Managing Uncertainty in a Pandemic:
Transitioning multi-section courses to online delivery

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What do Neil Armstrong, Rita Colwell, and Mercedes Lackey have in common? All three -- astronomer, scientist, and author -- completed their bachelor's degrees at Purdue University, and likely took a version of the introductory speech communication course, COM 114, which is a course that fulfills the oral communication requirement for the major of Purdue's students. COM 114 has existed in one form or another for well over sixty years and is one of the largest public speaking courses in the United States.

What Armstrong, Colwell, and Lackey did not experience in their time at Purdue University was a global pandemic, one that would upheave the way all in-person courses were delivered. The virus began spreading in late 2019 but did not seriously impact the United States until early 2020. On December 31, 2019, 27 pneumonia patients were treated in Wuhan, China (World Health Organization, 2019). The pneumonia cases stemmed from an unknown etiology, which was later identified as the novel coronavirus disease 2019 (COVID-19) that was caused by the SARS-CoV-2 virus. After the initial outbreak in Wuhan, China, COVID-19 spread around the world in a matter of weeks. Currently, there have been over 10.5 million cases and over 500,000 deaths globally (World Health Organization 2020). Health organizations such as the Centers for Disease Control and the World Health Organization have recommended protocols such as strict social distancing, contact tracing, and the use of face coverings to reduce the spread of COVID-19 until a vaccine becomes available. This, in turn, drastically impacted the way that most businesses operated. For some businesses, such as grocery stores, these changes came in the form of fewer people allowed in the store and floor markers placed throughout the store to help shoppers maintain physical distance from one another. For others, such as schools and universities, many responded to the COVID-19 pandemic by adopting online modalities.

Colleges and universities around the world varied in their response to the COVID-19 pandemic, with many institutes of higher education focusing on how to quickly and efficiently transition to digital teaching and delivery methods and transfer face-to-face instructional materials to online

content (Crawford et al. 2020). In addition, college instructors faced numerous barriers that impeded their ability to effectively disseminate information to their students. For instance, students' learning could be significantly limited by having reduced Internet access outside of a college campus (Adnan & Anwar 2020). Further, some classes, such as those with labs or those requiring hands-on materials, are structured such that they are simply incompatible with online instruction.

On March 10, 2020, the administrative team for COM 114 learned that we would be transitioning the entirety of COM 114 to online delivery due to the spread of COVID-19. Fortunately, this news came right before spring break, giving us time to learn about the virus and plan for how the remaining six weeks of the course could be offered without in-person contact. The COM 114 administrative team had twelve days, twelve hours, and thirty minutes to move 64 sections comprised of nearly 1,600 students online, while coordinating 40 instructors whose experience varied drastically. Somehow, we had to find a way to provide a high-quality learning experience them while not shortchanging our students. The countdown was on.

The purpose of this paper is to outline how the COM 114 administrative team (consisting of the four authors of this paper) sought to manage instructor and student uncertainty as we transitioned a massive multi-section course to online delivery in a pandemic. We begin by describing our key concerns when transitioning a presentational speaking course online, the actions we took to transition the course online, and lessons we learned from the transition.

Concerns for Transitioning COM 114 Online
COM 114 is a skills-based course. Students engage in discussions and activities that enable them to practice aspects of presentation construction and verbal and nonverbal presentation delivery. Throughout the semester, four presentations are delivered in class to an audience of peers and one video presentation is created. The goal of COM 114 is to give students an opportunity to learn about and practice communication skills that will help them deliver effective presentations in their college classes and beyond.

The objectives for COM 114 have evolved over the past sixty years, but currently consist of four learning outcomes. First, students learn to employ effective verbal and nonverbal delivery techniques while delivering a presentation. Second, they are instructed how to conduct audience analysis and adapt presentations to diverse audiences' needs. Third, students learn about organizational strategies for informational and persuasive presentations. Fourth, they practice finding and incorporating supporting evidence to craft credible messages within their presentations. Although our duties require us to ensure students can achieve course objectives, our primary concern was for the well-being of instructors and students when transitioning COM 114 online.

Many people are employed by the university to offer COM 114. The COM 114 administrative team is staffed by a course director, Dr. Jennifer Hall, and three assistant course directors who are PhD students in Brian Lamb School of Communication. The instructors include graduate students in Communication who are required to teach the course in the first year of their graduate studies at Purdue University, graduate students hired from other departments, adjunct instructors,

continuing lecturers, and sometimes assistant, associate, or full professors. Therefore, instructors have varying levels of teaching experience and technological proficiency.

