Pedagogical Pivot - Faculty Reflections on the Rapid Transition to Virtual Teaching During COVID-19

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Abstract

In March 2020, faculty across the nation were forced to suddenly transform their in-person classes to virtual platforms as a result of COVID-19 university closures. Virtual offerings continued throughout the 2020-21 academic year for most universities. We share our own observations gathered from biweekly meetings of AAEA's Teaching, Learning, and Communication (TLC) section, where participants discuss best practices for remote instruction. Our paper addresses several themes, including the challenges of teaching in a virtual environment, the positive outcomes of the pivot to remote teaching, and perspectives regarding how university education may be forever altered when we return to the classroom.

Key words: COVID-19 university challenges, pedagogy, remote instruction, student collaboration, student engagement, teaching with technology, virtual learning

Introduction

The rapid university closures in Spring 2020 created both new challenges and opportunities for higher education. In response to COVID-19, instructors at 1,388 U.S. colleges and universities across all 50 states were suddenly forced to transition their courses from mostly in-person to fully online learning according to tracking by the College Crisis Initiative (2021). The same source estimates that, in Fall 2020, 44% of institutions offered fully or primarily online instruction, 21% used a hybrid approach, and 27% offered fully or primarily in-person instruction. By comparison, the latest data from the National Center for Educational Statistics shows that, prior to COVID-19, only

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16.6% of students were enrolled exclusively in distance education courses (2019). The pandemic has spared few instructors from these disruptive changes, including most instructors of agricultural economics/agribusiness classes who have had to transition their courses from primarily in-person to mostly online, virtual instruction. Instructors had to re-examine their teaching and learning approaches, quickly adjust course materials for remote modalities, develop new teaching material and assessment tools, and learn how to maneuver new technology.

To support its members, the leadership of the Agricultural & Applied Economics Association (AAEA) quickly formed a task force and created an Online Learning and Teaching Portal in March 2020. This portal provides resources and guidance to help transition to online learning and teaching in our discipline. All materials are accessible to the public and instructors are encouraged to submit recorded lectures, online videos, case studies, online active learning exercises, notes, and links. Members of the task force organized a best practices workshop. Starting in September 2020, the leadership of the Teaching, Learning and Communication (TLC) section of AAEA organized biweekly Teaching Conversations via Zoom. During these hour-long meetings, instructors from both research and teaching-focused institutions all across the U.S., and occasionally from Europe, discussed ongoing challenges and shared their successes when teaching in this new virtual learning environment. Instructors were able to submit questions or endorse already submitted questions via a Google Sheet. Then, the section leadership selected one to two questions as the main topic of discussion during each meeting. Possible solutions, additional ideas and overall meeting notes were added to the Google Sheet after each session.

As some universities returned to in-person instruction in Fall 2020, we further discussed challenges when teaching synchronously, asynchronously, and in a hybrid setting (simultaneously teaching face-to-face while some students participate remotely via technology). During the last meeting of 2020, we reflected on our personal experiences and shared perspectives. In this paper, we share our reflections on the unique challenges of teaching in a virtual environment during the pandemic, new opportunities that can support learning even after we return to in-person instruction, and our thoughts of how higher education may be affected post-pandemic.

Notable Challenges

Every faculty member experienced some significant downsides to the sudden and widespread transition to remote teaching. Many conversations during Fall 2020 revolved around the massive investment of time required by virtual and mixed-modality teaching, both in the initial phase (e.g., recording lectures, learning new technologies, and finding more effective and ergonomic ways to set up our virtual office spaces) as well as the ongoing production of weekly classes, assignments, assessments, and student communications. Lessons, classroom activities, quizzes, and homework

assignments at minimum had to be adjusted to fit a new modality, and in some cases, completely re-invented. Many instructors noted higher email traffic from students and needed to be available at odd hours to accommodate international students. Face-to-face communication, even with synchronous classes, was greatly reduced and subsequently required additional effort to communicate clearly via slides, additionally posted instructions, emails or discussion boards. Many instructors felt overwhelmed by the increased email volume and requests for special accommodations. For instructors who historically did not allow students to use electronic devices during their in-person classes, the inability to limit such distractions during class was especially frustrating.

