



## Going Remote: Faculty Educational Initiatives on Building Community During COVID-19 Through Online Teaching

Enseigner à distance : des initiatives professorales durant la pandémie

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### Abstract

The novel COVID-19 pandemic, with its global impact, has fundamentally altered the way in which universities function. The current manuscript presents four educational initiatives, including experiences and practices of faculty members at a mid-sized Great Plains university. From the perspective of three different academic colleges and popular research programs, this paper explores how a difficult situation was approached as an opportunity to face challenges yet still provide students a high-quality educational experience. This paper is applicable to faculty, staff, and administrators at institutions of higher education as they explore innovative pedagogical approaches.

### Keywords

Technology, Online Education, Pedagogy

### Résumé

L'arrivée soudaine de la pandémie COVID-19 a fondamentalement modifié, dans son impact global, le fonctionnement traditionnel des universités. Cet article présente quatre initiatives, incluant des expériences et des activités pratiques, mises en place par des professeurs d'une université de la région des Grandes Plaines, aux États-Unis. Ce texte fait état de la manière avec laquelle trois collèges et des programmes de recherche ont abordé une situation difficile comme une occasion de relever des défis tout en continuant d'offrir aux étudiants une expérience éducative de haut niveau. Cet article s'adresse aux professeurs, au personnel d'encadrement et aux administrateurs universitaires qui s'intéressent à la recherche d'approches pédagogiques innovantes.

### Mots-clés

Technologie, enseignement en ligne, pédagogie



## Introduction

The novel COVID-19 pandemic, with its global impact, has fundamentally altered the way in which universities function. To preserve the safety of students, traditional face-to-face classes transitioned to online delivery with little preparation. Online delivery presented a variety of challenges and opportunities for maintaining campus community, and universities, colleges, and faculty approached these in different ways. The literature supports the view that online education can be an effective mode of information delivery compared to face-to-face instruction (Mollenkopf et al., 2017). Challenges include (a) a sense of isolation due to lack of interactions (Aoun, 2011); (b) difficulties with hands-on learning activities (Mawn et al., 2011); (c) instructors' limited presence (Richardson et al., 2016); and (d) timely support (Vu et al., 2016). Acknowledging such instructional challenges and noting the effectiveness of online delivery provided an opportunity to accommodate students during an unprecedented situation.

During the Spring 2020 academic semester, courses were transitioned to online delivery as a public health response, and many faculty on our campus took swift action to change the mode of delivery. The emergency transition both enlightened and challenged campuses. The current manuscript presents four educational initiatives, including a critical review of experiences and practices of faculty members at three academic colleges within a mid-sized Great Plains university. While most educational initiatives projects examined a single case, often selected on the basis of its unique characteristics, this approach allowed researchers to explore the phenomena under study through the use of a replication strategy and provided more depth than could be found through other types of experimental designs (Zach, 2006). The following manuscript presents four very different retrospective evaluations done by four faculty members representing the academic colleges of Business & Technology, Education, and Arts & Sciences. Each evaluation was a product of teaching experiences and informal student conversations.

### Educational Initiative 1: Teaching Technical Systems and Cybersecurity

Creating a strong connection between technical systems theory and application is a foundation of theoretical and application learning in cyber courses at UNK. As such, all technical courses are currently taught face to face. The overall driving philosophy is that students establish a stronger connection between difficult cyber theories and applications during hands-on, problem-based learning (Savery, 2006). In order to establish a smoother transition to online learning during the COVID-19 crisis, the course instructor had to first transition the students from a hands-on lab environment to simulation software. The lab environment consisted of easily accessible physical networking equipment in racks (up to six switches and routers plus one server). The students, working in groups, completed two or three lab assignments.

#### *Transitioning to Online Learning*

During the transition, the course instructor gave the students a one-week grace period to allow them to learn the simulation software and discover whether group collaboration was still possible. The instructor asked the students to decide whether to continue as a group or individually. All student groups but one continued working together. The instructor believes that most groups continued as before because of the social relationships established during face-to-face lab work. To accommodate the grace period, course content was slightly reduced and a simulation assignment was established to encourage the students' immediate transition to the lab. The simulation assignment consisted of rebuilding the physical lab environment inside the simulation software. The students found this transition quite difficult. Certain configuration

operations did not work as expected in the simulation. Therefore, the course instructor added virtual office hours as class time during evenings to help answer questions during this transition.