In a given year, there are typically around 150 sections of COM 114 taught in-person on Purdue's campus, with a select few sections offered completely online. Classes are capped at 24 students per section. Most COM 114 students are in their first year at Purdue University. Students who take COM 114 later in their career seem to "put off" taking the course, often due to fear of public speaking. Therefore, we knew many students likely had not yet experienced online learning and may experience anxiety related to the course, online learning, and the virus. Our two key concerns were related to how we would teach a traditionally face-to-face course in an online environment and what we could do to help instructors and students manage their uncertainty.

Teaching Presentational Speaking Online
To some, the idea of teaching a public speaking course online may seem like a contradiction, but such courses have been taught throughout the country for over twenty years, and for over a decade at Purdue. The online introductory course reimagines what the course can be by considering how we can eliminate passive learning (such as reading a textbook or attending lectures) and instead replacing it with active learning methods such as reflection and dialogue with student colleagues. Fink (2005) identifies three core ideas of an active learning approach. To start, experience must be gained by observing and doing either real or simulated scenarios. Next, information and ideas should be accessed via primary and secondary sources throughout all aspect of one's life (i.e., in class and out of class and in both personal and professional environments). Finally, reflective dialogue techniques, such as journaling and discussion, can be used to enrich learning experiences. Of course, active learning does not exist in a distance learning vacuum and becomes doubly important when attempting to engage students in online learning.

Online courses have unique opportunities to achieve these objectives using tools that simply are not available within traditional spaces. Furthermore, delivering presentations online also provides an opportunity to prepare students for *different* speaking opportunities that they are likely to encounter in their careers. For example, a newly created assignment for our introductory course involves creating an introduction to webinar. This sort of modification allows instructors to adapt their material, as opposed to attempting to reconstruct the traditional lecture within an online setting (Ward 2016).

Some have aptly pointed out that the teaching situation we found ourselves in due to the COVID-19 pandemic was *not* distance learning, and was not even "resilient teaching," which facilitates learning that is designed to be flexible amid changing circumstances (Quintana & DeVaney 2020). Instructors engaged in emergency remote teaching (DeVaney & Quintana 2020). Emergency remote teaching involves a temporary shift to an alternative delivery mode where instruction can be quickly and reliably accessed during a crisis (Hodges et al. 2020). The cognitive, emotional, and physical demands placed on instructors and students are incredibly high during emergency remote teaching. Therefore, most instructors, we included, took to the task at hand with one primary goal: to finish the semester. Nonetheless, we still sought methods of ensuring actual knowledge and skill transfer between instructor and students.

One benefit the team had when planning for the transition was that complete online sections of the course had been taught multiple times. That being said, this course that was set up from the beginning to be delivered remotely was structured differently than the on-campus sections; while there were many teaching strategies and activities from which we could pull material, we could not simply duplicate the current distance shell. We knew that students who opted into a distance section of the course had the technology and internet access needed to complete the course and assignments, something that was not guaranteed. Additionally, a major assignment in the on-campus sections was a semester-long group project that culminates in a group presentation, so we had to develop a plan for facilitating student's work and delivery of their group project. Being that groupwork can be uncomfortable and challenging to coordinate in normal environments, managing the uncertainty of group work in a pandemic was even more important.

Managing Uncertainty
Along with ensuring the course objectives were achieved, our primary goal was to reduce and help manage the uncertainty of instructors and students. Uncertainty can be understood as the inability to derive meaning from a situation (Brashers 2001), the difference between available and needed information (Goldhaber 1993), or the inability to explain or predict (Salem & Williams 1984). Both instructors and students likely experienced job-related uncertainty, in particular, which is related to whether and how a job will be performed under changed conditions (Driskill & Goldstein 1986). In addition, people experienced micro-interactional uncertainty (e.g., in particular messages or conversations related to COVID-19), short-term uncertainty (e.g., about how the semester would unfold), and ongoing uncertainty (e.g., related to the trajectory of one's life which may or may not be related to COVID-19; Brashers 2001). With COVID-19, people initially lacked the information they needed to understand what moving COM 114 online meant for them and what to expect in the last part of the semester (i.e., short-term uncertainty), but may have experienced compounding effects with micro-interactional and ongoing uncertainty.