While the pandemic provided an opportunity to explore alternatives to scheduling classes in often overbooked and expensive on-campus computer labs, some faculty noted that students' lack of access to suitable computers or software was a major educational hurdle and likely exacerbated existing opportunity and achievement gaps. Classes requiring Excel or other analytical software seemed to be the most difficult to manage remotely, as some students with very basic computers (e.g., Chrome books or worse) could not access these programs or were only able to work with limited functionality. Though many universities had on-campus laptop lending programs, that assistance was inaccessible after many students returned home. In addition to basic computer issues, many students were negatively impacted by limited broadband access. Students in our (and other agricultural) disciplines experienced more severe connectivity challenges than students in other disciplines because they are more likely to reside in rural areas. While many schools scrambled to create hotspots in public places, students were still required to travel to a hotspot to download and submit assignments. Faculty noted spending much more time dealing with these types of infrastructure hurdles than during a normal term.

In addition to the technical and time management struggles, a major loss to many instructors was the lack of in-person connections or, as one faculty member noted, "the reduced joy of connecting with students." Many of us chose positions with a teaching emphasis (and higher teaching workloads) because of our desire to work with students and to share our love of learning. Creating meaningful connections over multiple Zoom screens was extremely challenging, even with our most engaged students. Faculty teaching asynchronously had an even more difficult time effectively engaging with their students.

Students' overall wellbeing and mental health remains another major concern for us. While some students were thriving in this new learning environment (Engelhardt et al., 2020; Kiesel et al., 2021), many struggled with time management and motivation in dispersed and physically-isolated learning environments. Many faculty received emails from students who, citing stress and mental health issues, needed extensions on assignments, or in some cases, withdrew from the class. In addition, uncertainty, health

and financial difficulties related to the pandemic also contributed to heightened student anxiety (Brown et al., 2021; Cohen et al., 2020).

A common concern discussed in nearly every TLC conversation during Fall 2020 was academic dishonesty. Virtual learning environments have unleashed new opportunities for students to creatively (or in some cases, rather crudely) avoid doing their own work. Faculty efforts to subvert such academic dishonesty required even greater investments of time in creating assignments less prone to plagiarism and developing online assessments with large question banks to enable randomization of questions. Many times, the types of reflective or research-based assignments that were most resistant to cheating subsequently required increased grading efforts. The rapid rise in cheating created many unwelcome pedagogical challenges.

As faculty struggled to adapt to the difficulties of remote teaching, the pandemic also upended most other routines of our lives. Schools and daycare services closed, as well as spouses' and partners' workplaces. Faculty noted much higher levels of stress with trying to balance new and elevated teaching demands along with juggling additional, unexpected duties at home with children, care for older relatives, negotiating new work and learning spaces and servicing wi-fi needs, among a host of other challenges.

The COVID-related economic downturn also reduced job security overall across faculty and lecturer ranks. Administrators used the pandemic as a means to reduce or amend tenure or eliminate non-tenured positions (Belkin, 2020), although schools allowed faculty going up for tenure and/or promotion in 2020/21 to extend their probationary period without penalty for an additional year. Faculty in some cases were able to exclude their Spring 2020 teaching evaluations from their personnel files. Nevertheless, instructors with heavy teaching loads noted additional anxiety over performing well as their student evaluations weigh heavily on retention, tenure, and promotion decisions. Faculty morale ebbed as the pandemic wore on. Some faculty who taught during the 2008/09 recession were predicting pay, sabbatical, and hiring freezes and furloughs that we are already starting to see.

Positive Pivots

The TLC participants were thrilled to recognize that for the first time ever, *everyone* who taught in a university classroom had to reconsider how to deliver their course materials. While most Teaching Conversation attendees agreed that the Spring 2020 semester was completed in survival mode, the forced transition from in-person to remote teaching required faculty to learn new skill sets in a matter of weeks. Such dramatic course revisions usually take months to master but under this new "survive and advance" mentality, instructors repeatedly learned by doing. Fortunately, the summer gave us all time to recharge, reflect and innovate.

Those reflections and innovations formed the basis for our Teaching Conversations: a clearinghouse by which to focus on best practices for virtual teaching and learning across institutions. Besides establishing a community of support and learning, it became clear that increased communication, new technological tools, flexibility, and improved course mapping of assignments and materials were all positive outcomes of virtual teaching.

