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Reimagining Student Engagement in the Remote Classroom Environment

Christopher B. Denning
Christopher.Denning@umb.edu

Serra Acar

Carol Sharicz

Ellen Foust

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Abstract

As higher education institutions struggled with switching to remote teaching due to the COVID19 pandemic, perhaps one of the most important lessons learned is that instructors need additional support to successfully engage students in remote classrooms. Moving courses from the classroom to online delivery radically alters all aspects of teaching and learning, making it easy for interactions to be lost in the transition. It is, therefore, imperative that instructors use elements of effective online teaching and synchronous classroom pedagogy to maintain student engagement. This paper uses the constructivist learning theory as a framework, especially as this theory is applied in a remote learning environment. It also looks at best practices from three points of view - that of the instructor, the student, and the instructional designer, with a focus on student engagement with the course content, the instructor, and other students.

Abstract

As higher education institutions struggled with switching to remote teaching due to the COVID19 pandemic, perhaps one of the most important lessons learned is that instructors need additional support to successfully engage students in remote classrooms. Moving courses from the classroom to online delivery radically alters all aspects of teaching and learning, making it easy for interactions to be lost in the transition. It is, therefore, imperative that instructors use elements of effective online teaching and synchronous classroom pedagogy to maintain student engagement. This paper uses the constructivist learning theory as a framework, especially as this theory is applied in a remote learning environment. It also looks at best practices from three points of view - that of the instructor, the student, and the instructional designer, with a focus on student engagement with the course content, the instructor, and other students.

Key words: remote teaching, student engagement, online pedagogy, remote pedagogy

Introduction

Opening Vignette:

Professor Johnson, like other instructors across the country, was suddenly tasked with teaching remotely right after spring break in March 2020. He teaches courses in assessment in special education in the College of Education and Human Development in an urban university. He thought he could take his in-person class and just put it online without any modifications or adjustments. Rather than thinking about how to adapt his pedagogy to the online environment, he merely posted the same readings and assignments online in Blackboard, a learning management system designed to deliver and manage online courses. He then met with students each week in Zoom to review PowerPoints and discuss class material. And then he realized it didn't work. Students were not engaged, and some even dropped the course. He now knows that to realize the same learning outcomes, he has to put a lot of time into rethinking the pedagogy, including synchronous and asynchronous learning activities, assignments, and assessments, to make the course engaging, but he's still not exactly sure how to do it.

As higher education instructors debriefed their spring semester teaching experiences, powerful themes emerged for many instructors who just before spring break were told to move their face-to-face courses online in the wake of the rapid onset of COVID-19. Confusion reigned after the break as instructors resumed their teaching online. Most instructors, thrust into a situation that required them to learn in fast-forward speed the pros and cons of various online pedagogies and technologies, merely replicated their face-to-face classes online. Professor Johnson in the vignette above did just that. He learned a few new technologies with support from the university's eLearning and Instructional Design team, colleagues and workshops, and, like most of his colleagues, was disappointed to learn that this approach didn't work. With this

sudden shift away from the traditional face-to-face classroom and campus life, most instructors nationally faced different teaching modalities. One concern was making sure courses were designed to maximize student engagement.

Instruction falls on a continuum from face-to-face pedagogies through remote pedagogy to online pedagogies. The key to all three pedagogies is engagement. Instructors need to carefully consider how content is delivered in each paradigm in order to maximize student engagement. To help with the transition to online as the COVID-19 pandemic continued, many universities conceptualized two types of courses: “online” and “remote.” While there are general definitions of these terms that vary from university to university, for purposes of this article, we define them the way they are used at our institution. Online traditionally refers to a fully asynchronous pedagogy delivered with no real-time synchronous class meetings. Remote refers to a combined asynchronous and synchronous pedagogy. Course content, asynchronous learning activities, and assessments are delivered via a learning management system (Blackboard), and face-to-face class time is replaced with virtual classroom sessions that meet in web conferencing software (Zoom or Blackboard Collaborate), scheduled for the same time as the face-to-face classes were scheduled to meet. This paper focuses on remote learning. Although the way content is delivered and discussed changes when a course is moved from face-to-face to remote delivery, the learning objectives and student outcomes need not change. Only the pedagogy and the way it is implemented changes. As instructors move their face-to-face courses online for remote delivery in future semesters, they need to consider ways to adjust their face-to-face pedagogy to effectively engage students in this environment. Part of this process involves determining what technologies to use. Pedagogy precedes technology choice, not the other way around. The purpose of this manuscript is two-fold: (a) to examine lessons learned from the

