Silver Linings:

Lessons Learned From Teaching During a Pandemic

William E. Kirwan Center
for Academic Innovation
University System of Maryland

Silver Linings: Lessons Learned from Teaching during the Pandemic

USM KIRWAN CENTER FOR ACADEMIC INNOVATION

Edited by Nancy O'Neill, University System of Maryland

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Foreword

NANCY O'NEILL

The past two years required unprecedented determination and creativity on the part of faculty, students, and staff to keep going with the essential work of teaching and learning. This volume is meant to both honor and reflect on the important work that faculty, in particular, have been doing and ask: What are the lessons from COVID-19 teaching and learning that we can carry forward? What innovations will "stick" in the future?

In Fall 2021, the University System of Maryland's William E. Kirwan Center for Academic Innovation hosted a faculty showcase titled *Silver Linings: Lessons Learned from Teaching during the Pandemic*. Faculty, individually and with colleagues, shared challenges, triumphs, lessons learned, and new approaches for supporting quality teaching and learning brought on by the COVID-19 pandemic. Sessions explored novel instructional approaches, active learning pedagogies, student engagement practices, assessment techniques, communication strategies, and faculty-staff and faculty-student partnerships.

Following the showcase, presenters were invited to take part in these proceedings, in which they were asked to critically reflect on the work that they undertook. Together, these essays help paint a picture of teaching and learning efforts that are flexible, creative, empathetic toward students, and inclusive of students' differing needs. In terms of organization, the volume's essay topics start

with finer-grained, classroom-level adaptations and move through broader philosophical musings, research findings, and faculty and student supports.

The intended audiences for this volume are faculty colleagues and those who support them in the work of fostering intentional, high-quality teaching and learning, from department chairs and deans, to instructional designers, to teaching and learning center directors. It is also my hope that more senior academic leaders will read this volume and consider the ways in which institutions writ large can better support faculty in advancing the kinds of innovations found within this volume.

Nancy O'Neill
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July, 2022

Using Google Docs in Breakout Rooms to Increase Student Participation and Build a Sense of Community

DIANE ALONSO

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Teaching online during COVID-19 didn't just mean pivoting to new teaching tools and strategies — it also meant finding new ways to use the ones that were already in my tool belt. As someone with a computer science background and an interest in incorporating technology into my teaching, I was already familiar with many of the software products that I needed to turn my courses into online offerings; I just didn't realize it at first. I hadn't expected I would find tools I already knew well and used often for class activities, like Google Workspace (in particular, Google Forms and Google Docs), and Blackboard, so valuable.

For many years, I used Google Forms, a survey administration tool for polling students on a variety of topics both in class and outside of class. I've used the Google Docs online word processing tool, for collaborative writing activities; providing a central location for groups of students to work together on a problem, often during an in-class session, and for me to be able to "lurk" and provide

real-time feedback (Figure 1). Having taught mostly hybrid courses with at least one face-to-face class meeting per week, I've used these tools often and have had great success with both of them. In addition, our University has licensed the Blackboard Learning Management System (LMS), and I have incorporated it into all of my classes while teaching at UMBC.

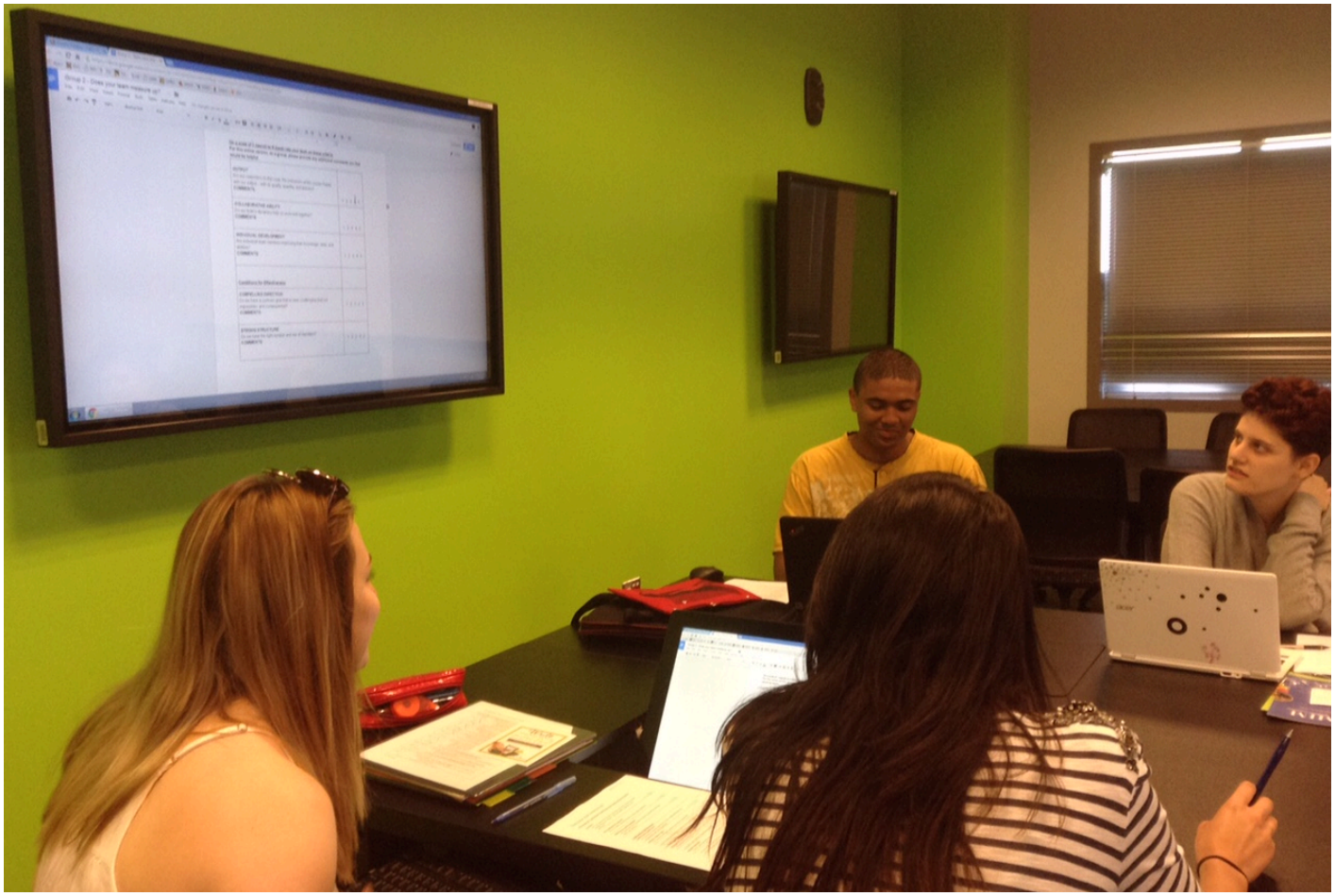


Figure 1. Google Docs in Action . Students working together, in-person on a Google Doc assignment.[1]

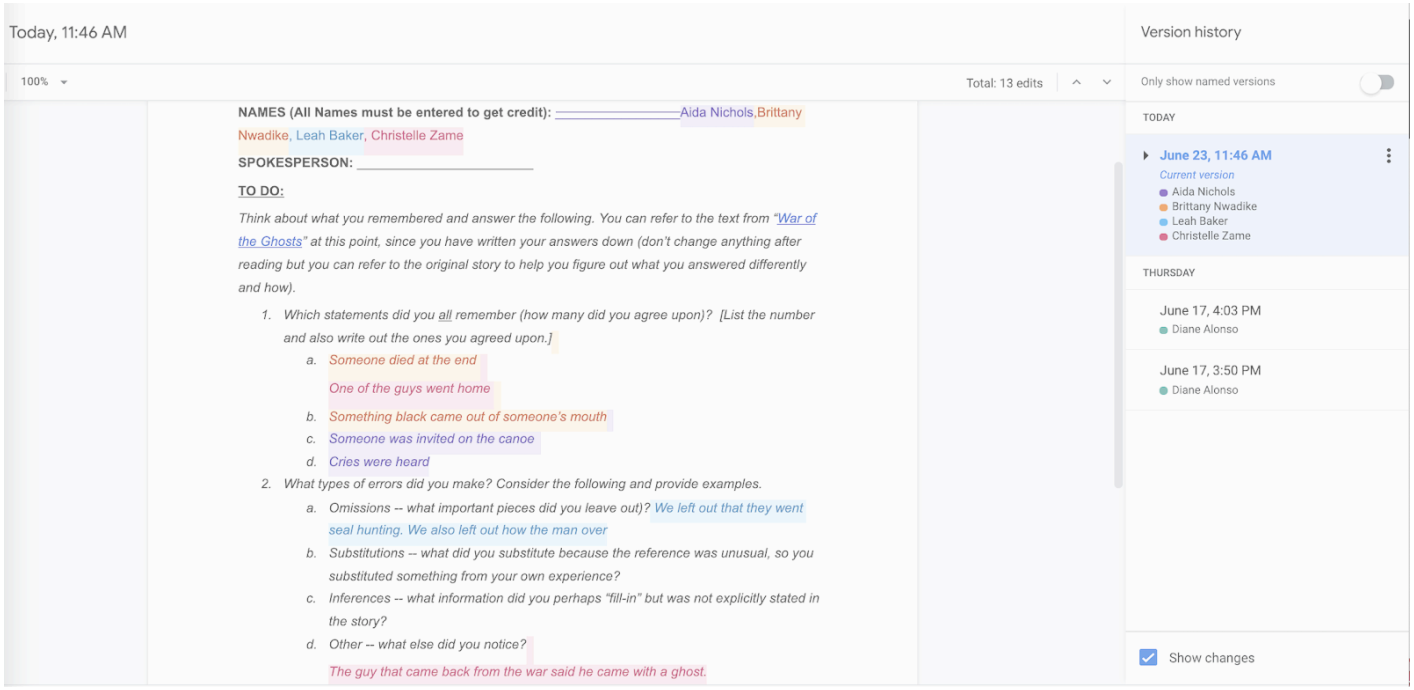


Figure 1, cont. An example of a Google Doc assignment, showing how students participate in collaborative writing. Colors indicate different students' contributions.