Prior to the pandemic, few instructors communicated with students ahead of the term. We simply came to class the first day, confident that students would do the same, and we reviewed the syllabus and course expectations. For the Fall 2020 semester, many universities allowed faculty to choose their mode of instruction (e.g., synchronous, asynchronous, in-person, or hybrid-flexible models that combined one or more of these). Faculty recognized a need not only to clearly communicate course policies and expectations to students *ahead of* the start of the term, but also to help students understand new strategies for success in these unfamiliar delivery modes. While establishing such communication patterns are well-known best practices, they were not universally employed pre-pandemic. Clear and timely communication became a lifeline for both faculty (to avoid multiple emails from confused students) and students (to reduce anxiety and avoid multiple missed deadlines). Many faculty noted that they will continue to employ their newly honed communication practices when in-person instruction resumes.

Developing more effective means of organizing course materials using the universities' learning management system (LMS) is paramount for both synchronous and asynchronous instruction. Previously, many faculty used the LMS primarily to post readings and assignments; now the LMS contains the entirety of the course. Faculty's rapid efforts to post their learning objectives and develop a clear progression and schedule for course materials, assignments, and recordings was critical to student success when teaching remotely, as was consistency involving due dates. Hanson and Wachenheim (2020) noted that revising course assignment deadlines to the same time and date each week maintained consistent expectations for both students and faculty. As one TLC contributor noted, "Until you teach an online class, you never realize how disorganized your face-to-face class was!" Faculty reported that the organizational effort required to effectively plan virtual classes would carry over to in-person courses.

Faculty also found creative and effective ways to engage students using new technologies and platforms. In asynchronous courses, interactive instructor videos with embedded questions (e.g., the PlayPosit application) were used to increase student engagement and accountability with course materials. Those who used Zoom or Microsoft Teams for synchronous classes found improved student participation with integrated or iClicker polls and in virtual breakout rooms if activities were well designed. For example, to best achieve the collaborative learning environment

established in her in-person classes, Dr. Na Zuo, of the University of Arizona, developed Google file templates to couple with the Zoom breakout rooms in facilitating in-class group activities. Google files, such as Slides, Jamboard, or Sheets, with explicit instructions and designated group workspaces were prepared and shared. Students typed in discussion summaries or solved modeling or spreadsheet problems on the Google file in their breakout rooms, then discussed the deliverables with the whole class. By monitoring the Google file, the instructor was able to see all groups' progress and leave comments in real time. Dr. Julianne Treme, of North Carolina State University, found Google Jamboard to be an effective alternative to Zoom's white board option. Students could draw and label their own graphs during synchronous Zoom sessions, as well as refer back to their work even as the class moved on to new material. The use of collaborative documents allowed both instructors and students to view work in progress and provide real-time feedback.

The switch to remote instruction also required faculty to develop techniques for more rapid and effective feedback, an aspect already described by Zhosar and Smith (2008) and Hanson and Wachenheim (2020) as a necessary component of virtual instruction. While effective feedback is also consistent with quality in-person instruction, it may not have seemed as imperative before the pandemic. During virtual instruction, faculty developed new projects, incorporated case studies, and added reflective assignments accompanied by extensive, specific rubrics. These rubrics not only ease the burden of grading, but also give students better insight on how to develop their work. One of the authors heard this from a first-year student, "I read the rubric first and THEN I read the assignment," which validated the efforts spent in developing these new materials. Grading features built into LMS platforms, new apps such as Gradescope, tablets, iPads, and Apple Pencils were all valuable tools to efficiently give feedback on students' work. Some instructors even experimented with video and voice recordings for feedback mechanisms via their LMS systems.

Remote instruction also broadened the horizons for guest speakers in a variety of classes. Distance was no longer an obstacle, and students in synchronous classes maintained similar, if not higher, levels of engagement when guest speakers joined regular lectures. Our experiences suggest that because students were able to post their questions throughout the presentations without having to interrupt the speaker, the number of student questions increased. Recording guest speaker lectures allowed students to revisit concepts or provided increased flexibility within the variety of instructional modes.

Outside of the classroom, remote office hours or "student hours" provided more accessibility and flexibility for students and additional opportunities for personal interactions for both students and faculty. Some instructors reported higher numbers of attendees, as those that would have traditionally been unable to attend office hours because of family and work responsibilities had expanded access to faculty. The "share

screen" function allowed for more direct and timely feedback on student work. Using the last minutes of live lectures for questions and allowing multiple students to simultaneously attend office hours enhanced efficiency, as many students arrived with similar questions and were able to "free ride" – but in a productive way.

