Rapid Response Teaching & Learning in the COVID-19 Crisis with Zoom Video-Conferencing Technology

Internship Professional Report



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The Problem - The Pandemic

The primary problem was the pandemic. While the worldwide spread of the contagious Coronavirus disease 2019 (COVID-19) is still considered ongoing, the past tense is used here optimistically, since two vaccines have been developed and are being widely distributed at the time of writing this report ("Coronavirus disease 2019," 2020). Therefore, as of the Spring 2021 semester, many students and teachers have returned safely (to some degree) to the brick-and-mortar classroom. The most urgent part of the crisis has been abated, and the rapid response requirement around which this internship was based in Spring/Summer 2020 has subsided.

Facing the highly transmissible Coronavirus meant a public transformed to wearing masks, social distancing six feet apart, and the repeated washing of hands and surfaces. The later, more drastic measures, came in the form of stay-at-home orders, around the globe, across the United States, and inevitably in our state of Colorado.

But this meant an *entirely new problem for education*. How would we teach our students in a situation where it was no longer safe for them or their teachers to be together in a physical classroom? Even more importantly, how would we teach them *effectively*?

Rapid Response

For those of us in online education, the answer was clear, but certainly not simple. Just as we had done for our global campus students, we needed to employ a video-conferencing technology for our on-campus courses as well. This would be a challenge for everyone: students, faculty, seminary staff, and particularly the educational technology team. While Denver Seminary had been using the video-conferencing platform provided by Zoom Video Communications, Inc. (https://zoom.us) for several years in online courses, using it campuswide successfully and efficiently would be experimental to some

extent. And like may educational institutions around the world, this



transition had to come rapidly in response to this Coronavirus-induced educational crisis.

Instructional Designer Role

Beginning in March 2020, as Senior Instructional Designer in Educational Technology, I shifted to working in crisis mode somewhat overnight. Originally, I had intended to pursue my CU Denver internship around the topic of teaching and learning using video-conferencing technology, specifically Zoom. But it became clear that the immediate needs of the seminary required an adjustment to my internship focus. The seminary would still be using the Zoom platform for online education, but the COVID-19 crisis required conversion of *all* Denver Seminary education to virtual classrooms.



This rapid response meant supporting faculty and students in an immediate transition to a fully online teaching and learning environment using a video-conferencing platform. My instructional design time and efforts were directed toward the preparation of trainings and tutorials for faculty and students who were faced with new online opportunities and possibilities, but also with challenges and frustrations. In addition to these urgent instructional design projects, I kept abreast of innovations in technologies and instructional techniques that arose from others facing their own COVID-19 educational crisis. A positive outcome to this pandemic was that it sparked a wealth of new ideas and options for online education.

It is worthy of note that in recent years the instructional designer role has evolved to include a wider range of support beyond the technical and logistical. Instructional designers now also provide a degree of psychological support to both learners and instructors as they adjust to the paradigm shift required for online teaching and learning. These multi-faceted ID roles have been compounded by the COVID-19 educational crisis that has brought with it both creativity and catastrophe in educational settings. Many instructional designers would attest to the fact that this has resulted in a higher degree of mental strain and physical exhaustion. Even so, most would agree that online education will never be the same again — and this is both exhilarating and inspiring. In fact, some instructional designers rose to the challenge by providing free e-learning support to educators, schools, and organizations through the ID-ER Network (Instructional Design Emergency Response Network): https://idernetwork.com.

Internship Documentation

The documentation for this CU Denver LDT internship is provided to record my experience of rapid response teaching and learning in the COVID-19 crisis through the use of video-conferencing technology, particularly the Zoom platform. Beyond my own journey, my hope is that the documentation also serves to recount some of the experiences of my fellow instructional designers who worked in online education during the Coronavirus pandemic. I was not alone. Certainly, here at Denver Seminary, this was an Ed Tech Team effort; in fact, a campus-wide effort. Beyond us, in terms of instructional design, it was a world-wide endeavor.

The Report

The is my professional narrative. It is best to start here to review my internship overall. This report provides a more descriptive account of the problems faced and interventions. Here is much of my story – here are lessons learned – here are some thoughts for the future. Also included is qualitative and quantitative data along with related charts.

The Internship Log

Although work on this project continued through the end of the 2020 calendar year, the log provides internship hours for the Spring and Summer semesters. The spreadsheet includes a detailed "Description of Work" for each day; "Links to Supporting Material" related to those



days such as memos and articles; "Inciting Incidents" (related to COVID-19 or Denver Seminary) that influenced the work done that day; and LDT Competencies addressed. It is possible that some links to internal memos are no longer available due to being proprietary in nature.

As an overview of internship hours: in the first three weeks of March 2020, I logged over 30 hours (10 hours per week, 3/5/20-3/19/20). By the end of Spring 2020 semester (5/15/20), I had completed my required total internship hours with 94 hours logged. I worked an additional 53 hours in Summer 2020. I logged hours for Fall 2020 – January 2021 as they related to review lessons learned and future plans for 2021. Final internship hours worked: 156 hours. Work Log.

Supplementary Research & Resources

The Supplementary Research & Resources spreadsheets list the web-based sources that I researched and/or curated relevant to online T&L during the COVID-19 crisis. Cf. Appendix D.

SUPPL RESOURCES: web articles and materials from various online education industry sources such as TechSmith, VoiceThread, and The Chronicle of Higher Education.

EDUCAUSE: web articles and materials specifically from EDUCAUSE, the well-respected higher education information technology association which contributed valuable insights and data.

ZOOM Video Communications, Inc.: links to the weekly Blog from Eric S. Yuan, CEO; and Zoom resources for using Zoom video-conferencing technology for online education during COVID-19.

CU Denver / University of Colorado: information and announcements from university administrators with decisions and policies related to COVID-19 that effect students and faculty. Provided as an additional voice and resource in Colorado higher education during COVID-19.

