

# All That You Can't Leave Behind-Essential COVID-19 Technology and Pedagogy

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## Abstract

The COVID-19 pandemic forced many institutions to adapt quickly and substitute technology-based online or remote instruction in place of in-person instruction. This adaptation caused many faculty to develop new technology fluencies, which can provide more flexibility and innovation moving forward. However, the technological lessons learned from the COVID-19 pandemic are somewhat conflicting, as we have also learned that there are places where in-person instruction is extremely valuable. As we move beyond COVID-19 protocols, there are many important implications for universities seeking to effectively instruct an increasingly diverse student body in ways that reflect both their mission and core values and also take into account the changing landscape of higher education.

This article considers the lessons that Virginia Wesleyan University (VWU) learned during the pandemic and how these experiences will shape instruction moving forward. Through a series of remote technology workshops, reflective collaboration, and focus groups, many faculty identified new approaches using technology that they will continue to incorporate into instruction post-pandemic while still maintaining the face-to-face instruction that is highly valued at institutions like VWU. We will discuss how to balance and bring together the best aspects of both traditional pedagogies and the new practices learned.

**Keywords:** higher education, COVID-19 pandemic, technology, instructional approach, face-to-face instruction, pedagogy

## Introduction

The COVID-19 pandemic forced a rapid shift to emergency remote instruction throughout higher education worldwide (Crawford et al., 2020; Hodges et al., 2020). Many institutions had to adapt quickly to substitute technology-based instruction in place of in-person instruction. For universities that relied primarily on face-to-face instruction, this shift was disruptive on two levels. First, it was disruptive on a technical level as individual faculty varied widely in their proficiency with instructional technology. Some faculty were forced to become proficient with forms of technology that were previously unfamiliar in order to continue instruction during the spring 2020 term. Other faculty were more proficient with technology use, but were impacted by the second disruption: the need for a rapid shift in pedagogical methodology (Hodges et al., 2020). These factors set up a situation whereby proficient technology users and instructional designers could help train faculty peers. Throughout the pandemic, faculty ultimately became more well-versed in technology usage and gained additional pedagogical tools for use in their courses. This new proficiency has led some authors to call for more widespread use of online (Tesar, 2020; McKenzie, 2020), hybrid (Benito et al., 2021), or flexible options that allow students to choose how to access the course (Petronzi & Petronzi, 2020).

While the increased use of technology is advantageous in some ways, at many institutions it is less desirable to retain all elements of the remote or online instruction used during COVID-19. Certainly, increased technology proficiency among faculty is desirable, but many institutions, especially small liberal arts colleges, greatly value in-person instruction and personal interactions between students and faculty. Thus, at these institutions, a shift to an online or flexible approach represents, to some degree, a move away from strongly held core institutional values. While faculty can utilize new technology proficiencies to enhance face-to-face instruction, many institutions will shift partially, but not completely back toward the pre-COVID-19 status quo. In addition, students have selected these types of institutions because of their preference for face-to-face learning (Petronzi and Petronzi 2020), so there is some obligation to retain this core educational attribute. Ideally, aspects of the best of both approaches can become common practice, but ultimately, individual institutions must determine what the new normal will look like on their campus. Defining the new normal requires deliberate reflection and discussion, decisions about which of the lessons learned during COVID-19 to retain and integrate into future semesters, and also support for continued faculty growth and pedagogical innovation. This report summarizes the process taken at Virginia Wesleyan University to enhance faculty proficiency with technology during the COVID-19 pandemic, followed by meaningful reflection and dialogue on the degree to which technology should or could be retained within individual courses and academic programs.

## Process at Virginia Wesleyan University

Virginia Wesleyan University (VWU) is a small (~1500 undergraduate and 100 graduate students, 86 full time teaching faculty) primarily residential liberal arts institution that transitioned from a college to a university in 2017, adding selected online and graduate programs in the process. Like many other residential liberal arts institutions, VWU prides itself on face-to-face instruction and personal interactions. Some faculty have been interested in using technology in their pedagogy, and the institution hosted an internal “Teaching with Technology” series for faculty for many years. The recent addition of online and graduate programs represents a natural outgrowth of that, but highlights the internal tension between faculty and departments willing to embrace technology and those focused primarily on face-to-face instruction.