authors' collective prior experiences with online learning and from our transition to fully remote teaching during the COVID-19 pandemic, and (b) to describe strategies and practices instructors can use to support student engagement as they move courses from face-to-face delivery to remote delivery. The objective of the second purpose is to elucidate student engagement strategies that will be successful going forward. Chakraborty and Muyia Nafukho (2014) revealed several factors that contribute to the crafting of engaging learning experiences for online learners. The primary factors are: "creating and maintaining a positive learning environment; building a learning community; giving consistent feedback in a timely manner; and using the right technology to deliver the right content" (p. 782).

Constructivism in a Remote Learning Environment

Constructivism is a theoretical framework that has been described as "basically a metaphor for learning, likening the acquisition of knowledge to a process of building or construction" (Fox, 2001, p. 23). Constructivism conceptualizes "students as active participants in the learning process, rather than passive recipients of knowledge that has been accumulated by others and transmitted to them" (Splitter, 2009, p. 139). It is, fundamentally, concerned with making sense of one's experience (Splitter, 2009). The history of this theoretical framework can be traced back to the roots of Bruner's (1961) "cumulative constructivism," (p. 23), whereby a learner is engaged in making connections, inquiry, active problem solving, and discovery in the learning process. In addition to the application of this theory in face-to-face classrooms, the theory of constructivism has been a guiding theoretical framework applied to asynchronous online learning environments (Brown, 2014; Doolittle, 1999; Sthapornnanon et al., 2009); and now to remote learning environments. The constructivist philosophy and approach to teaching and learning is an effective means of constructing an online learning community where

"constructivism acknowledges the learner's active role in the personal creation of knowledge" (Doolitte, 1999, p. 1). "One of the essential components of the constructivist teaching approach is to inspire students to consistently evaluate how any activity that is undertaken is contributing to the student's increased understanding" (Brown, 2014, p. 2). Suttle (2010) investigated factors that relate to engagement in online learning and whether specific benchmark indicators of effective educational practice could predict engagement. Those benchmarks consisted of levels of: (a) academic challenge, (b) active and collaborative learning, (c) student-instructor interaction, and (d) enriching educational experiences. Suttle (2010) discovered in her research that these four benchmarks were highly correlated with engagement, and they strongly predicted student engagement in online courses.

Student Engagement

Student engagement is considered a crucial aspect of a teaching and learning environment because it impacts students' retention, learning experiences, and outcomes (Snyder, 2009). Supporting student engagement can also reduce dropout rates from online courses (Kontos, 2015; Wang & Chen, 2017). Studies on the topic of online teaching and student engagement have affirmed that collaborative learning opportunities are an essential component of student engagement (DeWitt et al., 2017; Stevens, 2018). Collaboration boosts learning in the online classroom (Stott & Mozer, 2016) and can provide opportunities for authentic engagement that mimics real-world interactions (Doolittle, 1999). The online classroom has been commonly referred to as an interactive learning environment, suggesting the idea that online classrooms nurture collaborative learning and promote both active learning and critical thinking (de Bruyn, 2004). For instance, Wu and Hiltz (2004) studied student outcomes from asynchronous online

discussions. Results indicated that online discussions improved students' perceived learning, as well as supported student motivation and enjoyment.