WHAT?

When the pandemic caused classes to move online, I had to figure out a way to maintain these activities during my weekly synchronous class sessions, which replaced the face-to-face meetings. I found that using the Blackboard Collaborate Breakout Rooms provided the necessary structure – allowing me to create small groups in which students could discuss the activity, using either or both text (via the chat function) or voice (by turning their microphones on). In addition to the discussions in the Breakout Rooms, all students had access to their group's Google Doc for that activity (I provided a single link to a Google Drive folder and told them to use the Google Doc with their assigned group's number) (Figure 2).

These group assignments encouraged students to work together as a team,

and to interact with each other during every online meeting. I believe that these collaborative activities helped us build a sense of community during a time when students were generally otherwise isolated.

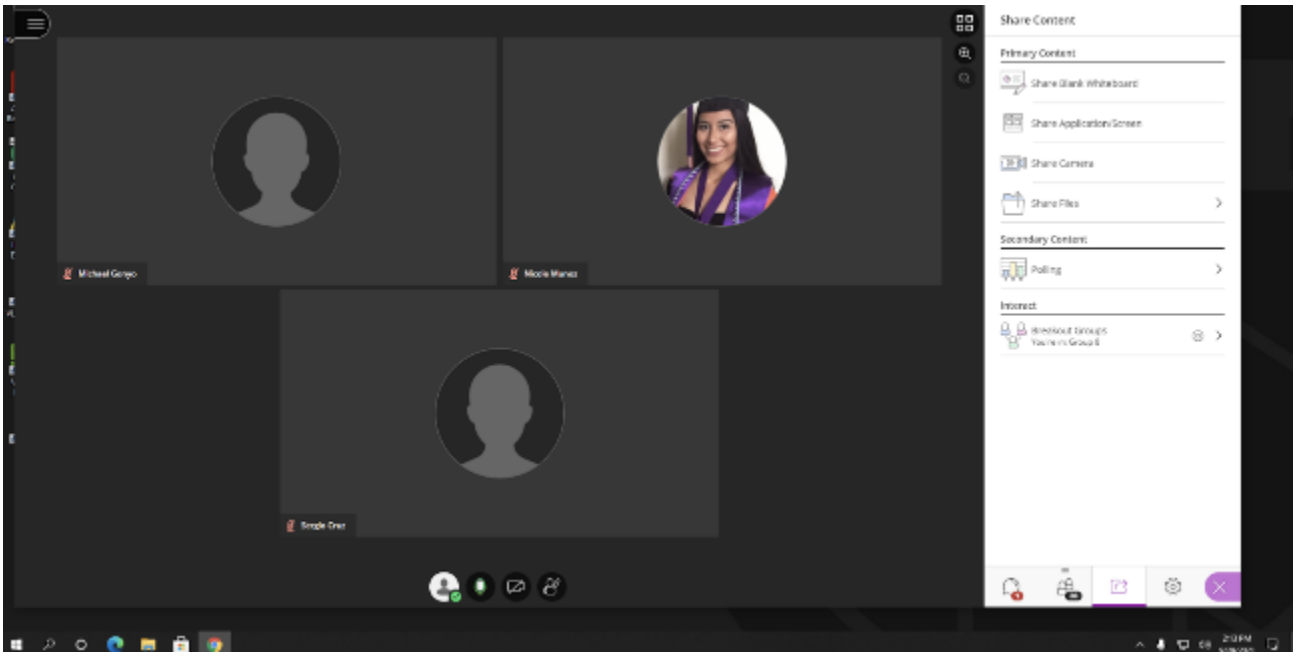
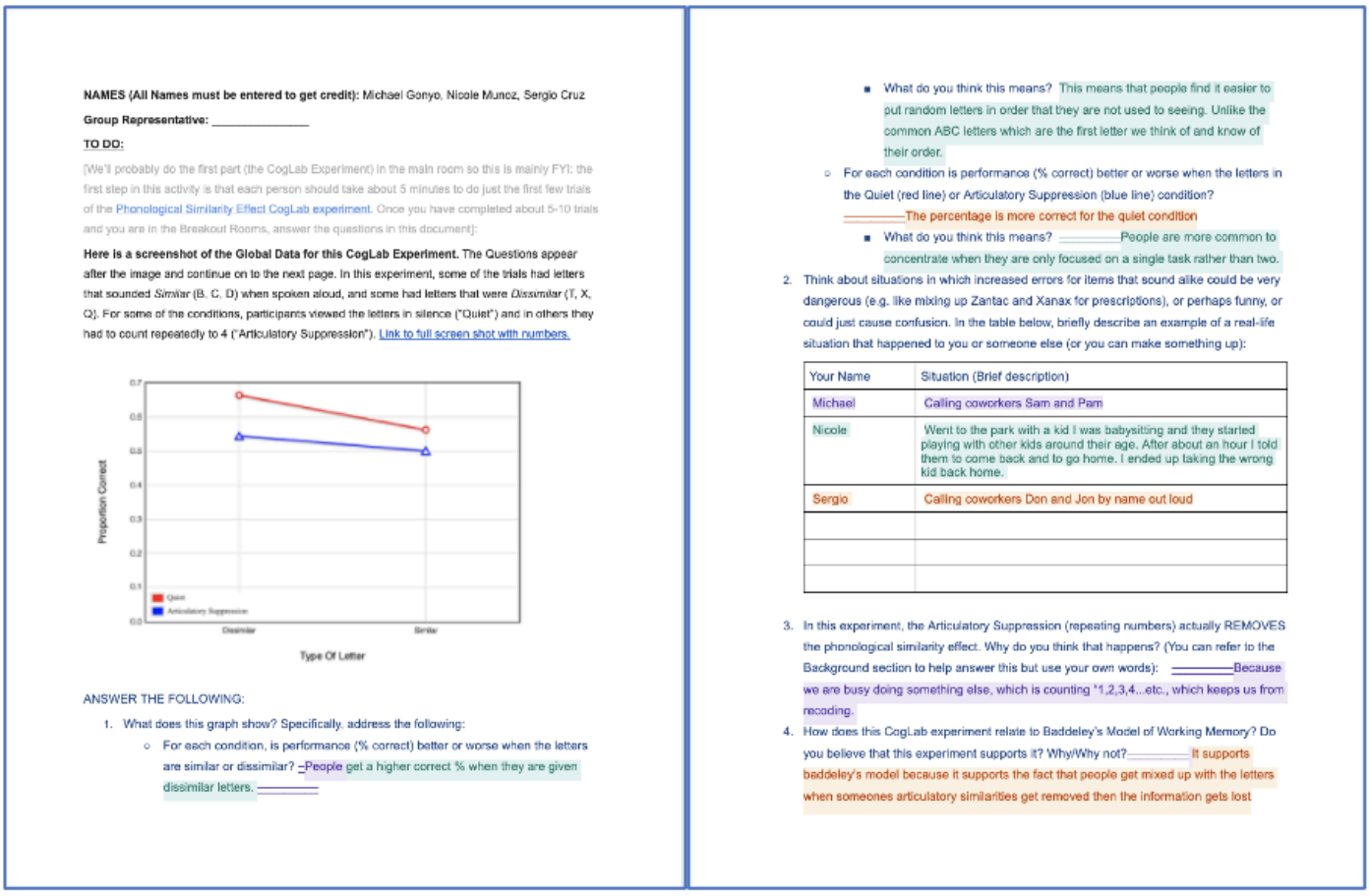


Figure 2. In the Breakout Room. The view of a Blackboard Collaborate Breakout Room in progress. Students are grouped either randomly or, depending on how the permission is set, they can switch groups.



NAMES (All Names must be entered to get credit): Michael Gonyo, Nicole Munoz, Sergio Cruz

Group Representative: _____

TO DO:

[We'll probably do the first part (the CogLab Experiment) in the main room so this is mainly FYI: the first step in this activity is that each person should take about 5 minutes to do just the first few trials of the Phonological Similarity Effect CogLab experiment. Once you have completed about 5-10 trials and you are in the Breakout Rooms, answer the questions in this document]:

Here is a screenshot of the Global Data for this CogLab Experiment. The Questions appear after the image and continue on to the next page. In this experiment, some of the trials had letters that sounded *Similar* (B, C, D) when spoken aloud, and some had letters that were *Dissimilar* (T, X, Q). For some of the conditions, participants viewed the letters in silence ("Quiet") and in others they had to count repeatedly to 4 ("Articulatory Suppression"). Link to full screen shot with numbers.