Like many institutions, VWU had little time to prepare faculty for the shift to remote instruction during the COVID-19 pandemic (Crawford et al., 2020; Tesar, 2020). There were only two weeks between when faculty were first asked to start thinking about a shift to remote instruction and the full initiation of remote instruction. During this time, academic affairs and the Director of Instructional Technology held several workshops on a variety of technology tools that would facilitate remote instruction. Some faculty were comfortable with using certain forms of technology, and they helped to teach their peers. Others had never used Zoom or Blackboard (our learning management system) before, and started with the basics. The workshops promoting technology use were optional and were not financially incentivized, but were still well attended.

Following the spring intensive workshop week, our Director of Instructional Technology held twice weekly help sessions, and we also held periodic forums where faculty could share what they learned with their colleagues. This technology series continued during the remainder of spring 2020 and throughout the summer, guided by a faculty steering committee, our Director of Innovative Teaching and Engaged Learning, and our Director of Instructional Technology. These leaders conducted periodic surveys to determine which forms of technology faculty were more interested in learning about, so that we could adapt future presentations accordingly.

All of this information helped faculty to plan for the 2020-21 academic year, where courses were a mix of in-person, hybrid, and remote learning. Approximately 2/3 of class sections were held in person, with 1/6 held in some type of hybrid format, and 1/6 of fall class sections were held exclusively via remote instruction. In contrast, during semesters prior to 2020, less than 5% of courses were held in a hybrid or online format, with no courses offered remotely. Some faculty used summer 2020 to prepare for a hybrid or remote approach during the fall, whereas others went back to their typical in-person approach with masks and social distancing in place. All courses, even those taught entirely face-to-face, had to be able to accommodate a small number of students that were approved for permanent remote instruction or students who temporarily received instruction remotely during isolation or quarantine. Fall 2020 and spring 2021 instruction was supported by a workshop series featuring regular presentations and panel

discussions on relevant technology and pedagogical strategies. To ensure that the responsibility for this did not fall solely on the Director of Instructional Technology, our workshops often used an approach where a panel of faculty could present to other faculty to help expand their knowledge of technology.

In the early stages of the pandemic (summer and early fall 2020), faculty survey responses focused primarily on technology basics, such as how to use the features of Blackboard (69.5%), or Zoom/Google Meet (43.5%), and much less on additional apps and tools (only 3 mentioned these in free comments). In subsequent semesters, faculty reported that Blackboard and Zoom/Google Meet were helpful, but additional faculty (66.7%), reported that they found a variety of other apps and tools to be helpful, including technologies to support video recording, editing, annotation applications, polling apps, interactive videos and digital white boards. In our most recent survey after the completion of the spring 2021 semester, a majority of faculty expressed an interest in learning more about one or more specific apps or tools (81.0%) and a much smaller proportion expressed an interest in learning more about Blackboard and Zoom/Google Meet break-out rooms. The change in responses between fall 2020 and summer 2021 demonstrates a shift between a need to learn the basics versus a desire to learn more about a range of different applications that could be of use in future terms, even if those courses are taught in a face-to-face modality.

We also surveyed students at the end of the fall 2020 semester, asking not for their evaluation of courses, but for their reflections on the shift in methodologies. Most of our students (53.8%) reported that they learned better with face-to-face instruction, or that their preferred modality depended on the course content (23.1%). Only 14.5% preferred some form of hybrid instruction, while just 8.6% preferred either remote or online coursework. Our students' preferences mirrored the findings of Benito et al. (2020), who found that students felt they learned less and felt less engaged in remote classes. We shared these results and specific student feedback about the positives and negatives of each modality to help faculty prepare for the spring 2021 semester.