One way to foster student engagement is through online discussions, which provide rich opportunities for students and instructors to actively interact with each other by exploring reflective and critically framed questions, sharing responsibilities of ownership, and assessing their own online activity levels. Online discussions also support learners participating at their own pace and constructing knowledge. Asynchronous or synchronous discussion tools are used to evaluate student learning in the field. Student's text posts or verbal recordings can provide instructors an overview of each student's individual pace and learning progress. Instructors can use these opportunities to provide meaningful and immediate feedback to support students' learning.

The instructors often perceive their own role during online teaching as facilitator, coach, mentor, and co-learner. As such, one of the essential tasks to support student engagement is to scaffold student learning. In a comparative study, Hung and Chou (2015) developed an instrument (Online Instructor Role and Behavior Scale [OIRBS]) and explored its usefulness to examine students' perceptions of the instructor's role in blended (i.e., an alternation of online and in-person instruction) and online learning environments with a sample of 750 university students. Students in the online learning environments scored higher in the discussion facilitator dimension of the instrument than did those in the blended learning environments. For instance, one item on the OIRBS is listed as "The instructor encourages students to engage in critical and reflective thinking in online discussion" (p. 317). As discussed in Hung and Chou's (2015) study, discussion facilitator is rooted in the constructivist learning environment and facilitates online discussions, gives constructive feedback on student comments, asks why or reflective

questions, encourages students to examine novel ideas in the course, presents different perspectives, monitors student productivity on the discussions, and supports students who exhibit less activity to engage with the discussion topic.

Positionality of the Authorial Team

The authorial team, with its multiple, overlapping experience and expertise, provides a unique opportunity to discuss engagement in remote teaching in higher education. The authorial team brings together the different voices of three instructors and one instructional designer, an educator whose expertise is best pedagogical practices and course design for online and remote course delivery. The collaboration between instructors and instructional designers enables a collective approach to meld our various experiences into one shared experience among ourselves and our colleagues. The instructors contributed their experience creating engaging course content, activities, and assessments as well as communicating with students. The instructional designer contributed her knowledge of best practices of online and remote pedagogy and the technical workings of software tools that can be used to implement the pedagogy.

Our Respective Stories on Teaching Remotely and Assisting Colleagues During COVID-19

First Author. The first author initially had experience with online teaching during events such as snow days, conference travel, and school vacation days. Rather than cancel class, he put material online in Blackboard. He posted links to websites or videos, additional class readings, a PowerPoint presentation, and then required students to respond using Blackboard's journal or discussion board features. Journal features require students to respond to questions or a vignette with a short essay that is only visible to the instructor. This author typically requires 1-2 page responses. Discussion boards require students to respond to initial questions, and then view and respond to peer responses. The feature mimics a conversation and is conducted asynchronously.

This kept the class moving forward while it was not meeting in person. Over time, as he started to plan online classes in advance, he realized it was more efficient to create a class that could be completed anytime over a one-week window. The students appreciated the flexibility and had no excuse to miss class. This methodology and the strategies he learned over time were useful when the COVID-19 pandemic struck in March 2020. Because his classes were all online, he was able to strategize with other instructors about effective pedagogy and technology. He also worked to transition a previously hybrid course into a flipped classroom design that involved asynchronous and synchronous course activities using Moodle, a learning management system similar to Blackboard, and Zoom. He thought carefully about how to approach each activity. For example, in one assignment students submitted an online journal entry that included questions based on readings or other materials. Then he read the questions and responded to them during the live Zoom session with the class. Similarly, in Zoom he created small groups to complete activities and then reconvened the whole class to discuss major themes and points. Many of the same activities completed in a face-to-face class still occured, but they looked slightly different in the remote environment. The students seemed to be engaged and were learning the material.