Uncertainty reduction and management theories guided our approach to communicating with instructors and students. Uncertainty reduction theory suggests uncertainty is reduced by information and people seek information to reduce their uncertainty (Berger & Calabrese 1975), despite other theories arguing that more information can sometimes bring about more uncertainty (Levinson 1983). We also recognized that instructors and students may use other strategies to manage their uncertainty, like avoiding information or seeking social support, consistent with uncertainty management theory (Brashers 2001). As suggested by Young and Post (1993), representatives should communicate with employees about organizational change as soon as possible. Therefore, our goal was to provide instructors with information quickly, comprehensively, and supportively to facilitate them doing the same for students.

Uncertainty management theory also recognizes that the uncertainties of life are interconnected (Brashers 2001), meaning instructors' concerns about COM 114 may be raised or lowered by their other life circumstances (i.e., parenthood, pre-existing conditions, or their own coursework). We wanted to provide structure for instructors experiencing more uncertainty and offer flexibility to instructors experiencing less uncertainty, while recognizing instructors and students may have differing levels of online communication and learning technology literacy and

may have lower or higher needs for social support. With people's responses to uncertainty being shaped by their appraisals of and emotional reactions to the experience (Brashers 2001), our goal was to provide concrete support in the form of instructional materials and psychological support in the form of consistent and supportive messaging.

Actions Taken to Transition COM 114 Online

When Purdue announced it would be moving to remote instruction for at least a period of time following spring break, our team had two primary tasks: transitioning the course to a completely online format and communicating with a large team of instructors who were understandably concerned and eager for concrete information and plans. The small amount of time we had to accomplish along with the many unknowns about the situation, including if, and when, we might resume on-campus instruction, made this especially challenging. In the following sections, we discuss the ways we adapted the curriculum and course delivery for an online environment, along with how we communicated with instructors throughout the transition and suggestions we gave instructors for communicating with students.

Ways We Adapted the Curriculum and Course Delivery

While all instructors teach from a common syllabus, work to meet the same learning objectives, and have the same major assignments, individual instructors are typically encouraged (and have the autonomy to) develop their own lesson plans, lectures, and activities. One of the early decisions we made as a team was that we would lean heavily towards the side of structure and consistency. This meant that all sections would be completing the same activities and working on the same schedule for the remainder of the semester. Being more prescriptive in our instructions and approach provided several benefits. From a management standpoint, it made it easier for our team to address and respond to instructor questions. By laying out a plan for delivering the course remotely, we also knew that students would be getting the content they needed to meet the course learning objectives. For instructors, the majority of whom were graduate students, having a specific plan to follow alleviated some of the uncertainty and lessened the burden on individual instructors to develop a remote instruction plan.

Based on recommendations from the university regarding access, we planned for a completely asynchronous format for remote learning. The first change we made was to shift from a course schedule based on class days to a course schedule organized by weeks. Each week instructors posted quizzes, online activities, and short videos that discussed the week's content. In order to maintain consistency, all activities for each week were due on the same day. This helped students to plan for the week and avoided having multiple dates they had to keep track of.

As was previously stated, there are inherent difficulties in developing presentational skills in a distance format, but we were able to draw on our existing distance courses to create activities and adapt assignments so students could still achieve the learning outcomes. For example, Linardopoulos (2010) suggests that presentations should require audience members, something required of students in our traditional distance courses. Typically, students use their friends, extended family, and so forth. Unfortunately, as many of our students were sheltering in place alone, or with a minimal number of family members or roommates, we had to eliminate this requirement. Instead, we informed students that their videos would be posted into the learning management system and would be visible to the instructor and their classmates, so they needed

to think of their class as their audience. Additionally, the normal distance learning sections of the course assumes that a student has a base level of technical competence, and access to a high-speed internet connection; neither of those were a certainty with our students who were forced into their current predicament. Consequently, assignments needed to be modified for those students. One tool we used to help students navigate the new challenges of virtual presentations was recording a series of instructional videos on using different tools.

A core element of our course, which is common to many small, discussion and activity-based courses is interactive activities that allow students the opportunity to practice speaking in front of others. Online activities were created to include some of these elements. Examples of activities include having students post short video clips responding to a discussion prompt, asking students to share examples of course concepts they found online, and using discussion boards for students to comment on classmates' activities and presentations. Students continued to work on their group project using online collaboration tools and guidance on how to create and share a video presentation of their ideas based on an example template created by the course director.