Perhaps one of the greatest advantages of remote instruction is the increased flexibility it afforded both faculty and students. No one needed to be anywhere in particular except in a place with a good wi-fi connection. Depending on the university, students could be on campus, off-campus, in different time zones, and in some cases on different continents. Students joined classes from farms, airports, buses, trains, bedrooms, kitchen tables, sunny porches; we saw a lot in the background! Even when faculty taught in-person, students sometimes elected to join their classes remotely. Students could access material easily and catch up if they missed a lecture. Some instructors are planning to offer livestream and/or recorded lectures, even when in-person instruction resumes. The perennial "What did I miss?" question from absent students was answered by posting a link to the recorded lecture. Some classes actually benefited from students being at home. For example, North Dakota State University students were encouraged to invite their parents to participate in a farm business planning class in which the topic was farm succession (Wachenheim, 2020). In that course, about 36 of the students invited parents to attend, making the lesson far more effective than if the students relayed their learning to their parents second-hand.

Going Forward
We have learned important lessons, as well as discovered new opportunities, from this unexpected experiment with remote teaching and learning, and some of the practices will carry forward post-pandemic. New tools and technologies which support collaborative learning and increase accessibility will likely improve in-person instruction. Zoom and other video conferencing interfaces will continue to provide additional options for bringing distant guest speakers to our students. Clear, concise assignments with consistent due dates which are aligned with learning outcomes as well as specific rubrics to guide student effort will also be welcome improvements to in-person teaching.

Some remote teaching strategies may actually replace or reinvent in-person activities, even with full on-campus instruction. While the flipped or hybrid classroom has been a popular notion for the past two decades (Lage, Platt, and Treglia 2000), the transition costs and lack of resources may have prevented faculty from implementing this modality, even though early adopters found clear benefits. Now that many faculty were forced to adapt and create new materials, their library of recorded lectures and other materials might make these transitions less costly. Even if faculty return to traditional in-person classes, their teaching will surely benefit from the many innovative applications of course concepts, new group or team-based learning exercises,

discussions, and case studies created in the past year. Some faculty also noted that they will continue to offer virtual office hours, either exclusively or simultaneously with in-person office hours. The attributes of convenience and accessibility are hard to argue against, especially if it also allows flexibility for the instructor.

In addition, one of the most rewarding outcomes of the unexpected massive transition to remote learning in our profession has been the wide-spread interest and discussions about effective teaching and learning, as well as a renewed focus on equity and inclusion in higher education. We were invigorated by our colleagues' renewed interest in teaching at the beginning of the pandemic and continue to be uplifted by regular Zoom meetings that allow us to share our stories from the trenches while learning from each other.

Future iterations of these virtual gatherings will provide instructors an outlet to informally present their scholarship of teaching findings and demonstrate new educational technology. Most importantly, the conversations allow us to continue to build a thriving teaching community that provides connection and support to passionate educators, and ultimately generate new teaching and learning research to be shared at the AAEA and WAEA meetings and published in AETR and other outlets, and better serve our discipline as a whole.

Many of us wonder how the future of university education will change in light of the rapid transition to online and remote instruction. Bogost (2020) noted that American universities have evolved such that the experiential and cultural aspects of university life eclipse the educational mission. The experiential component for students was completely altered with campus closures, reduced dormitory capacity, and social distancing across public spaces. If the out-of-class experiences of U.S. collegiate life are primary to students, we are still not in danger of transitioning completely to Massive Open Online Courses (MOOCs) that – even before the pandemic – some pundits rang as the pending death knell of collegiate education (Billington and Fronmueller, 2013). Nonetheless, this unexpected teaching experiment has posed numerous fascinating questions for on-going and further investigations. For example, what are some key opportunities and challenges that distinguish synchronous online teaching with asynchronous delivery? How will this sudden transition affect already existing inequalities and biases in higher education, and whether new opportunity and achievement gaps will persist? Though it took a pandemic for many of us to seriously examine how we teach, how students learn, and how to best connect the two, the silver lining is that it highlighted this important work, and we hope the conversation will continue.

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