Context & Setting

The internship revolved around three contexts and settings: The Coronavirus pandemic; the teaching and learning of graduate students at Denver Seminary as a higher education institution; and the online classroom using Zoom video-conferencing technology.

Context of the Coronavirus

COVID-19, the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) disease, originated in Wuhan, China, with the first case identified on December 1, 2019. By January 20, 2020, the first case was diagnosed in the United States and the first COVID-19 related death in the U.S. was on February 6th ("Coronavirus disease 2019," 2020). The first two cases in Colorado were identified on March 5, 2020. My data sources included JHU CSSE COVID-19 Data (Appendix A) and Colorado Health Dept COVID-19 Data (Appendix B).



The symptoms of the Coronavirus have included those related to the flu e.g. fever and nasal congestion; other signs e.g. loss of taste and smell or difficult breathing; or more acute illness e.g. pneumonia or respiratory failure. The results of COVID-19 have ranged from mild to severe, or even death, and it was possible for an infected person to be asymptomatic. Without reliable testing in early spring, prevention had to be immediate and drastic, to include quarantining, self-isolation, social distancing, mask-wearing, disinfecting surfaces, and washing of hands.

In order to "flatten the curve" of the pandemic, most businesses and educational institutions shifted to virtual work and fully-online school by late-March, and this included Denver Seminary as of March 20, 2020. To prevent further spread, state governors began imposing stay-at-home orders, including the mandate by Colorado Governor Jared Polis (March 23, 2020). All seminary on-campus classes halted, and teaching immediately shifted to fully online. Nationwide, from grade school to grad school, classes moved to Zoom or some other video-conferencing platform (e.g. Google Hangouts, WebEx, GoToMeeting).

Higher Education Setting

Denver Seminary is a graduate theological school that trains men and women for formal or parachurch ministry through Master of Divinity and Master of Arts degrees. In addition, the seminary has a counseling licensure program for those entering the clinical counseling field.

Denver Seminary's student population was approximately 900 students as of Fall 2020. The



seminary has had fully online MDiv and MA degree programs for several years with asynchronous courses now making up 25% of the seminary total. The meant that, due to COVID-19, the remaining 75% of the courses had to transition to a fully online platform as well.

The seminary prepares most of its students for "public-facing" professions. Those who choose the on-campus experience value the in-person "practice" for their field. This made the sudden change to 100% online teaching and learning a significant challenge and paradigm shift.

Campus Closures & Reopenings: As of March 20, 2020, Spring semester residential classes moved to Zoom video-conferencing and became known as "Zoom Live" courses (to differentiate them from our fully asynchronous Global Campus online programs). In late spring, preparations began for the Summer semester to include "Denver Live" – hybrid courses with a limited campus presence combined with online Zoom attendance. However, because of a continued rise in COVID-19 cases in Colorado State and Arapahoe County (where Denver Seminary is located), summer classes changed back to Zoom Live even before the semester had begun. In Fall 2020, changes to COVID-19 restrictions allowed for both Zoom Live and Denver Live. But the fall season brought a surge in COVID-19 cases and deaths; so like many institutions across the U.S., Denver Seminary decided that all Fall 2020 courses would return to remote yet again after Thanksgiving and through Fall 2020 semester's end on December 11, 2020.



Zoom Online Classroom

Zoom Video Communications, Inc. has been providing a cloud-based video-conferencing platform commercially since 2011. COVID-19 created a boon in Zoom's popularity due to a global need of video software for teleconferencing, telecommuting, distance education, and social interaction ("Zoom Video Communications," 2020).



Denver Seminary has used Zoom as an online video service provider since 2016, being one of the first to use Zoom technology solely for *education* as compared to corporate use. This meant the seminary had the advantage of testing Zoom's features for online classes, such as virtual whiteboards and breakout rooms, long before the COVID-19 crisis. While the transition was still difficult for faculty and students used to on-campus classes, it was a fairly seamless process for DenSem's Educational Technology Department. Ed Tech was confident of Zoom's capabilities and how the technology could be best utilized for rapid response teaching and learning.

Intervention & Procedures

The immediate action to be taken was fairly straightforward. Once the seminary closed all oncampus work and school (as of March 20, 2020), all meetings, functions, and live interactions (staff, teacher-student, student-student) were moved to "Zoom rooms" or Zoom Sessions.

These rapid response plans were undertaken with the understanding that we were not creating new online courses or online instructors; rather, we were providing the Zoom platform for virtual classrooms to teach the same material as it would have been presented in-person.

Zoom Rooms

From a technical perspective, each "residential" (on-campus) class was assigned a Zoom Room. This Zoom URL was specific to each professor and would be accessed for every class session, often weekly. Each professor would also be given a Zoom URL for online office hours.

The seminary had already begun using the Zoom LTI (Learning Tools Interoperability) as the integration of the Zoom platform with its Moodle LMS (Learning Management System). It was an urgent and painstaking task to assign Zoom Rooms to each individual course's Zoom LTI and clear instructions posted in each Moodle class site on how to access its Zoom classroom.

Training and Tutorials

Live Technical Training: Even before the seminary closed, live Zoom Sessions were offered for faculty to learn "the basics" of using Zoom for online classroom purposes. The intent was to



present the overall concept of teaching and learning using video-conferencing, as well as the key functions and features of the Zoom platform specifically. These were recorded sessions.

Faculty (Zoom "host") Tutorials: On the final day we were allowed on campus, I spent over 7 hours compiling and editing the live training recordings into step-by-step videos (see Internship Log). An entire Moodle site was dedicated to housing the extensive list of tutorials specific to DenSem faculty. The Provost/Academic Dean required that *all* faculty access the "Teaching with Zoom" site and view the training and tutorial videos. Tutorials offered by Zoom.us for Zoom Room "hosts" were also added to the site.