Second Author. The second author had prior experience with online teaching as well. She taught and co-taught several asynchronous graduate-level courses rooted in constructivist pedagogy. The experience of co-teaching and co-organizing an online course had prepared her to be effective and collaborative when her face-to-face graduate-level courses were transformed to a remote format right after spring break in 2020 due to the COVID-19 pandemic. To create an accessible and inclusive environment for learners in her classroom, she first started with providing a tutorial on how to use Zoom and its features. This helped students to explore and become familiar with the online platform. To support student engagement, she used polls which

provided meaningful opportunities for students to share their understanding or opinions on the course content (Zoom, 2021b). She used breakout rooms in real-time to support collegial discussion among students. Break out rooms mimic small group work in a face-to-face classroom. Students are placed into groups of 3-6 students to work on an activity and the instructor can move between groups (Zoom, 2021a). She supported her students to actively learn and use Zoom for an assignment which required interviewing a caregiver. So, students practiced and used technology effectively. Lastly, she conducted informal check-ins to collect feedback on the weekly topics, guest speakers, content, and overall student satisfaction. Teaching during the COVID-19 pandemic increased her understanding of accessibility, engagement, inclusion, and equity so much that she aims to unpack these definitions in an effort to support development and learning of all students, including herself as an instructor. For instance, she provided non-traditional office hours at different times of the day to support students with parental responsibilities and students living in different time zones. She uploaded all the materials in advance for each week and used closed captioning for an accessible learning environment.

Third Author. The third author has been teaching online/blended graduate courses for nine years now after having taught graduate courses exclusively in the face-to-face classroom. This experience was a saving grace when the pandemic hit. During the Spring 2020 semester, this author became Interim Director of the Center for Innovative Teaching at this public university and, in that capacity, she and her instructor colleagues at the Center came up with the idea of offering “coffee chats” (of course, using Zoom!) for any instructor who wanted to share their challenges and successes with the new remote teaching experience. This included: what was working/or not working, if they needed support, or had any questions that they, as a community, could help with. One significant theme emerged from these well-attended sessions when one

faculty member stated that she really thought that all she had to do was put her entire face-to-face course into the learning management system, similar, to the experience of Professor Johnson in the opening vignette. She shared that she was so surprised that that was not the case, that there was significant thought about pedagogy, strategies, and best practices that go into a thoughtful design for remote/online learning.

Fourth Author. Instructional Designers are educators, usually with masters-level training in a variety of pedagogies and the technologies to implement them, who consult with instructors about course design and facilitation. Instructors are the subject matter experts; Instructional Designers know how to best present content and facilitate courses to optimally achieve the learning outcomes. Many Instructional Designers also teach, either face to face or online, to gain first-hand experience with the day-to-day experiences of instructors and students.

This instructional designer was first exposed to online university teaching when she was hired in 2008 to do real-time technical support for the two synchronous sessions required for all fully online university courses at that time. Several years on that job taught her the value of real-time engagement of student to student, students to instructor, and everyone with the content. The live interactions were the differentiator between this university's online courses and those at other universities that did not have the real-time engagement requirement. She also has experience teaching face-to-face and, since the pandemic began, teaching remotely using Zoom.

Through her initial experience supporting virtual classroom sessions in the context of fully online courses, she came to understand the value of ALL engagement, asynchronous as well as synchronous, and came to recognize that engagement MUST be the foundation, the bottom line, of effective online pedagogy.

Prior to the pandemic, her role at this university was to teach instructors how to use educational technology tools to build engagement into their online course pedagogy, for at the end of the day, an online course without interaction is nothing more than a correspondence course. Students feel isolated and do not learn as much. The COVID-19 pandemic put this into high relief. When the pandemic first struck and the university moved all teaching out of the classroom and online and after their initial panic subsided, most instructors thought all they had to do was to park their content in Blackboard and hold Zoom sessions at the time of their face-to-face class meetings. Easy. As the pandemic continued, they began to realize that this approach is doomed to fail, and the instructional designer's job morphed to explaining to the instructor the continuum from face-to-face pedagogies through remote pedagogy to online pedagogies. The key to all three pedagogies is engagement.