### *Adaptive Remote Teaching*

After the grace period, the course instructor resumed synchronous sessions during regular class time, after first discussing the students' ability to do so. The instructor felt that cyber students were at an advantage in this regard, as all students had a robust computer setup due to the requirements of previous cyber courses. Many students looked forward to synchronous class sessions and reported feeling relieved and happy to see familiar faces and hear familiar voices. To build continued community, the course instructor encouraged general discussion at the beginning of class time. During this time, students began sharing their current challenges and success stories with their peers. Students reported that this lighthearted conversation helped relieve some anxiety, which led to better focus during the ensuing discussion. Challenges faced by students in this course were loss of employment, sickness in their families, and increased anxiety, which led to difficulties in time management for the purpose of completing course content. In the end, the outcomes of this course were met, but students were not as satisfied with the online environment as they were during the face-to-face portion.

## **Educational Initiative 2: Teaching the History of Science and Medicine**

This on-campus general studies course offers an interdisciplinary historical grounding of STEM (Science, Technology, Engineering, and Math) technologies, medical procedures, and the successes and challenges associated with the process of scientific discoveries. This course also engages students in the social, cultural, and political influences that shape science and medicine. To offer a well-rounded foundational course with experiential-learning group assignments and a "collective wisdom" approach, the course instructor assigned the following: (a) Team Presentations of Course Readings and Primary Sources, (b) Podcast Exams, and (c) Individual Reading Reviews.

### *Transitioning to Online Learning*

With the pending public health emergency, the course instructor used two class sessions to ensure collective governance in the move to online teaching. In the first meeting, the instructor announced that our university was in the process of planning for online teaching for the remaining semester. Time was set aside for students to express what they wanted to see for the remainder of the course and the advantages and disadvantages of moving the class to an online asynchronous format. This discussion included surveying what the students wanted in terms of lectures (synchronous or asynchronous), team-based reading presentations (teams could still meet digitally and record weekly summaries and questions for the rest of their course colleagues), podcasts (new projects, since it was impossible to continue with the risk of person-to-person work and significant logistic challenges of an online version), as well as the individual reading reviews (which remained the same).

In the second meeting, the class discussed specifics of the asynchronous online plan, and students shared many ideas to shift the team-based projects to an online learning environment and what they felt was fair to keep to the course's experiential components. This approach allowed the class to discuss learning challenges, ways to overcome them, and how each part of the course (the instructor's lectures, the readings, presentations, discussions, and projects) all fit into a larger, teaching whole. The class settled on three different individual exam project

assignments to replace the podcasts in a “choose your own adventure” style of assignments. In addition, we discussed the transformation of other course components (lectures, presentations, and readings) and then held a vote.

### *Adaptive Remote Teaching*

Students voted unanimously to proceed with a new online “Pandemic Plan:”

**Lecture Shorts and Slides** – Like the Saturday Night Live (SNL) Digital Shorts (although hopefully less satirical), the instructor provided brief, asynchronous recordings and slides that summarized his lecture materials.

**Team Presentations and Discussion Boards** – Teams continued to post their slides and questions based on their team analysis. Other course colleagues responded to these team presentations with their questions and impressions of the readings.

**Live, Weekly Zoom Office Hours and Course Announcements** – Students voted to have the instructor hold live weekly zoom meetings during office hours to allow them to check in as needed to ask questions or just to talk. The instructor provided daily email correspondence and weekly announcements to keep the faculty-student connection strong.

**Individual Exam Projects (IEP)** – These projects took the place of podcasts and the class settled on three main formats: (a) Historical Essays, (b) Infographics of the Past, and (c) History Journals. For example, many students did oral histories with their families in quarantine. One project included interviews of a student’s grandparents, comparing the polio epidemic of the 1940s and 1950s with the Covid-19 pandemic.

Students achieved success by zooming in during the weekly office hours, keeping in contact through email, and contributing to the design of assignments that gave them significant learning experiences. The course instructor gleaned new insights on teaching strategies and how to create a strong online learning community.

## **Educational Initiative 3: Teacher Education**

Like many courses in teacher education programs, the undergraduate-level field experience course with an emphasis on teaching strategies and behavior management in this educational initiative also embraced hands-on experiential learning activities. Pre-service teachers (PSTs) were expected to visit classrooms and observe both how classroom teachers interact with students and how students interact with each other on a daily basis because, as suggested by many researchers and educators (Kennedy & Archambault, 2012), observational learning helped boost pre-service teachers’ confidence and familiarize themselves with the working context.

### *Transitioning to Online Learning*

As a result of the university and public school closure due to the pandemic, PSTs were unable to gain access to classroom observation or observational learning, and, to cope with this challenge, the course instructor designed a blended learning model in which virtual field experience was created through Zoom videoconferencing. During the meeting, 23 PSTs virtually interacted with the individuals with a disability, the parent, and/or the teacher and asked questions. The sessions were also recorded and posted in Canvas, a learning management system, for those who were unable to attend or just wanted to watch them again. Finally, all students wrote reflections on each virtual field experience and submitted them via Canvas.