Student (Zoom "participant") Tutorials: Although Zoom.us tutorial web pages and videos were informative, Zoom lacked tutorials from a "participant"—or in our case, "student"—perspective. Participants often had a different view of Zoom Room features and functions than Hosts did with more administrative privileges. In mid-April, I scripted, recorded, and produced a variety of videos that were placed on their Student Moodle Tutorials site.

Online Etiquette & Protocols: Another need arose as Zoom classes began in terms of some students "coming to class" without generally acceptable preparation, conduct, or even attire. In addition, some attended with background noise and activity, poor lighting, or with their video off so that they appeared "hidden" to the class. Therefore, it was helpful to add resource documents to each class Moodle site: "Good Procedures for Online Meetings (Zoom)," Tips for Using Video & Recording on Zoom," and "Denver Live & Zoom Live Protocols." Cf. Appendix C.

Educational Technology Support

Technical Support: While the Educational Technology Department had always been available during business hours, the COVID-19 crisis required that we shift to on-call or "always on" support and expand our service beyond online courses to include *all* seminary courses, faculty, and students. This came to include Zoom software and technical needs since we were using Zoom for educational purposes, outside of the scope of Zoom's typical users and the FAQs, tutorials, and chats that their website provided. In addition, we became the communication center for Zoom.us updates, added features, or fixes e.g. those addressing security issues.

Equipment for Virtual Teaching & Learning: Many regularly on-campus faculty and students were not equipped for fully online meetings. They needed to be advised about computer requirements, recommended camera and microphone options, and the benefits of additional equipment such as external monitors. With generous donor funds, we were able to equip some faculty with the necessary equipment.

Equipment for COVID-Safe On-Campus Classrooms: Spring and Summer courses were conducted fully online as Zoom Live. But for the Fall semester, some classes were able to have limited on-campus attendees while their other students joined the class online via Zoom. This meant that several physical classrooms had to be equipped with large internet-ready screens



for Zoom participants, as well as additional (or improved) cameras and microphones. The seminary also had to provide professors with masks and protective shields.

Zoom Security Support: In early April, a phenomenon was discovered that became known as "Zoombombing" (Bond, 2020). Individuals trolling the internet entered into Zoom Rooms unannounced and without invitation, thereby disrupting – sometimes even harassing – ongoing Zoom Sessions. Zoom acted immediately, instituting new security measures (e.g. encryption and passcodes), and announcing what they called Zoom's "90-Day Plan" to "bolster key privacy and security initiatives" (Yuan, 2020). This required that the Ed Tech Dept alert seminary constituents of the situation, keep abreast of Zoom's progress, and administrate related updates and upgrades.

Faculty Development

Live Best Practices Training: Beyond the rapid response instruction about the basics of Zoom technology, faculty needed some training on *best practices* of online teaching. For example, many professors were faced with the challenges of transferring an entire 3-hour class to an online experience, so an April live online session was offered: "Teaching with Zoom 3+ Hours." But see the *Lessons Learned* below noting more faculty development would have been helpful.

Community of Practice Meetings: The concept of the COP is that faculty participants share their similar experiences and challenges in T&L and thereby teach and mentor each other, rather than having an external trainer. While a COP meeting was held in early April, it is possible that some faculty would have attended additional meetings, if they had been offered again.

Best Practices Resources: Multiple resources were distributed to faculty such as web-based articles, PDFs, and emailed 'tips & tricks'. An especially helpful resource became available in July, the book written by Aaron Johnson, our Associate Dean of Educational Technology: *Online Teaching with Zoom: A Guide for Teaching and Learning with Videoconferencing Platforms*.

Zoom Fatigue and Stress Support: For most, the immediate shift to virtual work and school due to the COVID-19 pandemic was a stressful transition. Faculty members suffered from widespread "Zoom fatigue" due to video-conferencing for many hours at a time. And when the technology did not work as expected, this caused added tension. The Ed Tech team stepped in as we could to alleviate technology-related stress. This entailed brainstorming solutions to urgent issues, being a sounding board for professors to voice the challenges they were facing, and sometimes simply offering encouraging words.

Student Support

Student Intervention: The Ed Tech Dept. served a similar role for students as to faculty mentioned above. This included providing Zoom technical support, communicating equipment needs and Zoom software issues (e.g., security). Parallel to that of faculty, many students



experienced stress or anxiety participating fully online, and this hindered their performance in their classes. Ed Tech provided whatever technical, and even emotional, support that might help each student's situation. But the team also became versed at what departments to direct students to, such as the Dean of Students Office, where they could get additional intervention.

Student Accommodations & Exceptions: As many across the globe, the pandemic caused personal crises in the lives of students, such as family illness related to the virus, limitations on day-to-day activities due to stay-at-home or safer-at-home mandates, or restrictions based on being in a high-risk health category. Our seminary Provost instituted policies to allow for class attendance or course completion exceptions on an individual need and request-by-request basis (rather than exceptions based on a student qualifying for an accommodation 'category'). This was a necessary and practical rapid response to so many COVID-related circumstances. But it also compounded exponentially the workload, equipment, and technology requirements in order to accommodate isolated 'one-off' situations. Offering these 'without question' benefits became unsustainable. Eventually, determining legitimate need, and offering other short-term solutions, were needed adjustments in order to be more efficient and equitable to all.

Evaluation Plans

In Spring 2020, some evaluations came spontaneously as faculty and students informally reported successes or failures as the semester progressed. But the rapid response to the COVID-19 crisis required that T&L decisions and procedural changes be made sometimes on a daily basis, so the Spring semester did not allow for collection of data about our T&L interventions necessitated by the pandemic. The Summer semester was similar. However, early fall afforded opportunities for surveys of both faculty and students with specific questions asked about their experiences being fully remote in Zoom throughout the previous COVID-19 crisis semesters. In addition, student course evaluations at the end of each semester provided key information. These were analyzed in comparison to their equivalent semesters in previous years. Finally, registration data revealed some surprising trends in 2020 student enrollment.