Student Voices

One way educators can work to ensure instruction meets students' needs is through formative evaluation and asking students about their experiences. Therefore, as part of the examination into ways to make the online classroom more engaging, we surveyed students in three graduate education classes prior to the COVID-19 epidemic in spring 2019. At the beginning of the 5th week of the class, we posted a short interactive VoiceThread (multimedia software for audio/video discussions) video that asked students one question, "When do you feel most engaged online? Talk about practices that are done in your class to help you feel most engaged. It could be with the professor, with the course content, or with each other." Out of 57 students in the three classes, 27 (47%) responded to the request.

Students discussed eight different ways and times when they felt most engaged in the class. Many students discussed more than one. These included: discussion boards or group

discussions (n=21; 37%), direct feedback from the professor (n=17; 30%), hearing the instructor's voice (n=6; 11%), when they experienced the content as engaging (n=4; 7%), the cohort model with deadlines throughout and at the end of the week (n=4; 7%), group projects (n=2; 3.5%), when they experienced control over the content (n=2; 3.5%), Blackboard Collaborate or synchronous sessions [only one of the three classes surveyed used synchronous sessions, and this university didn't yet have its Zoom license] (n=1; 2%). One student (2%) reported preferring face-to-face classes and, therefore, felt disconnected in general.

Most students indicated that discussions via the Discussion Board feature of Blackboard helped them stay engaged in the course. Students commented that they liked "thought-provoking content that elicits different opinions" that can then be debated and indicated that they preferred practical more than theoretical content. They also liked discussions in which they were asked to apply theories that have a practical application to their jobs. Multiple students mentioned liking when the instructor participates in the discussion. One student mentioned that an asynchronous discussion allows for rereading material and gaining a new understanding each time. These student responses help inform ways that instructors can create more engaging remote classroom environments.

Discussion

Instructors can translate the information in this article into practice by: (a) adding components that foster student engagement and interaction into their remote course (e.g., introductory activities that facilitate the development of a learning community; weekly activities that connect students with content, classmates, and the Instructor; short surveys about students' background in the context of the course subject; interactive activities like book club discussions to complement the course texts; links to Zoom breakout rooms for students to use while working

on group projects; and non-traditional office hours via web conferencing technology), (b) collaborating with university Instructional Design and/or Instructional Technology Departments for support on best practices for remote course delivery, and (c) using student evaluations to improve the course design.

Implications for Theory and Practice

Based on themes that emerged from the existing research in remote instruction, feedback from our students in online courses, and the combined experiences of the authorial team, three areas of student engagement emerged: (a) content, (b) the instructor, and (c) other students. Discussion and suggestions focusing on these three areas can provide a framework for translating a course from face-to-face to remote pedagogy and delivery.

Connections to Content. Content is at the core of any course, and as instructors move to remote learning, they need to consider how content is best delivered. In addition to delivering some content synchronously with web conferencing software, best practice in online learning now suggests that instructors include asynchronous delivery to provide students flexibility in completing work (Nortvig et al., 2018; Vonderwell et al., 2007; Young & Bruce, 2011). Therefore, instructors should focus on how to use both synchronous and asynchronous modalities to most effectively present content.

When planning content for remote learning, start by planning engaging activities for Week 1 of the semester to quickly jumpstart your learning community. The research shows that the more your students interact with each other, course content, and you, the more they will learn and retain (Hew, 2016; Rios et al., 2018; Young & Bruce, 2011). Effective Week 1 activities include participation in a multimedia welcome activity and listening to a 15- to 20-minute minilecture and/or narrated syllabus. Figure 1 outlines suggested activities, technologies, and tips

for success. Instructors in collaboration with Disability Services and IT should prioritize providing an inclusive learning environment (i.e., all content and activities meet accessibility standards) for students with disabilities.

