

## A Metamorphosis During COVID: a Biodiversity Mapping Exercise

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*“Online sessions helped me to overcome my fear of discussing openly in the class and I am happy that people were acknowledging the points I raised through Webex whiteboard. I would not have opened my mouth in a regular class.”*

I learned to be mindful about students with different learning abilities and other challenges to being an active participant in the class. A sense of anonymity, while using tools like whiteboard in the Webex platform or Mentimeter, gave introverted students an opportunity to voice their opinions and contribute to classroom discussions. This experimental phase has also made me realize the importance of continuous feedback and conversations with students to make each session interesting. The feedback “I think there was much more learning through online classes, the perspectives which we got through discussion forums were enriching...” summarizes the way in which some students reacted to these kinds of exercises.

*“... the emphasis at each stage for reflection had an impact on the way I connect myself with the environment.”*

Reflective weekly essays were a regular mode of engaging students through asynchronous platforms. As a class, we realized the importance of learning in small chunks to help learners stay on track and pausing for a moment to reflect on why it is relevant for each of us. Using pre-recorded videos or related content for self-guided learning provides more space for reflective thinking and discussions in the classroom. Other strategies I now employ include having separate sessions to connect the discussions back to the syllabus and using online gamification tools like Quizziz. These strategies help me and the learners evaluate their learning and the classes become more interesting too.

The stresses of the pandemic and the transition to remote learning (and the associated digital overload) affected the attention span of my students. At the same time, I noticed a positive shift in the way my students related to the resources and the natural environment around them. A shared knowledge that came out through the classroom experiments during the pandemic was a mindful way of locating ourselves as *Homo sapiens* and having a critical way of examining conservation efforts. Discussions and activities during Social Ecology classes were also a search within, both for the teacher as well as the students.

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Until COVID and the ensuing necessity to transition my classes to online teaching, one of my favorite projects was during the early Fall semester when my students and I would work together to photograph and collect geolocation data on butterflies in and around the city of Bishkek, Kyrgyzstan. Then, using some simple mapping tools, we'd produce a map of various species within the city showing how different butterflies inhabit different places. This outdoor practical experience was always very popular with students, but, as all teachers know, there are always ways to improve and integrate assignments. Even though



I'm always on the lookout for those improvements, I certainly wasn't expecting them to come as a result of a global pandemic.

During quarantine and lockdown, university policy prohibited external meetups thus making it impossible to do any data collection together in the field. As a result, I needed to re-evaluate how to run this project because I didn't want to lose the "hands on" aspect that I knew students enjoyed so much, and it was still possible to get students out of their homes without any trouble. Instead of going as a group to collect data, students were given three easily accessible locations throughout the city and asked to spend time at each of them collecting data on their own. Since the data was localized in those three areas, students could combine their data into a larger dataset and do some simple comparative statistics between the three locations. Best of all, the project steps were simple enough for my students to follow through online instruction and provided self-directed learning in multiple areas: field work, identification, technical integration, data management, statistics, and GIS.

Upon returning to the physical classroom, I realized that I preferred the new format for this project as it offered more autonomy: my students could take learning into their own hands. The original project also missed out on the integration of statistical analysis that the online change had spurred. So, as a result, I've decided not to change back to the pre-COVID format of this project. In this way, being forced into online teaching required me to re-evaluate my assignment. The result is a project that is not only online friendly, but more integrated with the course content and learning while also building stronger, more resilient students through self-directed learning. I think that changing this assignment improved it, and the process encouraged me to breathe new life into old projects by incorporating similar self-directed elements, like conservation journaling and mapping, into other courses I teach.