Outcomes & Findings

The majority of the interventions mentioned above were highly effective, whereas those displaying some weaknesses are noted in the Lessons Learned below. Outcomes can be presented as both quantitative and qualitative data.

Please note below that data analysis and display is forthcoming on March 7, 2021. I am currently enrolled (Spring 2021) in the University of Colorado Denver course: INTE 6720 Research – Learning Design & Teaching and will be analyzing and charting all 2020 data related to my internship for an assignment due in March 2021. I will post my internship at that time.



Quantitative Data

End-of-Semester Course Evaluations: Anonymous student evaluations, rating the faculty's instruction and the course curriculum, always provide crucial quantitative data. Though many of the questions are subjective in nature, many are asked using a Likert Scale (Strongly Agree to Strongly Disagree), and thereby are quantifiable. In addition, they can be presented in comparison to data from preceding incidences of the same instructor and the same course. While we cannot match 2020 responses directly to how student experienced teaching and learning in Zoom classrooms during the COVID-19 educational crisis, still we can draw certain conclusions based on the context in which the learning occurred. See Appendix F for Course Evaluation questions.

Evaluation responses:

Data analysis forthcoming: March 7, 2021.

Charts / Graphs

Data display forthcoming: March 7, 2021.

Student Population & Course Registration Growth: An important piece of quantifiable data came in the form of student admissions and registration growth in 2020 semester-to-semester as compared to equivalent past semesters. In some cases, this growth was exponential. Other theological higher education institutions experienced similar increases. The benefits of this unexpected growth are significant. While some schools (especially undergraduate institutions) suffered with the shift to fully online education, we were able to maintain steady and healthy registration numbers and tuition income. While these numbers do not compensate for some declines in previous semesters and years, they still help ensure the school's sustainability.

The exact causes may remain unknown. Did some students become unemployed or furloughed due to the Coronavirus and took advantage of stay-at-home mandates to enter online education? Did the COVID-19 relief stimulus provide money to cover tuition costs that might not have been previously available? A more profound question is whether the pandemic ignited a concern and compassion in individuals for those suffering under the pandemic, so much so that they felt drawn to a ministry- and service-oriented education or degree?

Charts /Graphs

Data display forthcoming: March 7, 2021.

Increase in Course Offerings & Accessibility: One of the most probable causes to the above is that the availability of the video-conferencing platform made many on-campus courses accessible beyond the seminary students who lived in the Denver area. The reach of these Zoom Live classes extended to students out-of-state and even worldwide. Even when changes to COVID-19 restrictions allowed for limited on-campus presence (starting Fall 2020), the option



of online Zoom attendance remained. These hybrid in-person/online "Denver Live" courses continued through the Fall 2020 semester and are still offered in Spring 2021.

Charts /Graphs

Data display forthcoming: March 7, 2021.

Qualitative Data

While qualitative data is subjective in nature, it still should be considered highly significant. Across the globe, the Coronavirus pandemic has had a broad range of impact: practical, functional, physical, mental, and emotional. This included our own institution and the individual experiences of those teaching and studying here amidst the sudden necessity for remote learning. It was important to review and heed both the answers to the more qualitative questions in our surveys and the written comments. These allowed us to evaluate the opinions, not just of the technical elements of the Ed Tech staff interventions, but also the degree to which faculty and staff felt supported in navigating the stresses and pressure of online learning.

Survey responses:

Data analysis forthcoming: March 7, 2021.

• Charts / Graphs

o Data display forthcoming: March 7, 2021.

Lessons Learned & Future Plans

As mentioned above, the rapid response to the COVID-19 crisis for the Spring 2020 semester did not afford time for evaluation. This delayed reflection and future planning. However, as the year progressed, it became essential that we consider lessons learned, even during such a short timeframe. As the effects of the Coronavirus on education continue into 2021, we have needed to establish some contingency plans for the Spring 2021 semester as well as determine some post-pandemic future plans of action. While there will no doubt be more to consider in the coming months, looking back on what we have learned thus far is crucial to planning ahead.¹

Ed Tech Team Successes & Solutions

Lessons learned can certainly include the positive and it is important to celebrate the successes of our Educational Technology team. It was each member's skills and dedication that allowed the institution to thrive in the midst of the pandemic's effects upon our seminary education.

¹ Many of the reflections upon 2020 and foresight into 2021 are provided by Aaron Johnson, Associate Dean of Educational Technology. Aaron serves the role of thinking through the seminary's online education on a more programmatic and systematic level, as well as working to align our online experience with the seminary's values.



2020: As the needs escalated once we moved to Zoom on March 20th, the Ed Tech team kicked into high gear to respond to faculty, students, and staff. Projects and priorities changed overnight, and each team member took on whatever role was necessary, whether or not it was within their job description. During this time, all seminary constituents praised the Ed Tech team for the promptness and quality of their efforts. But while the work was done with cooperation and collaboration, the on-call and sometimes ad hoc responses also led to extended hours and burnout. The instructional designers, LMS administrators, and Zoom equipment techs felt highly supported, resourced, and appreciated; but this did not preclude the experience of what the *EDUCAUSE Review* likened to 'compassion fatigue': "While we all cheered at a job well done, with success being defined as continuity of learning, many never got a break since they needed to support faculty and students during the transition" (Prusko and Kilgore, "Burned Out," 2020, para. 1).

2021: A variety of practical and tangible solutions have already been or will be provided:

Some relief came fairly quickly as seminary constituents received training and gained the competence and confidence to proceed on their own. Once equipment was furnished to users and hardware installed in classrooms, the hands-on support decreased. And out of necessity, Ed Tech team members became more adapt and efficient at addressing needs, aided somewhat by the adoption of standardized responses to related problems. All of these **technical support solutions** rolled over to 2021.

