classroom. We also wonder what possibilities emerge if we consider collaborations between literary and composition studies.

Authors’ Note

Sarah and Tracy have consistently shown resistance to coauthoring this paper, wanting to give all the credit to me. To me, though, if we are going to write about collaboration, we should make our own collaborations more visible. Plus, despite their humility, they were integral to the development of my own pedagogy as mentors and colleagues. Sarah, as the director of the Mentoring Program at the University of Hawai’i, was open to my ideas and able to place me with Tracy so I could play more of a role in the classroom. Even in the early stages of designing a unit for our transfer students, Tracy and I, rather unintentionally, started to model how we would come to see collaboration as a pedagogy. Tracy already had a fully formed Visual Analysis unit in which her students consistently did well. We didn’t need a new product, as it were. What we needed was a new way for students to engage with the unit. As such, our early discussions were casual and experimental.

Meanwhile, Sarah and I continued to meet to answer my questions and to discuss the preliminary research Tracy and I were doing with our students. Later, when Sarah and I came together to write the article based on all that work, we had to contend with the power relations in our work more directly. Sarah, as a professor and director, and I, as a graduate student, had to balance our vastly different experience. We started by writing our own separate sections, but eventually they became too disjointed and we had to start practicing what we preach. We ended up drawing on the power imbalance to address the problem. Because Sarah was my mentor and because we ended up doing a lot of our reading for this project together, all of my writing is in collaboration with her to some extent, in that it is informed by our interactions. I took the sections we had each written and attempted to replicate our conversations on the page, something we already see with our students and hope to see more of in writing on composition and all education.

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