ANSWER THE FOLLOWING:

1. What does this graph show? Specifically, address the following:
   - For each condition, is performance (% correct) better or worse when the letters are similar or dissimilar? –People get a higher correct % when they are given dissimilar letters. _____
     - What do you think this means? This means that people find it easier to put random letters in order that they are not used to seeing. Unlike the common ABC letters which are the first letter we think of and know of their order.
   - For each condition is performance (% correct) better or worse when the letters in the Quiet (red line) or Articulatory Suppression (blue line) condition? _____The percentage is more correct for the quiet condition
     - What do you think this means? _____People are more common to concentrate when they are only focused on a single task rather than two.
2. Think about situations in which increased errors for items that sound alike could be very dangerous (e.g. like mixing up Zantac and Xanax for prescriptions), or perhaps funny, or could just cause confusion. In the table below, briefly describe an example of a real-life situation that happened to you or someone else (or you can make something up):

Your Name	Situation (Brief description)
Michael	Calling coworkers Sam and Pam
Nicole	Went to the park with a kid I was babysitting and they started playing with other kids around their age. After about an hour I told them to come back and to go home. I ended up taking the wrong kid back home.
Sergio	Calling coworkers Don and Jon by name out loud

3. In this experiment, the Articulatory Suppression (repeating numbers) actually REMOVES the phonological similarity effect. Why do you think that happens? (You can refer to the Background section to help answer this but use your own words): _____Because we are busy doing something else, which is counting "1,2,3,4...etc., which keeps us from recoding.
4. How does this CogLab experiment relate to Baddeley's Model of Working Memory? Do you believe that this experiment supports it? Why/Why not?_____It supports baddeley's model because it supports the fact that people get mixed up with the letters when someones articulatory similarities get removed then the information gets lost

Figure 2, cont. This group's (Group 8) Google Doc assignment showing the contributions from each student in the group.

SO WHAT?

While I made this transition due to necessity, I soon realized that using Google Docs in Breakout Rooms was an effective way to encourage teamwork in group writing in our new online environment. Once I addressed some of the initial kinks (discussed later), I saw that students were having a variety of types of interactions in the Breakout Rooms. After assigning the students (typically using the "Random Assignment" option for the method of assignment to Breakout Rooms), I would visit each of the rooms just for a few moments, to make sure that everyone was in the right place and had access to the appropriate Google

Docs. During these brief visits, I happened upon some students having conversations in real time (some even had their videos on while discussing the assignment), some using text and chatting about what they had to do, and some groups were using a combination of these techniques. I noticed that sometimes students who might not speak up in the larger class setting were providing input, as this more private space, along with the ability to text (rather than having to speak up) allowed some of the quieter students to have a voice. I found this to be a huge advantage over the in-class setting, where it's mainly just the outgoing students who get their voices heard.

To determine whether all of this was actually of benefit to my students, I provided an optional, anonymous Google Form survey at the end of every class. Many students participated and almost all of the students who responded commented on how much they enjoyed these activities. I will admit that this did take time to get right. Initially, I found that some students got "lost" and it took a while for them to coordinate using the Breakout Rooms while also clicking on the required link(s) and navigating to the appropriate Google Doc. It was not always easy to help them walk through this process, but I addressed that by spending some class time explaining each assignment and writing up directions in a document, which I shared in Blackboard. This is also why I visited each Breakout Room – to see that the students were all in the right places and understood the activity once they were in their assigned rooms. I also "lurked" in the Google Docs, making sure that all of the students assigned to each group were working in the appropriate Google Docs. Fortunately, once we got through the first few weeks, students understood the format. I will note that I try to keep the format of my activities consistent from week-to-week to avoid the additional cognitive load of having to learn too many new processes.

The other difficulty was that not all students had the necessary Internet bandwidth/access to participate. To be honest, I was not able to come up with a perfect solution to this problem, since not being able to access the Breakout Rooms and/or the Google Doc meant that students could not be fully engaged. Most of the time, I told those students to focus on writing in the Google Doc if

they had to choose; however, that meant that they were not really interacting with the other team members to discuss answers prior to writing them in the Google Doc. This way, however, those students could at least show me that they were participating in the assignment.

NOW WHAT?

By late Fall 2021, I had returned to my hybrid teaching–meeting face-to-face with students at least once a week. However, since we were meeting in person, students now had the ability to work in actual (rather than virtual) groups (Figure 3). This added a new dimension to our previously online group activities, since students could physically move about the classroom and speak face-to-face with each other. In this environment, I found that using the Breakout Rooms led to more mixed reviews, since their use was not as necessary. However, as an instructor, I felt they still had a purpose. While some students did ask to be able to work with others in their proximity, there were some students who preferred to keep their distance and didn't want to have to shout across the classroom. Additionally, I felt that the Breakout Rooms could still help quieter students have a voice, especially by giving them the chat/text function. [As a side note, I had a few students towards the end of the Fall 2021 semester, who could not come to class due to illness but were still able to participate because I was using Google Docs in Breakout Rooms.]

Moving into Spring 2022, I am scheduled to teach a cross-campus course with one section of students taking the course at the Universities at Shady Grove (USG) campus, in Rockville, Maryland, and a second section taking the course at UMBC's main campus in Catonsville, Maryland. I might eventually also teach hyflex classes with some students participating face-to-face and others participating fully online. In both scenarios, using this combination of Google Docs in Breakout Rooms, will allow students who are not in the physical classroom with me, to participate.

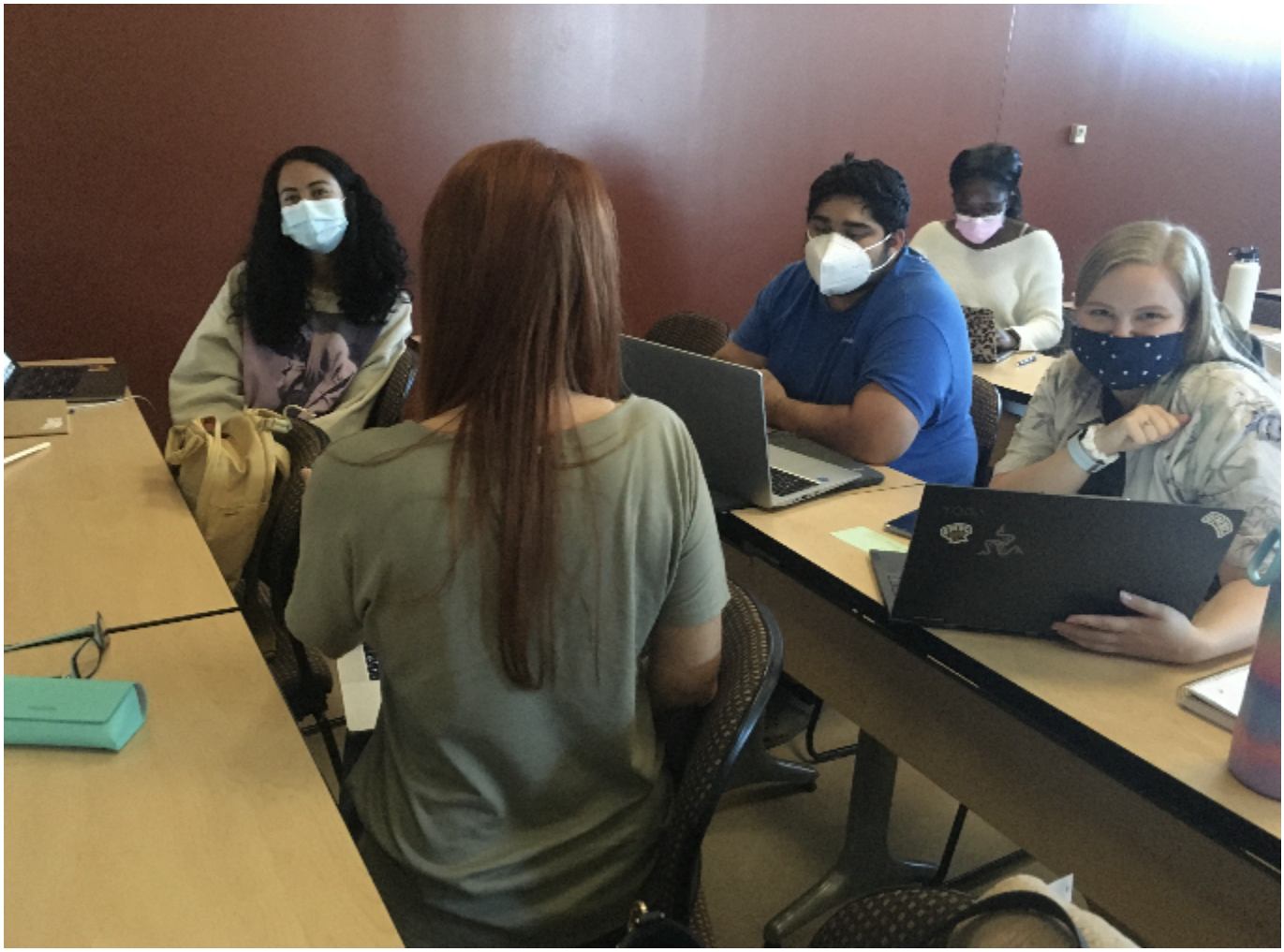


Figure 3. Face-to-Face Participation Using Google Docs in Groups, Subsequent to COVID-19 Online Teaching

For the Fall 2021 semester, in order to accommodate both the in-class students who wanted to form actual, physical groups, and still use Breakout Rooms as I had planned, I set up the Breakout Rooms to allow students to switch Rooms once assigned. I created physical groups in the classroom by clustering students who were in close proximity to each other and gave each group a number. I then created online groups using the "Random Assignment" option. After students were initially assigned, I asked them to *reassign* themselves online to the appropriate Breakout Rooms. This has been a bit messy and has taken time away from the lesson. However, there is now a new feature, called "Course Set Group," that

was not available when we first went online in Spring 2020. This feature allows the instructor to create groups for the Breakout Rooms, ahead of time. Since most of my students seem to sit in the same or similar places from week-to-week, after the first week, I plan to create formal, set groups and use those for the remainder of the semester.