Individual **student accommodations** requiring Zoom technology support (hardware and software) are being reduced or eliminated (other than those with federal authorization). This will regain a significant amount of time for Ed Tech personnel (see Accommodations below).

Course development was suspended as of March 2020. To reduce workload, postponement will continue for Spring 2021, but hopefully can resume soon after. However, **faculty development** will return as an immediate focus area, but will be redefined to address coaching in teaching and learning rather than curriculum development or technical training (see below).

Additionally, there will be a concerted effort to return to the **processes and systems** that have served us well in the past. Our rapid response to COVID-19 made it easy, although sometimes necessary, to be reactive and ad hoc as we served 300 students, among others, even with the best of intentions. In 2021, we will ensure that our tried-and-true processes and systems do not get overridden by the urgencies. This will involve a range of policies and protocols, such as: maintaining procedures for how we handle educational technology support requests; applying standards and best practices for instructional design; and reemphasizing the teaching requirements detailed in our *Online Instructor Responsibilities* document.

Course Delivery & Scheduling

It was necessary to offer a variety of course delivery formats to allow for the maximum number of students "attending" classes in spite of the restrictions or % limitations due to COVID-19.



Course Formats:

2020: The Spring 2020 semester required an immediate shift to courses being taught fully online on Zoom. These needed to be differentiated from the existing Asynchronous Online courses (most of which included a live Zoom meeting component) that had been designed specifically for online learning based on our particular online T&L philosophy. In contrast, those fully online courses in rapid response to the COVID-19 crisis were termed **Zoom Live** and they utilized the Zoom platform as virtual classrooms to teach the same material as would have been presented in-person. Later, the Summer semester brought an opportunity for limited oncampus attendance, but still required a Zoom online option. These were held in classrooms that made use of the large monitors and video and audio equipment that had been installed during the spring. These summer courses were half in-person and half on Zoom and became known as Denver Live. In addition, there were Residential Courses with Zoom Accommodations -classes that had the majority of students on-campus but allowed for exceptions for individual students upon request. These often entailed a tech staff member moving between classrooms some Zoom carts equipped with cameras. In Fall 2020, two courses trialed a Flex format in which students could choose to attend on-campus, live via Zoom, or fully asynchronous, and could alternate between modes week-by-week.

2021: It was recently announced that Spring 2021 residential classes will reconvene with appropriate precautions such as masks, social distancing, and professors wearing shields while teaching. This was due to the fact that Arapahoe County had its COVID restriction level lowered from Level Red to Level Orange: Safer-at-Home—High Risk and this allows for up to 25% building occupancy. Students registered for **Residential Courses** will be able to attend on-campus as had been hoped. These will be in addition to **Zoom Live**, **Denver Live**, and fully **Asynchronous Online** courses which were already planned. See **Appendix E** for the course coding chart.

Of course, as in 2020, all classes that have an in-person component will need to be ready to switch back to Zoom Live at a moment's notice, depending upon the spread of the Coronavirus and changes to the state or county COVID-level designations or restrictions. This type of sudden shift had already taken place in 2020 after limited in-person attendance had resumed (see Campus Closures above). But distribution of COVID-19 vaccines makes this situation unlikely.

Course Scheduling:

2021: Course scheduling can be a multiplier of challenges. Confusion abounds when the where-and-when of courses is not decided well in advance, or the teaching professors are not assigned within a timeframe where they can be fully prepared. This is especially challenging when there are alternative delivery modes, whether On-Campus, fully asynchronous, Zoom Live, or hybrid Denver Live options.

To address these critical issues, the Associate Dean of Innovation and Educational Systems, Associate Dean of Educational Technologies, and Interim Academic Dean are collaborating with the program division chairs and the Registrar's Office toward more long-term scheduling.



Course offerings and their teachers-of-record will be determined at least three years in advance. Scheduling includes the Denver Campus, Global Campus, DC Extension site, and the online Korean Studies Program. Additional focus is being placed on scheduling more online course sections to meet the anticipated demand for the Summer 2021 semester. .

Student Exceptions & Zoom Accommodations

2021: This does not mean, however, that student exceptions in the form of requests for the option of Zoom attendance will continue as it did in 2020. As mentioned above, by us accommodating these requests, which ended up being for only 3-5% of the student population, it took up an excessive amount of Ed Tech time and effort and required much additional technology support (hardware and software). Now that the immediacy and intensity of the COVID-19 crisis has abated, these exception requests will be vetted more thoroughly and granted on a limited basis, mainly if they are necessary to meet federally-authorized accommodations. When students are unable to attend a residential class on-campus, Ed Tech can make arrangements for the class to be audio recorded, if the circumstances warrant it. This will reduce ET and IT workload and logistical difficulties, as well as decrease the amount and degree of equipment usage.

In anticipation of this change, the Dean of Students distributed a *Spring 2021 Zoom Accommodations Change* memo detailing the new policy that Zoom Live, Denver Live, and online course options would be increased in order to compensate for the removal of Zoom accommodations (see Internship Log memo link, 11-12-20). A follow-up memo to student body (1-21-21) provided further clarification that students can make arrangements to audio or video record a class session if faced with a COVID-19 related absence (*Spring 2021 COVID Disruption Protocol On-Campus/Residential Classes*, 1-21-21). This also leverages Zoom's integration with the Moodle LMS that has automatic audio recording and upload.

Faculty Development

The faculty development category is listed last but will in fact be a core focus for 2021. Attention to this area will be based somewhat upon a change in how we define *development*.

2020: In response to COVID-19, the Ed Tech Dept provided several live trainings on teaching with Zoom and an extensive list of video tutorials. In addition, we offered a Community of Practice meeting (detailed under Interventions). However, these were not enough. They served to abate the immediate technological crisis but fell short of being true or robust development opportunities in online teaching and learning.