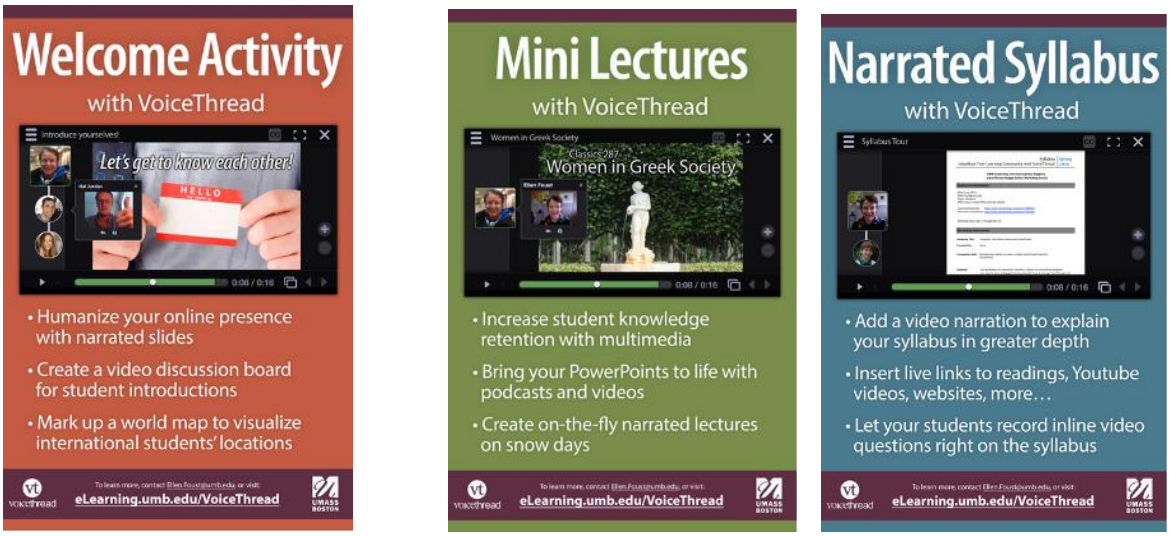

Figure 1
Strategies for Adding Engagement using VoiceThread Multimedia Software

Second, structure weekly sessions consistently. Students reported that they liked a weekly structure with deadlines within the course, so be sure to structure weekly sessions consistently and provide deadlines. Consider starting each week with a road map listing the weekly objectives, content (provided in a variety of formats - multimedia lectures, video clips, websites, instructional videos), learning activities, and assessments. Students do better when they know what to expect each week and where to find it. This will increase engagement and reduce the need to respond to clarifying questions. See Table 1 for tips and technology options for presenting course content.

Table 1

Strategies and Tools for Remote Learning

Instructional Strategy	Technology Tool	Tips for Success
Content: Content presented in multiple formats (text, audio, video, augmented/virtual reality simulations)	Adobe Presenter, Adobe Spark, Apple Podcast, IVoox, Links to websites, Loom, Podcast Addict, Powtoon, SoundCloud, TED Talks, YouTube, & VoiceThread	Send students on virtual travels, (e.g., museum, gallery). Work with the Disability Office to ensure that all content is accessible.
Interactive content	Bamboozle, Jamboard, Padlet, & Thinglink	Provide low-stakes assignments to familiarize students with the technology.
Provide learner control over the content	Adaptive (by criteria, e.g., successful completion of prior content) release on links in the LMS	Provide learning paths in the syllabus.
Feedback: Text-based direct feedback from the instructor	Announcements in the LMS, Discussion tool in the LMS, & emails	Send emails on a regular basis.
Multimedia direct feedback from the instructor	Flipgrid, YouTube, & VoiceThread	Upload an assignment into VoiceThread and explain on camera common problems all students experienced.