While it does require extra work, planning, and coordination, I feel that this combination of using Breakout Groups with Google Docs, is a meaningful way to: (1) encourage all students, not just those who are outgoing and talkative, to have their voices heard; and (2) create a way for students who are not physically present to participate and be more fully integrated into the classroom community. This will work well in cross-campus, and hyflex classroom settings, which I believe is going to be a necessary mode of instruction to consider in the future.

Notes

1. For all Figures, I obtained written permission from the students to share their photos, names, and/or text.

Enhancing Student Productive Learning in Undergraduate Statistics Courses Using Multi-Submission Online Assignments

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A key principle of human learning is allowing individuals to adapt behaviors in response to outcomes. In the classroom, this typically takes the form of providing students with corrective feedback on assignments. Combined with allowing multiple attempts for assignments, this offers students the opportunity for productive learning. When faced with a challenging task, productive learning is when students make use of corrective feedback to identify and address knowledge gaps to persist and accomplish the learning objective. The opportunity to engage in productive learning can be provided with a variety of assignments. However, the modality of the classroom can have an impact on collecting genuine student responses and minimizing dishonest responses, such as copying behaviors. Whereas face-to-face classrooms allow for higher levels of control to elicit genuine student responses, remote environments created via online systems pose challenges. Copying behavior refers to when a student takes the

responses of another and submits them as their own for an assignment. When a student uses copied responses during productive learning assignments it can be detrimental to learning outcomes (Chen et al., 2018). The goal of the present study was to evaluate student productive learning with calculation assignments in an online statistics course designed to solicit genuine student responses during the COVID-19 pandemic.

WHAT WAS THE ENVIRONMENT AND GOAL?

COVID-19: IN-PERSON TO REMOTE LEARNING MODALITIES

In the United States, a survey of higher education faculty indicated that the majority of their institutions (89%) transitioned some or all courses to online from in-person in April 2020 in response to the COVID-19 pandemic (Johnson et al., 2021). The transition to online courses was unplanned and sudden, with little preparation time compared to what is typical at higher education institutions. As the pandemic continued, instructors at many institutions continued to maintain online course modalities in Fall 2020. The present research focused on students completing behavioral statistics courses as part of an undergraduate psychology program. Prior to the pandemic, sections of the course were taught in-person, on-campus in Baltimore, Maryland, USA. During the pandemic, the course was moved to an asynchronous, online modality. In this format, students engaged with course material, including assignments and lessons, via an online course learning management system. The students were able to complete course modules on their own accord. The two-course sequence began in Fall 2020 and continued in the online, asynchronous format through Spring 2021 and covered descriptive and inferential statistics, including t-tests through one-way analysis of variance (ANOVA).

PRODUCTIVE LEARNING

A challenge in the transition from an in-person to online statistics course was providing opportunities for productive learning. Prior to the pandemic, students could practice calculation problems during face-to-face learning activities. As students completed each step, the instructor would synchronously provide corrective feedback, allowing the students to identify and revise their calculations to achieve the correct answer. By providing instantaneous corrective feedback, students had the opportunity to engage in productive learning to complete the assignment. The present study investigated whether a similar opportunity for productive learning could be provided via online, asynchronous assignments during the pandemic.

MULTI-SUBMISSION ASSIGNMENTS AND GENUINE STUDENT RESPONSES

Two studies reviewed for the present research observed productive learning with multi-submission assignments in undergraduate courses. Students from in-person computer programming courses were offered the opportunity to revise and resubmit coding assignments after corrective feedback was provided (Holland-Minkley & Lombardi, 2016). Those who selected to complete the optional resubmission tended to have higher performance on learning assessments (e.g., exams). Similarly, when undergraduate students enrolled in a physics course completed online assignments that provided resubmissions and instantaneous corrective feedback via an online answer checker, students that made multiple submissions tended to achieve higher performance on the assignment as well as learning assessments (e.g., exams; Chen et al., 2018). This research suggests that students who engage in productive learning tend to better attain course outcomes and such opportunities can be implemented online.

A concern raised about online assignments designed for productive learning by Chen and colleagues (2018) was in regard to genuine student responses. Researchers noted that some students displayed evidence of copying behavior, with high performance on their first attempt close to the assignment deadline, compared to other students. These students tended to perform lower on the learning assessment exam. This indicated that a key component to engaging students in productive learning was for students to submit genuine responses.

THE PRESENT STUDY

The goal of the present research was to evaluate whether students engaged in productive learning when completing multi-submission online statistics assignments during the COVID-19 pandemic. Two approaches were used to develop assignments to maximize the chance that students engaged in productive learning. First, each assignment was composed of a statistics calculation problem that required students to provide intermediate responses that followed the calculation steps taught in the course with corrective feedback provided after each submission. Second, each student had a unique dataset to maximize the chance of collecting genuine responses. In this manner, if students engaged in copying behavior, they would submit incorrect answers. Calculation assignments were posted online via the Canvas learning management system (LMS) and were procedurally generated via the Canvas application programming interface (API). Student engagement and performance on the assignments were used to test two hypotheses associated with productive learning: students would make multiple submissions for each assignment and assignment scores would improve across submissions.

WHAT WAS OBSERVED?

METHOD

Participants

A total of 43 students across two sequential behavioral statistics courses were included in the present research. Some students completed both courses whereas others completed one course. The course sequence occurred in Fall 2020 and Spring 2021, while the COVID-19 pandemic was still in effect in the United States. The courses were offered in an online, asynchronous format and students completed assignments remotely using the Canvas LMS. The research protocol for the study was approved by the university institutional review board.

Learning Assignments

Each learning assignment required students to solve a computational problem by calculating and interpreting statistics. A scenario was presented to students that required calculating statistics using formulas and approaches taught via course materials (Table 1). For each assignment, the calculation steps were cumulative to provide students with corrective feedback on each step such that they could identify at what point they made an error in responding to the problem. Students had a near-unlimited number of submissions they could make (set to 99 attempts in the LMS). To increase the chance of genuine responses, students had to log into the LMS to view and submit assignments using university-

issued credentials. Each student had a unique dataset for each problem. For example, for the one-sample t-test assignment, all students had to calculate whether the sample was significantly different than a known population mean, but the sample data varied by student (Student 'A' sample: 22, 18, 26, 6, 6; Student 'B' sample: 7, 18, 9, 12, 6). To create a unique assignment for each student, an R script procedurally generated and posted each assignment to the LMS using the API.

Table 1. Calculation assignment names and statistical concepts in sequence of administration and mean student performance and attempts (standard deviation provided in parentheses).

Name	Statistical Concepts	Semester	Student Performance	Student Attempts
Homework 1 (H1)	Sample mean, median, mode (central tendency)	Fall 2020	.99 (.04)	1.72 (.94)
Homework 2 (H2)	Sample range, variance, standard deviation (dispersion)	Fall 2020	.90 (.19)	3.44 (2.20)
Homework 3 (H3)	One-sample t-tests	Fall 2020	.79 (.11)	3.72 (2.72)
Homework 4 (H4)	Independent samples t-tests	Fall 2020	.88 (.12)	6.24 (3.41)
Homework 5 (H5)	Dependent samples t-tests	Spring 2021	.81 (.24)	5.97 (3.98)
Homework 6 (H6)	One-way analysis of variance (between subjects) tests	Spring 2021	.87 (.21)	5.97 (4.15)
Homework 7 (H7)	Pearson *r* correlation tests	Spring 2021	.87 (.11)	5.94 (3.85)
Homework 8 (H8)	Chi-square goodness of fit tests	Spring 2021	.98 (.07)	3.79 (2.40)

Measures

To assess productive learning, LMS metadata was collected for each assignment submission attempt. To be included as an attempt, the submission needed

to contain at least one question that had a response entered. Attempt performance measures included the current submission attempt and the proportion of assignment questions with correct responses (e.g., 5 question responses out of 10 questions and 4 correct = 4/10 = .40).

Procedure

Approximately one week before the deadline, each assignment was posted to the LMS. Students were then able to submit attempts up until the deadline. Each attempt had an unlimited amount of time and immediately after the attempt was submitted the LMS displayed which responses were correct and incorrect, but did not display the correct answers. The student's highest scoring attempt was kept as the grade for the assignment.

RESULTS

A total of 1121 submission attempts were made by students across all assignments. Statistical analyses were two-tailed (alpha = .05) and conducted using the R packages 'lme4' (Bates et al., 2015), 'lmerTest' (degrees of freedom for tests were estimated via Satterthwaite's method; Kuznetsova et al., 2017), and plots generated using 'ggplot' (Wickham, 2016).

There was evidence that assignments varied in student performance, $F(7, 202.93) = 7.92$, $p < .001$, and number of attempts $F(7, 201.44) = 11.57$, $p < .001$ (linear mixed models with random intercept of student; Table 1). Assignments H1 and H8 had the highest proportion correct, with H3 having the lowest performance (significant Tukey pairwise comparisons: H1 vs. H3, H5, H6; H8 vs. H3, H5, H7). Assignment H1 had the lowest number of attempts with H4 through H7 hav-

ing the highest (significant Tukey pairwise comparisons: H1 vs. H4, H5, H6, H7, H8; H2 vs. H4 through H7; H3 vs. H4 through H7; H8 vs. H4 through H7).