All of this had to take into account that 2020 was not about training faculty to be online instructors. "Well-planned online learning experiences are meaningfully different from courses offered online in response to a crisis or disaster. Colleges and universities working to maintain instruction during the COVID-19 pandemic should understand those differences when



evaluating this emergency remote teaching" (Hodges, et al., 2020). Cf. Barrett-Fox (2020) addressing her colleagues tasked with teaching online, she states: "now is a time to do a poor job of it. You are NOT building an online class. You are NOT teaching students who can be expected to be ready to learn online."

2021: During two Spring 2021 Thematic Goal Meetings, the Educational Technology team committed to faculty development as a core focus area. However, faculty development will be redefined somewhat to address coaching in teaching and learning rather than curriculum development or technical training. One way to meet this need will be to organize multiple *Communities of Practice* to provide a space for faculty to mentor and learn from each other.

The intent of each Community of Practice will also be to foster a positive working culture, a characteristic that has been eroded by the necessity for remote teaching and learning in response to the COVID-19 crisis. Our desire is to see, once again, what has been a hallmark of Denver Seminary throughout the years: *community*.

These four-to-five member consortiums (both full-time and adjunct faculty) will share a common experience (possibly grouped by course delivery mode, e.g. On-Campus, Zoom Live, Denver Live) and offer each other ideas and solutions. Ed Tech staff participants will only facilitate COPs, in order to allow for emergent conversations and collection of key 'take-aways'. The ultimate goal of the faculty COPs will be to *improve the student experience*.

Student Experience & Enrollment

2020: According to the Association of Theological Schools (2020), "during the uncertainty of the global pandemic, ATS schools have fared better in fall 2020 in terms of enrollment than they have in preceding years." Our counterparts around the country, previously hesitant or unwilling to launch online programs, had no choice but to move to remote learning due to COVID-19 related educational crisis.

2021: How then will Denver Seminary remain competitive and attract new Global students now that we are no longer unique in offering online courses and full online degree programs? What is our added-value that might influence future enrollment numbers? We are highly relational and respected for our interactive learning community. We must retain our reputation in this area and make sure that identity permeates the student classroom experience. This is another reason to focus on faculty development that influences the students' online environment.

Project Value

The interventions and outcomes of my work (along with other Ed Tech team members) toward providing crucial support and training for teaching & learning online during COVID-19 has been described as "invaluable" and "exceptional." It is worthy of note that this is true for multitudes



of instructional designers who joined me globally in this cause for quality education in an online environment in response to the pandemic.

- Technical Support: There is no doubt that the extensive technical support afforded faculty, students, and staff was the core value of the rapid response to COVID-19 during 2020. The Ed Tech team also became more adapt and efficient at addressing technical needs and this will positively influence its workflow in the future.
- Live Trainings: As mentioned earlier, the as-need trainings proved to instill some competence and confidence in those newly introduced to Zoom technology. The added benefit is that now we have faculty and staff who are already prepared to meet the challenges and tasks of virtual work and teaching using Zoom.
- **Tutorials:** The production of tutorial videos constituted many of the hours I dedicated to my internship and was well worth it. Then and now, seminary constituents praise the value of always-available, highly-resourceful tutorials for hosting or participating in Zoom Sessions.
- **Resources:** Offline and online resources were valuable as "just in time" helps and how-to's. These will be expanded upon and so contribute to Ed Tech's training goals for the seminary.
- Video-Conferencing Equipment: The equipping of individual faculty members (cameras, mics, monitors) and of brick-and-mortar classrooms (large screens, audio/video equipment) allowed for quality virtual learning during the crisis. This hardware and software now become long-term assets useful for continued online and blended learning.
- Research & Development: Throughout my internship, I conducted research as listed below. I
 informed various Ed Tech staff of my findings as pertinent. But on the whole my R&D was
 valuable for my own professional development and provided me with knowledge and skills
 that I could apply to my internship work and projects. See the Supplementary Research &
 Resources worksheets (unless otherwise noted) for examples of resources.
 - I researched other equivalent higher education institutions locally and nationally to provide comparisons to our rapid response efforts and results (e.g., University of Colorado, Denver).
 - I stayed abreast of outside organizations and services in the online education industry that could provide their own research and resources for how to address the crisis through educational technology (e.g., EDUCAUSE, TechSmith).
 - o I kept updated on IT issues, such as video-conferencing security concerns, through service providers (e.g., Zoom.us).



- I regularly tracked the spread of the Coronavirus itself through key data-reporting agencies such as the CDC, Johns Hopkins University Coronavirus Resource Center, and the Colorado State Emergency Operations Center. (See Appendices A & B.)
- **CU Denver LDT Coursework:** During the Spring and Summer 2020 semesters especially, my classmates in CUD courses were also facing challenges brought on by the COVID-19 crisis. Since the sole focus of my internship during that time was rapid response T&L, I had opportunities to share my professional experiences with fellow students in the LDT Program. These occasions came during my participation in group projects and online discussions.

Personal Reflection

My original intent for an internship focus was "Teaching & Learning with [Zoom] Video-Conferencing Technology." Over the past five years, the seminary's online programs have grown in that all of our degree programs (other than Clinical Counseling at the time of this report) are fully online. As part of this expansion, we have become experienced at using the Zoom video-conferencing platform for effective online learning. Therefore, my internship focus would be directly related and beneficial to my instructional design work at the seminary.

Just days prior to submitting my internship proposal, the Coronavirus came upon our country and state in a dramatic way. The seminary, and the Educational Technology Department in particular, had to respond immediately. Quite suddenly my internship needed to shift to spending many hours in crisis mode. But I am thankful that my time and energy were helpful to those I served.