Discussions: Synchronous discussions	Adobe Connect, BlackBoard Collaborate, BigBlueButton, Facebook Messenger, FaceTime, StarLeaf, Skype, What's App, & Zoom	Book clubs, networking events, guest speakers, office hours by appointment.
Text-based group discussions	Discussion board in the LMS, Edublog, Facebook Messenger, & WordPress	Provide deadlines for original discussion post (midweek on a weekly schedule).
Asynchronous discussions	Flipgrid & VoiceThread	Provide deadlines for original discussion posts (midweek on a weekly schedule).
Group-related Interactions: Cohort model	Selective (by date) release on links in the LMS	Release content on a rolling basis, start with the first 3 or 4 weeks, and keep it visible for the rest of the semester after the release.
Group projects	Google docs/sites/slides, PowerPoint, Prezi, & VoiceThread	Use sign-up sheets in the LMS to form groups.
Synchronous classroom sessions	Zoom, Blackboard Collaborate, Jamboard (Google Suite's whiteboard)	Include interactions of students with you, each other, content approximately every 5 minutes. **Refrain from long lecturing**. Use the interactive features of the software (Breakout Rooms, Polls, Chat, Screen sharing, Whiteboard, Hand Raise and other emoticons. Ask open-

		ended questions to engender discussion. Tell students they will be randomly called on. In large classes, use an assistant to assign breakout rooms and read chat. Assign prework so students come to the synchronous session ready to discuss a topic.

Note. LMS = learning management system.

Because remote courses offer a mix of synchronous and asynchronous activities, instructors should think carefully about the content and leverage the best ways to deliver it. Some content is best delivered asynchronously by video, giving students flexibility in timing and the ability to stop or rewind to better process information. For example, lectures may be pre-recorded in different software, such as Echo360, VoiceThread, or video recording software uploaded to a private YouTube channel (see Table 1). This allows students, in addition to reading the course readings, to watch a video, a series of videos, or review websites prior to attending the synchronous class each week. In addition to consuming content, part of the students' required work before a weekly class session may be to complete one or more learning activities (e.g., write in a journal or participate in a discussion board). See Table 1 for additional tips on developing discussion activities. The instructor reviews this work prior to the class meeting and addresses themes or questions that arise directly with students when they meet, thus freeing the majority of the synchronous time for deeper diving into course content, whole-class discussions, or small group work in breakout rooms. In this remote pedagogy, students complete more work on their own time prior to attending a synchronous class, freeing the synchronous class to meet for less time or to leverage activities that can be done only in real time. Students

may also be more accountable for their work each week since the instructor can read and grade as part of the participation/attendance grade, their journals or discussions.

Instructors should consider weekly activities that connect students with content, classmates, and themselves. One frequently used activity is discussion boards or forums that are completed in Moodle, Blackboard, or other learning management systems. Students reported liking when these discussions were thought-provoking, eliciting different opinions, and moved the conversation forward. The debating (and getting feedback from classmates and the instructor) was engaging. Instructors could use graded and ungraded discussions, and have students take turns facilitating. Journals can also be a way for students to process information, demonstrate understanding and benefit from private feedback from their instructor.

Connections with the Instructor. There are many things an instructor can do to connect more closely with students during a remote course. First, an instructor can add their presence each week to create a connection with students. One way to do this is to record a 2-3-minute video each week that describes the main ideas of the content and the expected work to be completed. Consider pairing the video with an outline that highlights upcoming assignments/expectations and what is due this week or to discuss upcoming activities or assignments. This can be viewed as a replacement of the overview for the class session that you may provide at the beginning of a face-to-face class. Students reported that they like seeing instructors in this way and that the video and accompanying written summary of weekly expectations clarified what they needed to do. Instructors should also set expectations about their availability. Let students know days when they will not be online or available to answer questions. It’s not sustainable to be available 24/7 or throughout the weekend! Non-traditional

office hours through synchronous conferencing, such as set times to open a Zoom meeting that students can voluntarily join if they have questions, can provide flexibility for everyone.

Second, as students reported wanting to receive direct feedback from their instructors, you can routinely provide feedback. Students reported on multiple important features for this feedback. It should be substantive, rather than just stating "good job." For example, expand upon their comments, discuss how students can apply a theory, and provide corrections for incorrect responses. The feedback should be timely and indicate the instructors read their comments. In this way, the feedback can mimic what students receive in a fully face-to-face course. Finally, students reported enjoying a mix of public (e.g., discussion board) and private (e.g., journal) interactions with instructors.