When accounting for factors (linear mixed model with random intercept for each), students submitted significantly more attempts than a single attempt, M = 4.73, SD = 3.51, $t(12.22) = 5.44$, $p < .001$ (see Figure 1). Furthermore, the proportion of assignment questions with correct responses was significantly greater for the final, M = .88, SD = .17, compared to initial, M = .53, SD = .27, attempts submitted by students, $t(421.38) = 21.35$, $p < .001$ (linear mixed model with random intercept for student and assignment). There was evidence of individual differences with the number of attempts to reach maximum proportion correct varying across students (Figure 2)

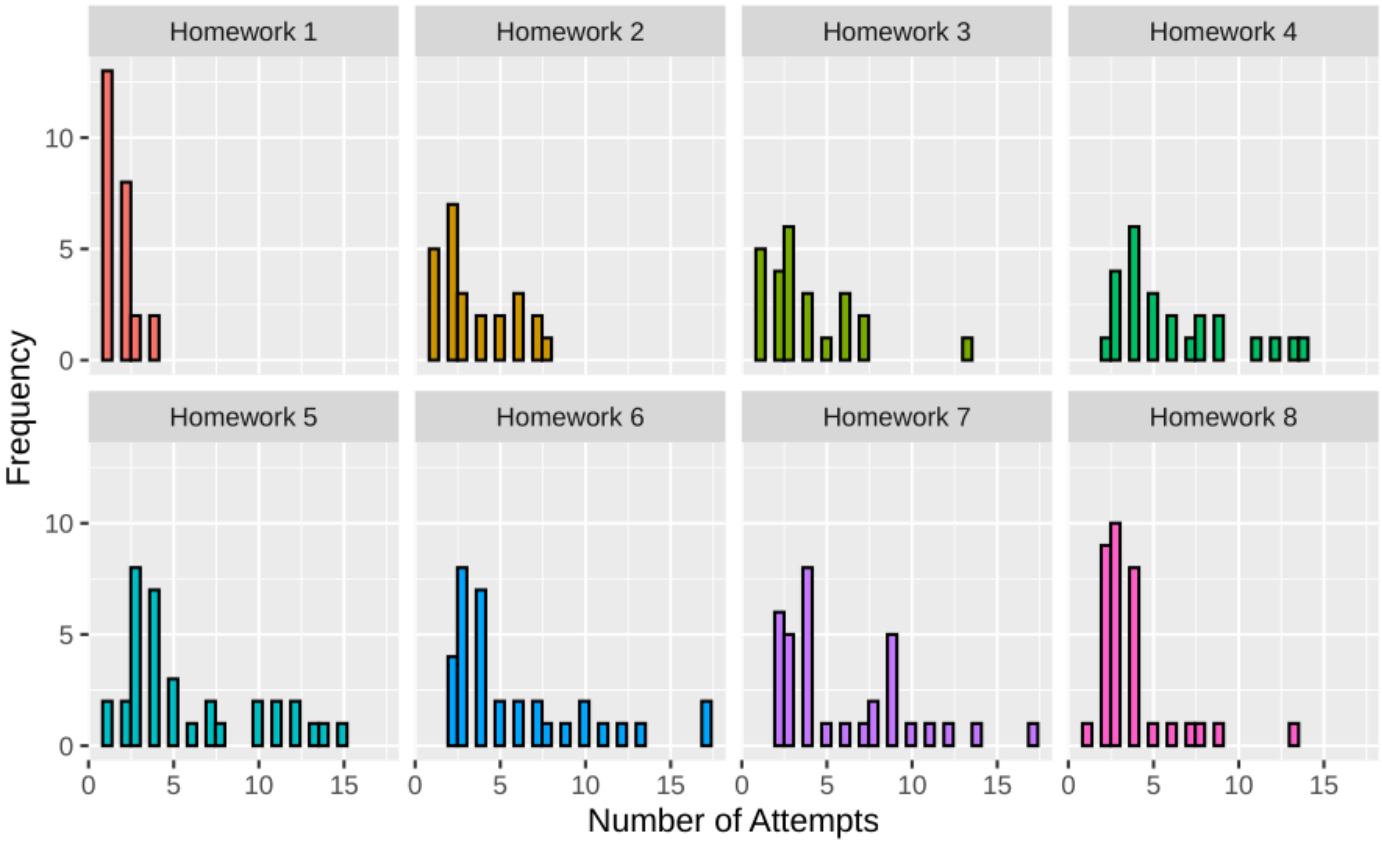

Figure 1. Histograms of number of student attempts submitted for each assignment.

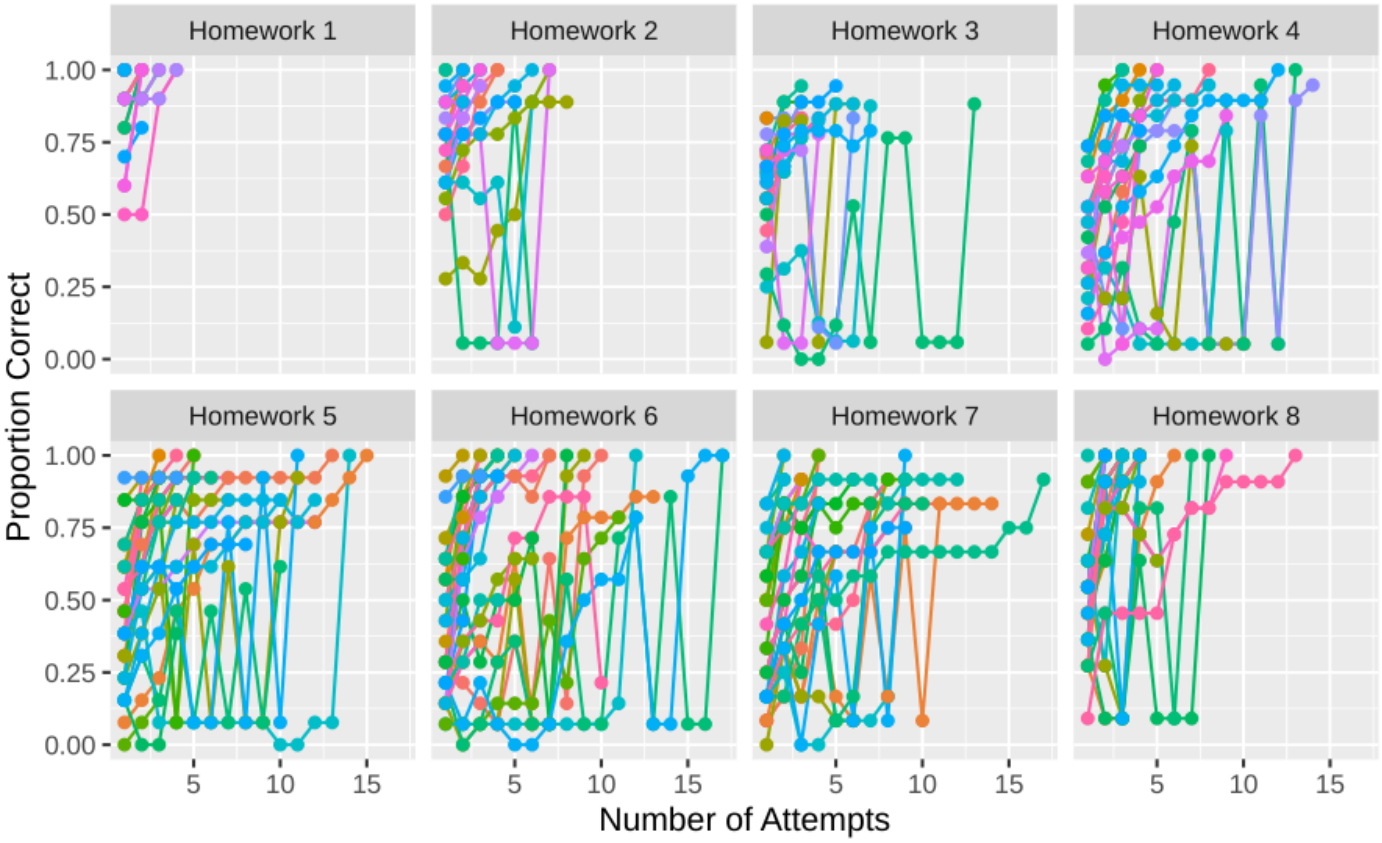

Figure 2. Proportion of assignment question responses marked correct by the number of attempts submitted by students. Line color indicates the attempts made by different students.

DISCUSSION

The present study evaluated productive learning in online behavioral statistics assignments that allowed multiple submissions and provided corrective feedback. Evidence of productive learning was observed with students making multiple attempts and improving performance from the initial to final attempt. However, students substantially varied in the number of submissions made to achieve their maximum performance. The results suggested that, when provided the opportunity to correct their mistakes, students engaged with assignments,

making several attempts, and learned from their mistakes on challenging assignments.

SILVER LININGS AND NEXT STEPS

The present study indicated that the use of multi-submission assignments administered online was successful in providing opportunities for students to engage in productive learning in behavioral statistics courses during the COVID-19 pandemic. The implementation process and results revealed several considerations for future iterations of similar assignments.

ASSIGNMENT DIFFICULTY

There were less opportunities for students to engage in productive learning with easy assignments. Assignments with higher performance also tended to have fewer submission attempts compared to assignments with lower performance, in line with prior research (Holland-Minkley & Lombardi, 2016). In accordance with productive learning, if there is no challenge to overcome, there is no need for learners to use corrective feedback to improve underlying knowledge. It is possible that students who correctly responded to all questions on the initial attempt engaged in productive learning outside of the LMS environment. For example, a student could have calculated the results for an assignment and then checked and corrected their work before submitting it. This type of productive learning would not be measurable via the LMS data collected in the present study. Instructors whose goal is to have students engage in productive learning via assignments should design them to be sufficiently difficult to require multiple submission attempts to earn full points.