This brought a necessary and urgent revision to my proposal. Yet, I admit that my hope is that I will never need to use my *rapid response* instructional design skills again, nor have to apply my new knowledge and abilities to addressing a worldwide pandemic – or any similar domestic or global disaster. But while I say this, I realize that my internship work will no doubt influence *all* of my work going forward.

I am satisfied and indeed proud of my commitment and efforts in serving Denver Seminary in rapid response online learning during the COVID-19 crisis. The fact is that the Coronavirus continued to influence our course offerings and delivery methods throughout the Fall 2020 semester, although I did not track any related hours worked in my internship log. The Spring 2021 semester will allow on-campus classes to reconvene with appropriate precautions such as masks and social distancing. So, the crisis is not over. Even so, we anticipate that the second half of 2021 will bring us the chance to say the pandemic is behind us. My hope is that the internship work I completed in 2020 will continue to contribute to the success of the seminary's online programs in 2021, and in years to come.



Concluding Comments

For 2020, I gave each semester a descriptive subtitle to reflect a theme that pervaded in response to COVID-19. These will serve as summary statements for my concluding comments:

- Spring 2020 RAPID RESPONSE: Teaching & Learning faces the Coronavirus Pandemic
- Summer 2020 ADAPTABILITY & AGILITY: Attempting a New Normal
- Fall 2020 RESILIENCE & INNOVATION: Course Delivery, Interchangeability, and Accommodation



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Appendix A: Johns Hopkins CSSE COVID-19 Data

Johns Hopkins University (JHU) Center for Systems Science and Engineering (CSSE) COVID-19

Dashboard. https://coronavirus.jhu.edu/map.html

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I tracked the JHU CSSE COVID-19 data map with screenshots taken

in intervals of several days to one to two weeks and included summary notes along with U.S. and global pandemic records. Below are samples displaying the first date tracked (April 3, 2020) with Global Cases at 1 million, followed by January 26, 2021, with Cases at 100 million and Deaths over 2 million. See Internship Data webpage: https://jackisoister.com/internship/internship-data.

April 3, 2020



January 26, 2021:

Global Cases exceed 100 million. Global Deaths exceed 2 million. U.S. Cases exceed 25 million.

Colorado: ranked 22nd in U.S. of highest cases: 387K cases.





Appendix B: Colorado Health Dept COVID-19 Data

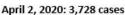
Colorado State Emergency Operations Center Colorado COVID-19 Data. Colorado state and Arapahoe County COVID-19 data tables (updated 4:00 PM MT daily). https://covid19.colorado.gov/data.

I tracked the Colorado COVID-19 Data with screenshots of data tables taken in intervals of several days to one to two weeks and included summary notes and pandemic records in Colorado. Below are samples displaying the first date tracked (April 2, 2020) and the last date (January 14, 2021). Note: The format and display of data changed over time. See Internship Data webpage: https://jackisoister.com/internship/internship-data.











April 3, 2020: 4,173 cases

Colorado Case Counts by County			Cases in Colorado by Age Grou					
Adams	294	La Plata	25		0-9	1.03%		
Alamosa	4	Lake	1		10-19	1.75%		
Arapahoe	500	Larimer	134					
Archuleta	1	Las Animas	1		20-29	13.78%		
Baca	9	Lincoln	1		30-39	16.06%		
Bent	0	Logan	7		175.7			
Boulder	143	Mesa	20		40-49	15.62%		
Broomfield	36	Mineral	2		50-59	18.24%		
Chaffee	19	Moffat	3		60-69	15,10%		
Cheyenne	0	Montezuma	3					
Clear Creek	. 6	Montrose	26		70-79	10.88%		
Conejos	0	Morgan	7		80+	7.14%		
Costilla	3	Otero	3					
Crowley	- 1	Ouray	0		Unknown	0.41%		
Custer	2	Park	5					
Delta	4	Phillips	2	Cases in Colorado by Sex				
Denver	716	Pitkin	38					
Dolores	0	Prowers	0		Francisco .			
Douglas	194	Pueblo	31	Female		51,47%		
Eagle	333	Rio Blanco	1					
El Paso	374	Rio Grande	5		Male	48.09%		
Elbert	6	Routt	28					
Fremont	2	Saguache	3		Unknown	0.43%		
Garfield	45	San Juan	0		On a second			
Gilpin	0	San Miguel	9					
Grand	4	Sedgwick	0	Deaths in Colorado by Sex				
Gunnison	88	Summit	35	Deaths in Colorado by Sex				
Hinsdale	1	Teller	11	Female	37.84%			
Huerfano	1	Washington	1					
Jackson	0	Weld	379					
Jefferson	440	Yuma	2		Male	62.16%		
Klowa	0	Unknown or	158					
Kit Carson	4	Pending			Unknown	0.00%		
Grand Total			4,173					

January 14, 2021 (4PM MT) +38.3K in 14 days: +2.7K cases per day (Arapahoe County +4.4K cases: +317/day).



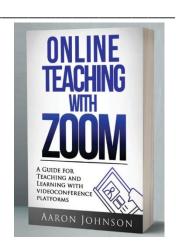
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Appendix C: Online Teaching with Zoom

Online Teaching with Zoom: A Guide for Teaching and Learning with Videoconferencing Platforms (2020) by Aaron Johnson (Denver Seminary's Associate Dean of Educational Technology) provides immediately applicable methods and best practices for using Zoom technology as an educational platform. But even more, Johnson offers practical and effective teaching strategies for online learning that extend beyond the videoconferencing classroom. Available at: https://www.amazon.com/Online-Teaching-Zoom-Videoconference-Platforms/dp/0989711633/



Aaron Johnson (2020):

As futurists and philosophers like Kevin Kelley and Marshal McLuhan remind us, every technology comes with latent strengths and weaknesses. And like every tool, Zoom has certain tendencies. The essential idea of this book is that **Zoom was built for conversations.** It was designed for dialogue and discourse. (p. viii)