At the end of the spring 2021 semester, one of us (DW) surveyed the faculty on this again, with an eye toward continuing the conversation in fall 2021. Additionally, we developed a summer off-campus workshop titled "Curriculum of the Future" to continue the meaningful dialogue about the lessons learned during COVID-19, so that faculty could better reflect on and prepare for the new normal. We are striving to return to the in-person classrooms that are the foundation of what we do, but also to consciously examine our pedagogical strategies to incorporate the positive practices that have emerged during the last year. These reflections and discussions will continue during fall 2021 technology and pedagogy workshops and beyond.

## Reflection

Prior to COVID-19, VWU faculty varied widely in their use of and feelings toward technology in the classroom. COVID-19 forced theory into practice and faculty had to quickly incorporate technology in a variety of ways in order to continue instruction (Tesar, 2020). Remote instruction during spring 2020 was, in effect, an intensive pedagogical workshop that encouraged reflection on what constitutes effective teaching. This critical reflection worked both to reinforce certain institutional values and to offer new directions and technology enhanced approaches.

Workshops offered opportunities to learn about a variety of tools and apps, stressing both basic concepts for some and more advanced features for others. For many years, we have wanted faculty to become more technology-friendly and offered optional “Teaching with Technology” and “Digital Pedagogy” sessions. However, some faculty did not embrace this or our new online program until they were forced to teach remotely during the pandemic. Typical workshops pre-pandemic would have between 5 and 20 attendees. However, as faculty worked to adapt to remote instruction during COVID-19, we saw increased attendance and interest from many who had previously not taken advantage of these workshops or had not considered possible uses for technology in their classrooms. We went from 6-10 workshops in a typical year to 28 workshops between March 2020 and May 2021, with higher attendance than was the norm in the past.

Many faculty identified new approaches using specific forms of technology (i.e., breakout rooms, Jamboard, Screencast-o-matic, Kami, Kahoot, OkioCam, Peardeck, Nearpod, etc.) that they will continue to use during face-to-face instruction post-pandemic. These tools helped to encourage annotation and collaboration, facilitate discussion, integrate lecture slides with polls, quizzes, and videos, or aid in video production. In addition, workshops helped faculty better utilize features of Blackboard such as discussion boards, rubrics, quizzes, and exams.

Instructor-developed videos presenting science lab or art studio techniques were embraced by some of our faculty and were widely implemented both during emergency remote instruction and to reduce in-class time, and thus the potential for exposure, during the 2020-21 academic year. These were two of the most challenging areas to adapt to remote and socially distanced instruction, but there was impressive creativity from some faculty members in those areas.

Video office hours were the preferred mode of faculty availability during the pandemic, even for faculty that taught in person, and advising appointments likewise shifted to a remote mode in most cases. Some of the faculty who teach in the online program have expressed a preference for video office hours, as they are otherwise unavailable to their exclusively online students. We suspect that video office hours will continue to be utilized by some of our faculty.

Some courses found success with certain hybrid approaches. One of us (SL), in her upper level

English course, opted for a hybrid model where the class met in person for one of its scheduled weekly sessions and was online for the other. Students engaged both in person and via discussion board. The course flipped some aspects of instruction, providing students with PowerPoints and links that covered some material typically delivered through lecture. Discussion then began online through the discussion board and continued into the classroom at the next in-person meeting. There were several benefits to this strategy: the discussion boards required students to be able to communicate effectively through their writing, which is always a key goal of an English course. The discussion boards also offered students less comfortable speaking up in class a space where they could offer their ideas. Additionally, students working through the PowerPoint material could do so at their own pace and research individual aspects as topics caught their interest. The links embedded into the PowerPoints encouraged this, but it was surprising when students began to do their own research on content that was especially interesting to them. This method of instruction was more empowering than traditional lectures. In-class meetings were much more productive and had more in depth conversations than was typical of past courses. The blended components resulted in a much richer learning experience.