Third, students reported wanting to hear their instructor's physical voice in the course. Recording class lectures can accomplish this. If you record, shorter, such as a maximum of approximately 20 minutes, is more effective at holding students' attention. Remember, most students are in the YouTube generation with short attention spans. Additionally, whatever recording software you use, provide closed captions, not only for hearing-impaired students but also for those students who prefer to read the lecture.

Connections with Other Students. Students reported wanting ways to interact with their classmates. With thoughtful planning, the interaction and feedback from peers, a key component of the learning process in face-to-face courses, can be maintained in the remote environment. First, students reported that a cohort model with deadlines throughout and at the end of the week helped to keep them organized and everyone working on the same things, independently and together (see Table 1). Second, discussion boards can provide opportunities for thought-provoking debate on a variety of topics, including real-life case studies. In student-student

discussions, if one student does not understand a concept, peers can help them understand. Third, synchronous classroom sessions provide opportunities for interaction during full class and small group activities or specific group assignments. For example, using Zoom, it is easy to use breakout rooms to create small groups for students to engage in discussions for a set amount of time. As Instructors, you can set the timer for 10-15 minutes (or any time span) for groups to work, and at the end of the time students will automatically come back to the main Zoom room for a debrief session. Instructors can move between groups to "check-in" as groups work, and you can keep group stable group membership for the individual class session or the entire course to provide consistency. Group assignments can also be completed during synchronous or asynchronous sessions (see Table 1). For example, a remote course can still use an activity such as a Book Club. Instructors can use Google Docs as a way for groups to communicate, focus, and respond to questions, have a record of their work, and the instructor can also view to track group progress. The Zoom feature of breakout rooms can be used for groups to work during synchronous sessions. Instructors can also create discussion rooms for groups to use during group projects in programs like Blackboard Collaborate.

Finally, instructors should use student feedback to improve the course design. For example, deploy a mid-term formative evaluation to gain student feedback on the course. It can easily be completed with a Google form by asking three questions: (a) what's working, (b) what's not working or could be improved, and (c) is there anything else you'd like to share. This feedback affords instructors insight into how students are responding to the course before it finishes, allows changes to be made, and lets students know that you are responsive to their feedback and actively working to create an effective learning environment.

Closing Vignette:

Professor Rusinow teaches courses in visual design and photography in the Art Department of a major urban university. After two difficult semesters struggling to teach her face-to-face class remotely, she has learned the modifications and adjustments necessary for successful student learning in the remote environment. Fundamentally, she understands that she cannot just move her face-to-face class online. Rather, she now knows that she must think first and foremost through a student lens, a lens that focuses on engagement of students with her content, herself, and other students. To implement this new pedagogy, she revised her course to include many strategies that foster student engagement. With the help of an Instructional Designer, she reimagined her course with each week including an alternation between content delivered asynchronously through Blackboard and discussion of the content and ideas happening synchronously through Zoom. Each week has the same structure: On Sunday, when the week opens, students watch a short overview video of her introducing the readings/videos, activities, and assessments (if any) to be done that week. The week builds towards the one weekly synchronous Zoom session on Thursdays, where students continue a relevant discussion that was started in the asynchronous Blackboard discussion board. During the Zoom session, which Professor Rusinow starts with a Poll of three thought-provoking questions to start off interactively and to generate student opinions, she uses breakout rooms for small group discussions in which students jot down thoughts on a Google Jamboard which are then screen shared when all students are brought back to the Zoom main room. Students report being highly motivated and engaged, and the course has lots of positive reviews.

Conclusion

As instructors revise their face-to-face courses for remote delivery, it is critical to closely examine remote and online pedagogies and incorporate best practices into course designs. Since

engagement is such a crucial component of student learning, pedagogical best practices should drive the decisions about synchronous and asynchronous content delivery and interactions. Many instructors initially noted decreased engagement after they moved to remote delivery, and by focusing carefully on targeted pedagogical changes, they were able to bring that engagement level back up. The pedagogies and the technologies used to implement them need to be adjusted to foster student engagement with the course content, the instructor, and other students.

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