How We Communicated with Instructors
As was previously discussed, instructors and students were in a situation with multiple unknowns, including if we would resume on campus instruction. To alleviate some of the anxiety and tension cause by the uncertainty, we engaged in strategic communication with instructors. Our approach to sharing information with instructors focused on six points.

1. Communicated Frequently
Frequent communication was important because it kept us connected to our instructors during a time where we were not seeing one another on campus. Because new information about COVID-19, as well as Purdue's plans for the duration of the semester, continued to evolve and be shared at a rapid rate, frequent communication about the implications of that information kept instructors informed. Another benefit of frequent communication was that it enabled us to shorten the length of the emails and reduce the information density of individual messages. We had a massive amount of information to convey about how to manage the transition and deal with the situation. Additionally, instructors were also receiving information from multiple other sources and, we assumed, were dealing with information overload on top of anxiety. Focusing on one or two key topics in an email or video message made it easier for instructors to process the message.

2. Provided Information as Soon as it Became Available
As soon as we had definitive information to share, we shared it. This served to both minimize some of uncertainty instructors were feeling and preempt many questions about future happenings, as people quickly learned that we would communicate information as it came to us.

3. Avoided Speculation
In addition to sharing definitive information and plans, we were very careful to avoid speculation and lengthy discussion of "what ifs" when communicating to the broader team. Instructors understandably had many questions about how the semester would proceed but communicating possibilities or our thoughts about the likelihood of classes resuming on campus or the semester ending early were not beneficial or productive and distracted from the immediate tasks at hand.

4. Acknowledged What was Unknown
We were also very upfront with sharing what we did not know and acknowledging the uncertainty of the situation. It was important to be as transparent and honest as possible to maintain a sense of trust from the instructors.

5. Made Recommendations and Plans as Consistently as Possible
Another key strategy we used was to be as consistent as possible with the recommendations and plans that we conveyed to instructors. It was essential that we avoided presenting conflicting information that could add to confusion and uncertainty. Some of our other principles such as avoiding speculation and focusing on what we knew for sure helped us to be able to stay consistent in our approach.

6. Focused on Short Term Plans and Goals
Our first message to instructors went out within 24 hours of Purdue announcing the transition to remote learning after Spring Break. While we did not have a specific plan to communicate, we let instructors know that we would be working on a plan and that gave them dates for when initial information about assignments and activities would be available to them. After that, we sent out emails every few days as we progressed in our plans for moving the course online. In addition to emails, we recorded videos demonstrating how to use different technologies that instructors would need to use such as screen capture software for recording short lectures. Once remote instruction began and continued throughout the semester the course director recorded a weekly video no longer than ten minutes that addressed the upcoming week.

Advice We Gave for Communicating with Students
As we worked to develop a plan and communicate that plan to the instructors, instructors were tasked with communicating the course changes to their students and assist them in managing their own uncertainties and anxieties. As we gave advice to our instructors on communicating with students, we encouraged instructors to adopt many of the same principles that we used. At the beginning of the situation, it was important to communicate to students that, while there was not an exact plan in place, there would be a very specific plan ready and communicated to them when classes resumed after Spring Break.

When classes resumed, we encouraged instructors to post a weekly video or announcement that gave an overview of the week and the activities and assignments that were due. Additionally, since students were not used to the weekly format, a weekly list of all readings, quizzes, activities, and assignments was posted at the beginning of each week's content. We encouraged instructors to keep the format of these lists the same each week so students would know exactly what to expect.

Because of the switch to remote learning, some key changes had to be made to the major assignments and syllabus. First, students had to record their presentation and upload them to the learning management system. As a team we created a series of how-to videos for students demonstrating how to record presentations, use visual aids during the presentation, and upload and share the presentation to be viewed by their classmates. We shared these videos with

instructors to share with students. For the assignment descriptions and the syllabus, we included all changes in red so that students would be able to quickly see what changes were made.

Finally, we encouraged our instructors to be compassionate and flexible in their communication with students. We recognized that students were dealing with the upheaval of leaving campus, taking all their courses online, and living everyday life in the general stress and confusion caused by the pandemic. Furthermore, as we were learning how to teach online, we knew that our students were *learning how to learn online*. This meant that some students would struggle to get assignments turned in on time or would struggle to adapt to new technologies and we wanted to be as supportive as possible.