### *Adaptive Remote Teaching*

From the instructor's perspective, student engagement and learning outcomes during this time were just as effective as traditional face-to-face classes. According to the instructor, the successful transition from regular face-to-face learning to remote learning stemmed from many factors, including the instructor's high technology skills (based on a self-rated scale from 1—novice to 5—excellent) and familiarity with online learning both as a learner and an instructor. The greatest challenges faced by both the instructor and the students was reliable Internet connectivity, and this was really beyond their control. In addition, although the blended learning with the virtual field experience went smoothly, it did not stimulate teaching style and personality, which occurred in the face-to-face setting.

### **Educational Initiative 4: Office of Undergraduate Research and Creative Activity**

Our institution has two marquee undergraduate research programs. Both programs focus on independent, student-led projects mentored by faculty members. One program is accessible to all undergraduate students on campus, while the summer program is a competitive program with the maximum capacity of 20 students per summer. Interested students receive stipends to participate, making both very popular on campus. When campus transitioned online, the following strategies assisted during the emergency transition: (a) utilizing an online platform for program implementation and (b) moving campus conference online.

#### *Transitioning to an Online Platform*

Canvas, an online instructional platform, allowed both students and mentors to access information, training, and pertinent information associated with their project, including research compliance, deadlines, and applications. This allowed students 24/7 access to program documents and supplemental aids that facilitate the programs. Canvas was also utilized as a mode of communication among other students and mentors based on discipline and project topic. Remote learning presented communication-related challenges, and Canvas was used as a platform to enhance communication, which was well received by students and faculty.

#### *Adapting Research Week to Remote*

The event is hosted on campus for students, faculty, staff, community members, and state dignitaries, and is a spotlight activity. Over 170 presentations were submitted for the 2020 event. Utilizing Canvas, a conference outline was created using discussion threads. Students and faculty had access to the event and non-affiliated individuals members were granted access. Students uploaded both their posters or oral presentations and video recordings of their presentations to complement their posters or oral presentations. The goal was to create a live environment similar to a traditional conference. The discussion threads allowed students, faculty/staff, and community members to create dialogue with presenters by posting questions or comments. Scheduled posting dates were established to organize the conversations and ensure that messages were not lost. Of the original 170 participants, 135 students participated in the online conference, and over 300 students and faculty attended the online event, generating 1,456 unique posted conversations over the course of the 4 day event.

## Discussion

The transition to remote learning presented institutions with opportunities to enhance their instructional practices and allow faculty to put their unique stamp on courses and programs. Faculty members and administrators have a valuable opportunity to build needed community in an online learning environment, regardless of the field of study. The aforementioned instructional challenges associated with online education (limited presence and lack of interaction, hands-on activities and timely support) were all indirectly addressed through the provided various educational experiences (Aoun, 2011; Mawn et al., 2011; Richardson et al., 2016). Each faculty member taking part in this study used the online platform Canvas, which has a built-in option for students/faculty to communicate, which enhanced interaction among students and faculty. With this platform, it was also possible for students to upload assignments/projects they completed individually and in groups (hands-on activities), and for faculty to interact synchronously through video recording or lecture streaming, which gave them an active presence. Since Canvas can be accessed through an internet platform as well as device applications, faculty and students could access course materials and content on multiple devices (computers, laptops, and smart phones). With this enhanced accessibility, it was possible for faculty to receive real-time notification of student submission for assignments, projects, discussion posts, or event course inquiries, which contributed to timely support. These examples helped bridge the barriers of emergency online education during the novel COVID-19 pandemic of 2020.

Student input to help decide online assignments can play a key role in moving on-campus courses to online environments. Instructors should implement a grace period if students are forced to transition to a different lab or learning environment (e.g. simulation or remote login). Since technical students often have access to adequate computer resources, the instructor may highly consider retaining synchronous discussion and lab help sessions through videoconferencing. Geographic location, internet connectivity, technology expertise, and even proper training present challenges; however, the adaptive responses of educators from across the United States have resulted in a plethora of resources to meet the learning challenges of the pandemic. This integration of student input provides faculty with valuable information and enables them to keep an active pulse on students' needs and expectations. Lastly, the added layer of student input illustrates faculty dedication toward transparent communication lines, presumably contributing to the overall course experience.

## Conclusions

Each aforementioned educational initiative faced limitations. Certain disciplines and course topics were easier to transition online while others presented unique difficulties (i.e. course sections with laboratories and specific technical components like cyber security or natural sciences) (Faulconer & Gruss, 2018). Success was dictated by both the faculty's and students' adaptability and their acceptance of the limitations presented by remote learning (Policy and Program Studies Service, 2010). Further, faculty had limited time to prepare for remote teaching, while students had limited time to prepare for remote learning. Not everyone acclimated in the same manner. As educators, we must be innovative and progressive in how we approach quality instruction and delivery of material. The educational initiatives described in this manuscript are globally applicable.

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