SELF-REGULATED LEARNING

Key to productive learning via assignments is student engagement and utilization of corrective feedback. Students lower in self-regulated learning, which includes lesser ability to monitor progress, manage time, and identify knowledge gaps, tend to be less likely to engage in productive learning opportunities (Chen et al., 2018). The individual variations in the present study may have been due to differences in student self-regulated learning, beyond differences in statistical knowledge. Instructors that want to maximize the effectiveness of productive learning assignments should consider providing instructional material to develop the skills necessary for students to successfully engage in self-regulated learning.

FUTURE DIRECTIONS

Future research investigating productive learning can address the following questions. The present study was correlational in nature and lacked a control group. Experimental designs can be used to identify how multi-submission compared to single-submission and online versus in-person assignments affect student productive learning. A limitation to the present and prior research (Chen et al., 2018) was the use of multi-submission learning assignments that require questions with a pre-determined answer, such as calculating a single numerical value or multiple-choice questions. However, other types of courses are less able to use such questions and instead rely on free response problems, such as short answers or essays. A major limitation to expanding multi-submission assignments that provide real-time corrective feedback to free response questions is the amount of grading time and effort required of the instructor. Future investigations should evaluate whether including advances in text analysis and machine learning (Galhardi & Brancher, 2018) can provide methods for deliver-

ing real-time corrective feedback for free response assignments to afford additional opportunities for productive learning.

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The Struggle is Real: Assessing Reading Assignments

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How do I hold students accountable for reading assignments? I have been grappling with this question for years in my elementary mathematics methods course. In fact, I tried three different approaches, yet none were successful.

First, I used the discussion board feature on Blackboard, our learning management system. I placed students into small groups and asked them to: a) respond to a prompt about the assigned chapter and b) respond to a peer's post. Unfortunately, this format was frustrating for both me and my students. While some students took the time to carefully read the chapter and respond to the prompt thoughtfully, most students wrote very brief, superficial responses. Another issue was that some students did not post responses to the prompt in a timely manner. They may have procrastinated, or they may have struggled with crafting a response. Either way, it meant that their group members had no posts to respond to.

Next, I used reading quizzes given at the beginning of our class meetings. These were meant to be quick assessments covering the big ideas from the

reading assignment. However, the anxiety was palpable as soon as my students entered the classroom. “From the entire chapter, what might the question be?” they wondered. To reduce their stress, I allowed them to answer just one of three possible questions. This format made it obvious who had read the chapter and who had not, though it was harder to distinguish if students had read the entire chapter or just a portion of it. I intended for the quizzes to take about 10 minutes, but I also did not want to rush students who were still writing. The result was that the quizzes took up much more class time than I would have liked, and students were mentally drained before we even started the class activities.

Then, I used written reflections where students responded to a set of prompts about the assigned reading. The entire reflection paper was expected to be 1-2 pages in length and demonstrate that the student had read the chapter. Since written reflections did not have the same issues that discussion boards and quizzes had, I used this method for several years. However, it seemed that students found the written reflections tedious and insignificant. For example, there were often fewer reflections submitted on days when big assignments were due.

In Fall 2020, my typically face-to-face elementary mathematics methods course changed to fully online due to the COVID-19 pandemic. Class sessions were synchronous Zoom meetings twice a week. This shift in modality caused me to rethink class activities and assignments. One significant change was the use of Google Slides for class notes. Keeping students engaged during online courses was crucial, so I switched from PowerPoint to Google Slides so that students could interact with and edit the class notes. I found Theresa Wills’ website (https://www.theresawills.com) particularly helpful because it contained a variety of Google Slide templates for me to use and modify.

I also changed how I handled reading assignments. I decided that students would discuss the readings in breakout groups during class. I hoped this format would give all students an opportunity to participate in the discussion without taking up an inordinate amount of class time. On the first day of class, students created a slide about themselves so that I could gauge their comfort and famil-

iarity with editing Google Slides. They practiced making text boxes, uploading images, inserting shapes, and adding comments or notes. During class, I previewed the upcoming reading assignment by highlighting key topics and providing a list of guided reading questions (Figure 1).

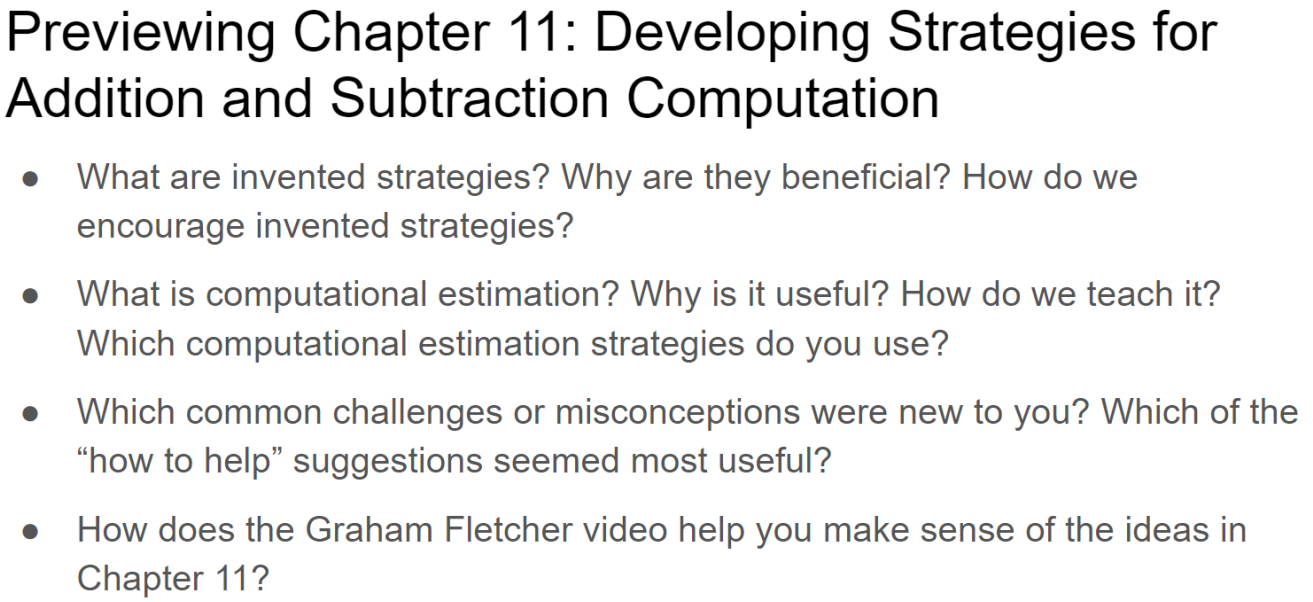

Figure 1. Example of guided reading questions.

At the next class meeting, I created breakout rooms in Zoom and used the automatic assignment option to evenly distribute the students. In the slide deck, I included a slide for each breakout room (Figure 2). The slide had spaces for students to list their names and record their discussion of selected reading prompts. I expected all group members to discuss the reading prompts, record ideas on the team slide, and share items from their slide when we reconvened. After class, I reviewed the team slides and determined a score based on the scope and quality of the content.

After numerous attempts at getting my students to read the course text, I finally found a method that worked. The students appreciated the guided reading questions and their reading comprehension improved. In previous semesters, students were hesitant to speak up during whole class discussions and typically, the same couple of students would volunteer to respond. In the new format, stu-

dents got their ideas validated in the breakout rooms and felt more comfortable sharing those ideas with the whole class. Students seemed more motivated to stay on top of the reading assignments so they could contribute to the breakout room discussions. Completing the reading assignment and understanding the key concepts also meant that students could engage more meaningfully in the class activities.

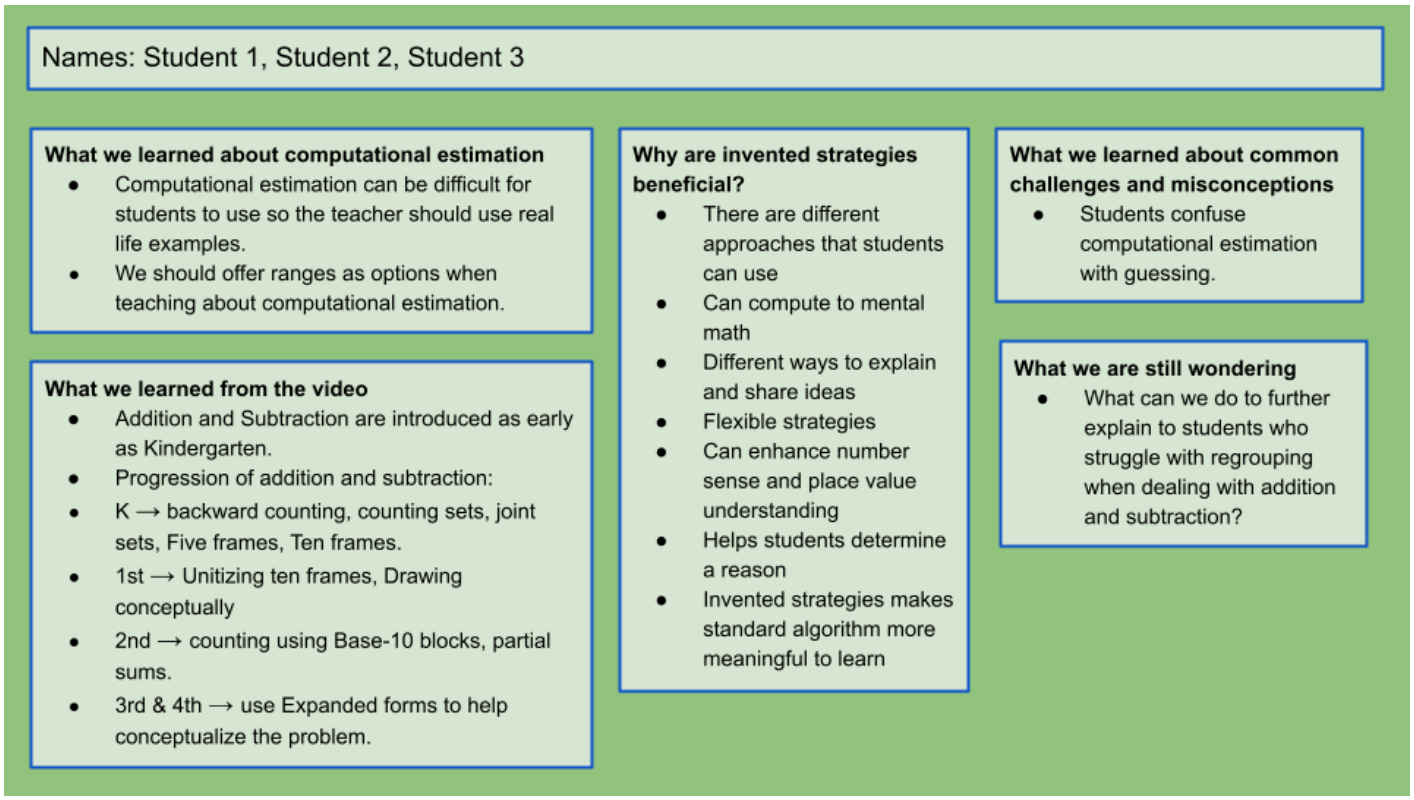

Figure 2. Example of completed breakout room slide.