In a math course that was face-to-face but also had remote students, engaging students during lecture became more difficult. One of us (DW) stumbled upon the unexpected benefits of a Google annotation application, Kami. The application allows the presenter to edit using text, highlights, shapes, equations, and a drawing feature. Thus, the instructor was able to edit the document as if writing on a chalkboard. Students could either view the lecture on the projector screen or their laptops. This pedagogy helped the class to work out the math problems together. They could see both the steps that the instructor took and their classmates' approaches. It also allowed the professor to more easily support students and answer questions. Based on a survey at the end of the course, more than 84% of students found the Kami annotation application to be helpful in supporting engagement and commented positively on its inclusion. The course will continue to include the use of Kami in the future.

There were many successes such as these that offered positive directions for the future. However, even as we learned how to teach well using technology, we also learned why these pedagogies may not always be the best approach. Course evaluations indicated that many students disliked remote instruction. There was a clear preference for in-person instruction and face-to-face learning. The biggest challenge that was faced by all was the dual mode of instruction, with some of the students in person and some of the students accessing the course remotely. This duality often limited instruction to the minimum capabilities of each modality in order to accommodate students accessing the course differently. Indeed, many faculty expressed relief that fall 2021 courses would return to fully in person without this dual mode of instruction.

## Conclusion

This pandemic year provided many institutions with the opportunity to reimagine teaching and what the new normal will be for higher education (Neuwirth et al., 2020; Ewing, 2021, Benito et al., 2021). While there has been some move toward increased use of technology in the classroom, COVID-19 was clearly a catalyst for rapid pedagogical change (Ewing 2020). Continual faculty usage of technology will depend on the degree to which they find the new approach useful, and whether it fits in with their intended approach post-pandemic. Many academic leaders anticipate more online and hybrid courses being taught post-pandemic, which will require expanded support for teaching with technology (Jaschik, 2021). However, technology needs to be incorporated purposefully in ways that complement or improve existing pedagogies and align with institutional goals and mission.

COVID-19 forced theory about online and remote instruction to become praxis almost overnight. Coming out of this challenging period, it is crucial that we do not just go back to our previous pedagogies, but reflect on and thoughtfully embrace some of the lessons learned (Cesco et al., 2020). A clear message to emerge from many campus constituencies after the pandemic instruction was a reinforced dedication to face-to-face instruction and a preference to avoid dual modes of instruction, which is teaching remote and face-to-face students at the same time.

While it was clear that face-to-face instruction is at the heart of what we do at VWU, it was also clear that this instruction may not, and perhaps should not, look the same as it did prior to COVID-19. The pandemic experiences, combined with the existing challenges facing higher education, provide incentives to create a new normal moving forward, a normal that blends some of the technologies and strategies learned with the face-to-face instruction that is the cornerstone of our pedagogy (Cesco et al., 2020). There are important ways that technology can and should enhance our teaching. As a university, we need to support and encourage faculty to continue to embrace technology purposefully and thoughtfully. There is a clear value to blended pedagogies in terms of improved learning outcomes (Means et al., 2009; Vallée et al., 2020).

However, in developing these blended pedagogies, it is important to remember that technology is a tool, and not an end in and of itself. As Kruger-Ross and Holcomb (2012) astutely note:

“The technologies will come and go, but it is the people that make up the classroom, not the laptops. It is the instructors and the students that are most important, not the projectors or iPads. No amount of technology can make up for poor pedagogy – and the integration of technology into poor pedagogy without consideration for the related epistemological and ontological concerns is a recipe for disengaged and disinterested students.”

Moving forward, it will be important to cultivate a normal that blends technology with the intimacy and efficacy of in-person instruction (Cesco et al., 2021). Universities will need to make thoughtful decisions and provide technology support and infrastructure for faculty (Moreira, 2016; Toquero, 2020). We need to continue meaningful dialogue on the role of technology in our pedagogy (Neuwirth et al., 2020) and the places where technology can improve learning outcomes. Ultimately, we favor a future of higher education that blends the best elements of technology without losing the personal interactions that are the hallmark of a liberal arts education.



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