

Interdisciplinary and Community Collaboration through the Transition to Distance Learning caused by the COVID-19 Pandemic

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We would like to share our experiences working with the Collaborating Across Boundaries (CAB) team during the Spring 2020 transition to remote learning. The CAB team consisted of three sets of professors, whose classes were paired across science and non-science disciplines to work on a STEM-related community-engaged project. These collaborations included: (1) business and computer science courses, who worked with an environmental policy non-profit on a variety of projects, most of them focused on environmental issues like reducing the carbon footprint and recycling; (2) computer science and journalism courses, who worked with a non-profit news provider to improve content delivery on their website; and (3) environmental sociology and women's and gender studies courses, who worked with a fifth-grade Girl Scout troop on projects related to sustainable energy. The following observations are derived from journals kept by the six participating professors, transcribed discussions among faculty participants, and the transcript of a focus group led by an outside evaluator. We limit our findings to three observations about the transition to online learning that are unique given our collaboration between students in different classes and a community partner. We found: (1) a small but important number of students struggled with online participation; (2) communication among students was similar to or more problematic than we have seen previously; and (3) community-engaged projects suffered because community partners were also rapidly transitioning to new procedures related to the pandemic.

A small but substantial number of students were unable to consistently participate in classes, even asynchronously, due to illness, illness in the family, technical difficulties, and/or a variety of other problems. Because our college serves a population that draws predominantly from one of the early pandemic hotspots in the United States, this was likely a greater issue here than in other parts of the country. One professor noted, "I had a number of students lose grandparents, take on additional responsibilities around the house, [or who] have just disappeared, so [the project] has sort of taken a back seat." Another explained, "At least one student, possibly two, contracted COVID-19, along with other family members. Another student found herself responsible for the care of both her mother and brother. Another student said there was no space at home to do schoolwork. Another had internet connection problems. Two students had no audio on their computers. Mental health issues became a consideration." Professors noted that students were reluctant to explain their situation to them or other students. Three common problems involve taking up care responsibilities for younger siblings or ill family members, sharing computers or physical spaces, and a variety of technological problems. Our students also juggled new work responsibilities, such as one student who was "required" to work additional hours at an essential business because he did not have dependent children. Students who struggled to participate affected the ability of other students to do the work; one professor explained, for example, "Two of the students couldn't get in touch with two other students in my class who were supposed to be working with them on this project, and so they ended up doing the bulk of the work. Then it turns out that one ... almost checked out, was doing that because of personal reasons,

and ... they didn't know the other students, didn't tell them about it." Professors generally responded with flexibility around deadlines, but our experience suggests that more systematic processes for students in these situations would be beneficial.

Students struggled with communicating with one another even more than usual, but this was mitigated by having previously established communications through a shared learning management system (LMS). There was considerable variation here. One professor noted what may be "reticence" or at least "unevenness" among students for taking responsibility to contact classmates outside of class, "and when you add to that students that they're not seeing on a regular basis, I think it gets a little bit more complicated." Alternately, another professor found little difference before and after the transition: "Some groups continue to report that the collaboration was a complete failure and say their... teammates ignore all their attempts at communication; other groups continue to report better experiences." Students used many ways of communicating with their peers, but they clearly benefited from using an LMS that was monitored by professors. One professor explained, "I'm not sure that I would have the stomach for another collaborative measure without the combined [LMS] tool. Almost nothing we've done, created, and inspired could have been done without this shared platform without it requiring tremendous hurdles and encumbrances. And this is just amazing, the groups just post their stuff, they put it on the discussion board, other groups can comment on it, regardless of class; ... it breaks all those barriers down in a way that signals that this is a project that's about working together." We thus emphasize the advantages of using an LMS for collaboration while remote learning.

Working with community partners created additional coordination problems. Community organizations were also facing shut-down pressures, and many understandably prioritized their own concerns before responding to students. One professor lamented roughly two weeks into remote learning: "Our community partner has not responded to emails, so we don't know what's going on there." Another explained that the community organization with which they were collaborating "was not even able to distribute the material for procedures involving [remote] meetings until the end of April, ...

which meant that we couldn't even meet with them on [-line] during most of the time when our students should have been collaborating with them." A third professor explained, "In order for my students to execute their projects, they not only have to interact with community partners, they had to interview sources, other sources, [contact] government offices and others, so because of the pandemic, those sources often weren't available or didn't respond in a timely fashion." All three collaborations had to be modified in order to conclude before the semester ended, in large part because of interruptions linked to working with community organizations. This experience suggests that indirect service projects, where students work with guidance from a community partner's staff, were more amenable to the transition to remote learning than were direct service projects, where students interact directly and continuously with members of the community. Although direct service could in theory still occur, we found that it was not feasible given the time constraints of the Spring 2020 semester and the emerging situation of community organizations.