There were other benefits as well. When students had submitted written reflections, I did not know what they wrote until after class was over. If they misinterpreted a section of the text, I was unaware and unable to address it promptly. Students were usually too embarrassed to ask questions, often assuming that they were the only one who did not understand something. With the use of breakout rooms and Google Slides, I knew immediately which topics students were comfortable with and which they were unsure about (Figure 3). Students realized that their peers had similar areas of confusion and I could then adjust my planned activities to respond to these issues. Also, I could easily monitor group productiv-

ity by watching text fill up on the slides. If necessary, I could pop into a breakout room to provide support. This was a vast improvement to face-to-face settings, where I had difficulty knowing what was going on in every small group discussion. Even if I walked around and observed each group, I only caught bits and pieces.

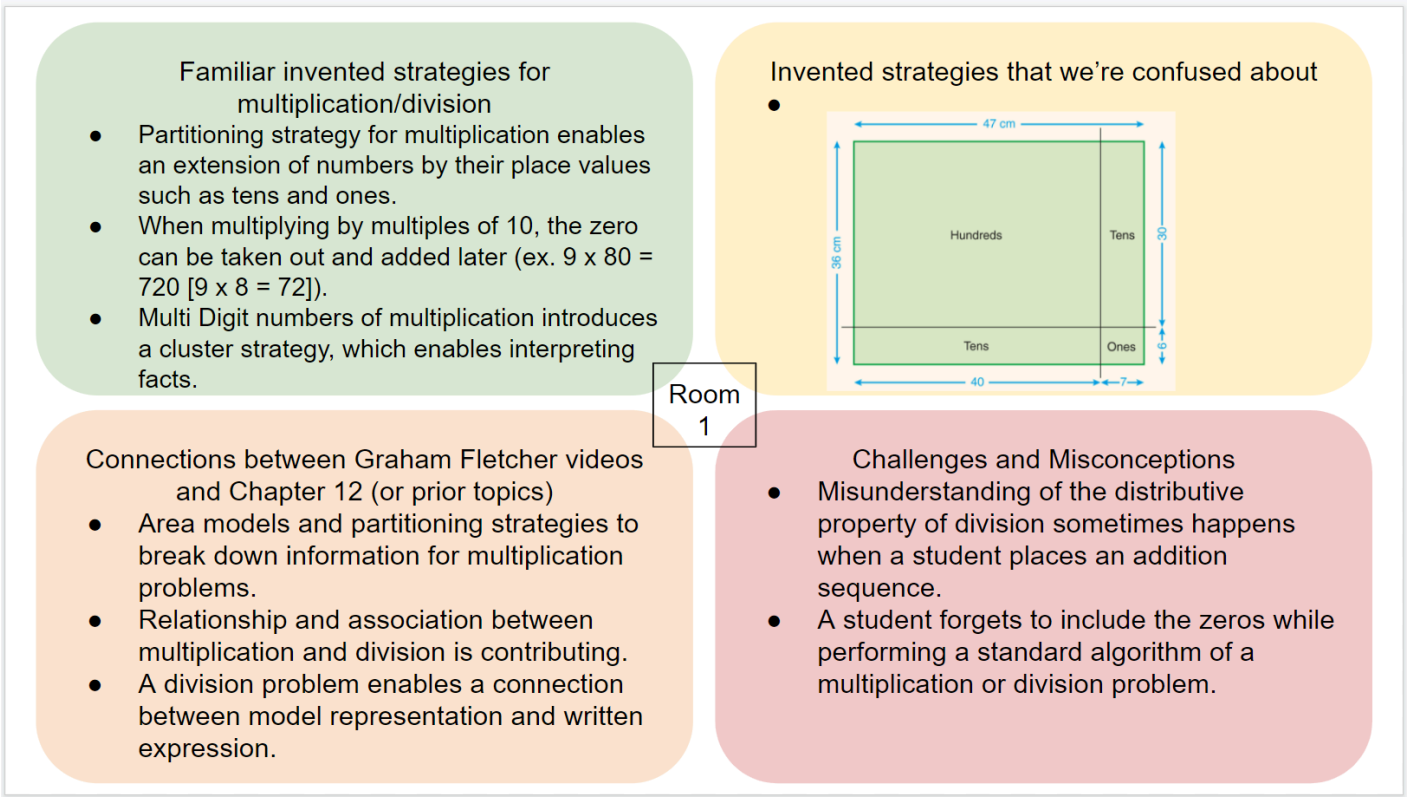

Figure 3. Example of breakout room slide with topics of confusion.

I made sure to vary the slide templates and the structure of the discussion questions from week to week to maintain a high level of student interest. Sometimes the discussion questions stemmed from the reading itself. Other times I got inspiration from *Mathematics Formative Assessment: 75 Practical Strategies for Linking Assessment, Instruction, and Learning* (Keeley & Tobey, 2011). I found the 3-2-1 technique (p. 194), the "I used to think…but now I know" strategy (p. 109), the point of most significance (p. 155), and the muddiest point (p. 132) to be particularly well-suited for my purposes. In the slide shown in Figure 4, I asked students to identify three things they learned, two things they were wondering about, and one thing they were ready to try. As students worked in their breakout rooms, I

kept track of their progress and made notes about which groups I would ask to share when we came back together as a whole class. It was important to me that students had an opportunity to see and hear what their peers in other breakout rooms wrote. The process of working in small groups and sharing out with the whole class seemed more effective and engaging than having me review the main ideas from the reading.

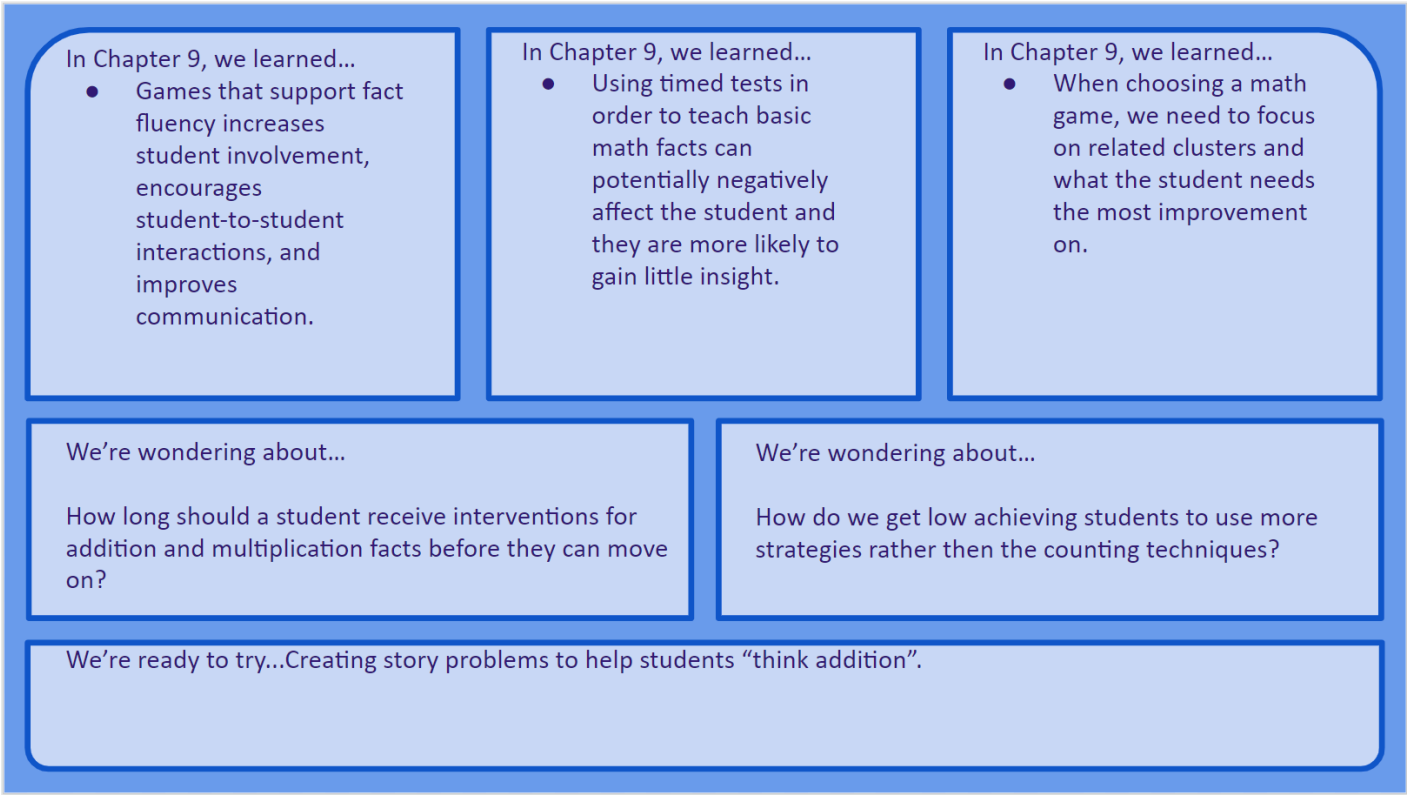

Figure 4. Example of a 3-2-1 slide.