Lessons Learned from Transitioning COM 114 Online

At the end of the semester the team took some time to reflect on what went well during remote learning, the challenges we faced, how we were able to reduce and manage uncertainty, and what lessons we learned from the strengths and challenges that we could use in the future. Feedback from instructors throughout the semester and qualitative comments from semester course evaluations provided additional information about student and instructor perceptions of the semester.

Things That Went Well

Based on instructor feedback and student course evaluations, having a set structure for each week in terms of content, activities, assignments, and due dates was very helpful in reducing confusion and uncertainty. Students reported that the organization of the course into weeks and a standard format made it easier to follow and they knew what to expect. Instructors appreciated having specific suggestions for how to organize the course and what activities to include as it took a lot of the mental load of decision making off instructors' task lists.

The administrative team was fortunate to have already developed a distance learning modality for COM 114. As a result, our own uncertainty about transitioning the presentational speaking course online was reduced, because we knew that it was possible for students to build their communication skills in virtual setting and achieve the course objectives. From our previous experiences, we knew what assignments and guidelines were easiest and most effective to implement in an online environment and what to avoid. Large, multi-section introductory courses, especially with general education requirements, should consider offering a distance learning version of their course in the future to help build a reservoir of information and contingency plans in the case of emergency.

Having frequent, smaller pieces of communication also was an effective way of keeping instructors informed and aware but not feeling paralyzed by the amount of information coming at them. Although the initial thought of instructors that they wanted to have all the information and answers as to how the class would run at the beginning, given the ever-changing nature of the situation, this was not possible. Having shorter emails to go through or a video focused on one specific tool allowed instructors to focus on the key message with few distractions. Instructors were also able to go back and search for a specific email that addressed a concern or issue they were having. Knowing that information would be sent out this way also helped to alleviate some of the uncertainty and discomfort instructors were feeling due to lack of knowing what to expect.

Challenges

We experienced challenges related to the lack of reciprocated communication from instructors with the administrative team. While we always encouraged instructors to reach out with any questions and concerns and many did, many also did not. We had no way of knowing if instructors were reading emails or watching the videos we provided. Uncertainty management theory acknowledges that individuals sometimes avoid communication to manipulate their level of uncertainty (Brashers 2001). Instructors may have understandably chosen to disregard our messages and tackle the transition with their own strategies as a way of dealing with their personal circumstances.

We had a small number of instructors who struggled to transition to remote teaching for a variety of reasons who did not reach out for assistance. As the semester progressed, problems arose when some instructors became non-responsive with their students. Some students voiced concerns about lack of communication from their instructors and about not receiving feedback on activities and presentations in a timely matter. Although it is unlikely that issues like these could be completely avoided, having a set mechanism for instructor feedback, gradebook reviews, or periodic check-ins would be beneficial.

Another challenge, for both instructors and students, was being able to effectively navigate the new technologies that were incorporated into the course. For example, student struggled to film themselves with visual aids as many were not familiar with screen capture technology. Some students who did not have reliable internet access had trouble uploading large files such as presentations. In addition to step by step written instructions, videos that we created specifically for our course seemed to work better than sharing videos created by the technology companies as we could demonstrate exactly what it would look like in our courses. Many students and instructors commented that these were helpful. We also became aware of University support for students with poor Internet connections and so we could proactively refer students to those support structures in the future. The reality, though, was that there will always be technical issues when we are heavily reliant on technology to deliver the educational experience. As the world relies more on more on mediated forms of communication, course delivery issues like access and technical ability need to be considered.

Conclusion

Uncertainty can be a very difficult state for people to live and work in. Students, instructors, and university administrators were thrust into a nearly constant state of uncertainty when COVID-19 hit Purdue in before spring break in 2020. As a small team worked to transition multiple sections of a public speaking courses, there was the challenge of delivering course content remotely, as well as the challenge of making and communicating those plans during uncertain times. Uncertainty management theory (Brashers 2001), provides a lens to critique and better understand the role of communication and course design in helping to mitigate some of the negative impacts of uncertainty on both instructors and students. Based on feedback and observation we found that the core principles that guided our team's communication were successful in that mitigation process and as our team moves forward to continue to address the uncertainty brought to our world and university due to the pandemic, these principles will continue to guide our planning and actions.

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