The videoconference classroom can feel like a busy intersection where the stoplights have gone out. Our students need us to step out into the busy street to direct the traffic. Because most of us want to be accommodating and considerate, a more directive leadership style can feel overbearing and autocratic. However, we can be assertive and polite at the same time. (p. 92)

Our specific recipes for group etiquette will differ depending on the age of our learners, the goals of their learning teams, and our cultural settings. Still, our end goal will be the same regardless of our context: We want to establish norms of behavior so that our students can conduct vibrant, challenging conversations and work as a team to complete collaborative tasks and projects. (p. 106)

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Appendix D: Supplemental Research & Resources

The Supplementary Research & Resources spreadsheets list the web-based sources that I researched and/or curated that are relevant to online Teaching & Learning during the COVID-19 crisis. They reflect research I conducted that was in addition to the hours noted in my Internship Log. These lists appear in separate tabs in my main Internship Log; but I have also provided a link below to each as its own individual spreadsheet.

See Internship Resources webpage: https://jackisoister.com/internship/internship-resources/

SUPPL RESOURCES: web articles and materials from various online education industry sources such as TechSmith, VoiceThread, and *The Chronicle of Higher Education*.

EDUCAUSE: web articles and materials specifically from EDUCAUSE, the well-respected higher education information technology association which contributed valuable insights and data.

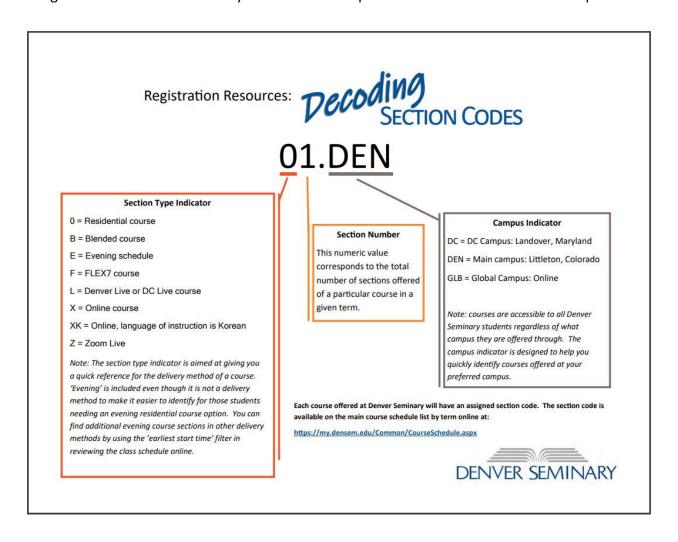
ZOOM Video Communications, Inc.: links to the weekly Blog from Eric S. Yuan, CEO; Zoom updates and upgrades; and other Zoom resources related to using Zoom video-conferencing technology for online education during COVID-19.

CU Denver / University of Colorado: information and announcements from university administrators with decisions and policies related to COVID-19 that effect students and faculty. Provided as an additional voice and resource in Colorado higher education during COVID-19.



Appendix E: Registration Resource: Course Coding

The chart below, "Registration Resources: Decoding Section Codes," was provided to students on November 11, 2020 in preparation for Spring 2021 semester registration. See the section above: Course Delivery & Scheduling: Course Formats 2021" for further explanation. Cf. "Registration Resources: Delivery Method Match Up" below for detailed course descriptions.





Registration Resources:

DELIVERY METHOD MATCH UP

Denver Seminary is continuously innovating new ways to make theological education more accessible and fit into your already busy life! Here are descriptions of the various delivery methods Denver Seminary is currently deploying to help you find the right match for your courses and your life.

Blended — Blended courses have both online and on-campus elements (but no live Zoom option). Most of these are language courses and in a flipped learning model where you learn the basics through online video, then come to class for a lab/active learning experience. For a more detailed description view this screencast.

DC Live —DC Live courses are available to *all learners*, and are built specifically with our DC students in mind. Like Denver Live, DC Live courses have required attendance at specific days and times, including a Friday PM, All-Day Saturday intensive. This intensive can be attended in-person or via Zoom. For a more detailed description view this screencast.

Denver Live — Denver Live courses require weekly attendance either 1) on-campus, or 2) on-zoom. Like residential courses, Denver Live courses have a weekly day and time schedule. For a more detailed description view this screencast.

FLEX7 — The FLEX7 indicates that it is highly flexible, allowing you to attend on-campus, on-zoom, or to view the recorded class session. The 7 in FLEX7 indicates that it has 7 live meeting days (every-other-week) during the semester. If you are traveling or have work commitments, you can switch between the different delivery methods. For a more detailed description view this screencast.

Online — Online courses are the most flexible course type. They are primarily asynchronous (without regular, required scheduled meetings) with the exception that a few interactive learning activities meet via Zoom (up to 3 in a semester). These courses have a weekly rhythm of about 50% media and 50% interactive learning activities. A majority of our online courses are in this format. For a more detailed description view this screencast.

Online with Live Labs — These courses are similar to the online courses described above but have a required, weekly, live component (via Zoom) that we call labs. You will have several day/time options to select from for your weekly lab experience. Most of these Online Live Lab courses are language and some upper-level courses that require this consistency of live learning. For a more detailed description view this screencast.

Residential — This is the most traditional course delivery method; courses offered in this delivery method will have designated meeting days, times, and locations and you will engage with the instructor and classmates predominantly in a face-to-face format. For a more detailed description view this screencast.

Zoom Live — These courses are delivered 100% via Zoom and have designated meeting days and times. Zoom Live class sessions are accessed via the Zoom links in the course Moodle site.

Each course offered at Denver Seminary will have an assigned delivery method. The delivery method is indicated in the section coding when possible (see the Registration Resources: Decoding Sections Codes) available by selecting the "Click for Details" link within the course schedule list by term online at: https://my.densem.edu/Common/CourseSchedule.aspx