Overall, the use of guided reading questions, breakout rooms, and Google Slides worked well as a means of holding my students accountable for reading assignments. There was one minor problem that arose. In the beginning of the semester, I told students that once they got in their breakout rooms, they should grab a slide and start typing. However, sometimes students from different break-out rooms started typing on the same slide. Luckily, this was an easy fix. From then on, I labeled the slides with room numbers and there were no more mix-ups.

In Fall 2021, we returned to campus and resumed face-to-face instruction.

Nevertheless, I continued using Google Slides so that my students could interact with the class notes. I still provided guided reading questions even though our small group discussions were no longer in Zoom breakout rooms. Whenever students worked in groups, I included slides in the slide deck for them to use. This method of documentation not only allowed me to see what they had accomplished, but it also provided a lasting record for students.

I extended the use of Google Slides to my math content courses as well. While this may seem like a minor change, I feel that it has given students more control over their learning. In the past, students asked me to post the PowerPoint slides before instead after class. I hesitated because I worried that students would preview the slides and not come to class. When I began using Google Slides, I posted the link in Blackboard the day before class. I was pleasantly surprised that students did not use this as a reason to skip class. In fact, I feel that students came to class more prepared when they knew what I had planned. My classroom had computers that students could use but most preferred to bring their own laptop or tablet. If students were taking notes and I had moved on before they were ready, they could easily go back to the slide they needed. When we did practice problems, students could enter their solutions directly into the class slides. I also noticed that students returned to the slides after class more frequently than when I used PowerPoint. For example, when students worked on homework or studied for a quiz, they knew exactly which slide to pull up. Of course, there were downsides to giving all students edit rights. There were a few instances where slides were accidentally deleted. Fortunately, Google Slides has a "recover" feature that resolved the issue. After each class, I also switched the slide setting from edit to view to preserve what we had done in class.

We often get set in our ways and find it difficult to change what we do or how we do it. I had always made tweaks to my PowerPoint slides, class activities, and course assignments, but I dreaded making drastic changes. The COVID-19 pandemic forced me out of my comfort zone and as a result, helped me improve my instructional methods. I know nothing is ever perfect so I am confident I will continue to fine-tune my reading prompts, Google slides, and other aspects of

my courses. For now, I am pleased that I could not only continue to teach, but also facilitate community-building in a virtual classroom during a challenging and stressful time in our lives.

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The Connective Power of Video Feedback and Video Messaging

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I want to share a story with you. I teach graduate students how to engage in the process of research, and through an evolution of circumstances, I have stumbled upon a pedagogical practice that has transformed the quality of my instruction, my feedback to students, and my human connection with my students.

THE PRE-STORY

My story begins pre-pandemic, and actually about seven to eight years ago. In my field, I have read and provided detailed feedback on research proposals, dissertation defenses, and my all-time favorite (*sarcasm*), the literature reviews that range anywhere from 15 pages for my masters' students up to 80 plus pages for my doctoral students. But, I pride myself on the detailed feedback.

However, as my pre-story goes, I grew increasingly frustrated when wonderful students would not take my feedback into consideration, and as a matter of fact, I believe that on many occasions did not even open their document to view the written feedback that I had so painstakingly and liberally offered them. That frustrated me! That's the context of this story.

MY STORY: INSTRUCTOR FEEDBACK ON STUDENT ASSESSMENTS

It appears that social media, video capability at our very fingertips, TikTok, Instagram reels, Facebook posts, etc. have mesmerized our whole society with video platforms unequal to anything we have ever seen in human history. So, just shortly prior to the pandemic, I began to wonder if I could harness this capability and provide videos of my critical feedback on students' work. What if I could find a technology that would allow me to record my whole monitor and put the students' work on that monitor and then go through the document and provide feedback to them via video? Maybe, just maybe, they would take the time to actually see and hear and incorporate my critical feedback and learn. Even though I am slightly overdramatizing the story, this is exactly what I did the semester prior to COVID-19.

I found a video technology called Screencast-O-Matic. I really don't like the name, but it worked for what I wanted to do. It would record anything on my screen (the student's paper) as well as a small headshot of me in the bottom right corner of the screen. I felt it was important for students to see my facial expressions and not just hear my voice. So, I started doing video feedback on student work, especially on longer assignments that required detailed feedback. I found that this really was a time saver for me and probably has kept my fingers from a painful future arthritic reality.

My process was to scan through a student's paper, put small tick marks at different places where I knew I wanted to make a comment, go back up to the top of their paper, and start the video recorder. As stated, my face would be down on the bottom right of the screen so that they could see me....and I would begin scrolling through the student's paper making various critical comments, as well as the occasional praise.

SO, DID IT WORK?

Students began seeing and hearing my feedback to them, and they responded. It was amazing. So much so, that I began making more videos on all kinds of assignments. And students responded again! In that first semester and a half of providing students with video feedback assessment on their work, I made over 500 videos.

As a research professor, I began thinking to myself, 'Why am I not collecting data on this?' And so, I put together a small pilot study just for my own benefit to see what my students thought about this video feedback. Overwhelmingly, the response was favorable.

Although my study was not an empirical study, my students were overwhelmingly pounding the "strongly agree" button on my likert-style statements relating to: (1) video feedback helped me to feel connected with my instructor, (2) video feedback is better than written feedback, (3) I would re-watch the video to better understand the feedback, (4) the video feedback was encouraging to me even if it included critical feedback, (5) video feedback helped me to learn, (6) I wish other professors would use video feedback, and (7) I used the video feedback to improve my writing. I also provided an open response question relating to the video feedback and students responded with such sentiments as (1) they felt validated, (2) they appreciated the time it took for me to make the videos, (3) the video feedback provided more feedback than written feedback, (4) the feed-

back was thorough, (5) the feedback felt more personal, and (6) they loved the video feedback.

However, I learned a few things about my practice of providing video feedback. If you are thinking about possibly incorporating this video feedback into your repertoire of pedagogical practices, listen closely.

1. Too much of a good thing is not good. Don't go overboard. Be selective on when to use video feedback and find a good balance between written and video feedback.
2. Students much prefer shorter videos over lengthy ones.
3. You can become a resounding gong by saying the same thing over and over and over again; students don't really like that.
4. Be aware of the power of your nonverbal communication. For example, I found out that sometimes after I offer a point of critical feedback that I do this little chuckle thing and apparently some students found this to be highly offensive (they told me so). I was not even aware of that at all.

So, that's video assessment of students' work, in a nutshell.

MY OTHER STORY: VIDEO MESSAGING

COVID-19 and the global pandemic erupted. So, let's all go home and isolate ourselves from all living humans for about a year. Oh, and at the same time, continue to teach and remain wonderfully connected to your students. What???? For a person who thrives on human connection, this shook me. I find great satisfaction in the personal connections that I have with my students. Period.

Well, as the pandemic was really kicking up a notch, I thought, maybe I can use this video strategy beyond just student video feedback. So, I began using Screencast-O-Matic for video messaging as well, but only in the following specific circumstances:

1. When a 30-second video could communicate volumes to a student that their lives and their learning matter to their instructor. Boom, there went a 30-second or less video.
2. When I sensed that a student needed a word of encouragement from their instructor, there went another 30-second or less video.
3. When a student asked a technical question that involved SPSS, Excel, or some other technical application, I quickly provided a 30 second video on what to click, etc.....there went another video message. For example, one student emailed me and said she could find no articles on "retention of students in higher education"....really? I knew exactly what she was doing—loading up the first search box with all kinds of terms; thus, zero hits. So, I logged in to the Library databases, and showed her exactly how to use the "Keywords"....boom, 1,252 scholarly articles all written within the past 6 years....on her specific topic.

SO, HOW DID VIDEO MESSAGING WORK?

Students felt supported, encouraged, and empowered. In addition, I am certain that these students knew for sure that I whole-heartedly supported their individualized learning. I know there are limitations to this practice and that it is not feasible in all circumstances. But, video feedback and particularly, a well-

timed video message can go a very long way in humanizing our instruction and students sensing that their instructor cares about them. Students have needed that more than ever through the global pandemic. A good 80+% of my students are teachers in school settings. They are stressed and frazzled. If there is anything that I can do to humanize their experience in my classroom, I will do it.

AND MY STORY CONTINUES

A few of my colleagues have agreed to join me in also engaging in video feedback via Screencast-O-Matic: Dr. Maida Finch, Dr. Jenni Davis, and Dr. Ron Siers. We will be collecting data from our students relating to our practice of providing video feedback on some of their assignments and are looking forward to continually figuring out how to best harness this pedagogical capability. If you would like to consider adding video feedback to your toolbox of pedagogical practices, I have created a short video on how to get started. Email me at jtfox@salisbury.edu and just ask for it.

Reflections on How The Pandemic Helped Me Create A Better Course…and then a Worse One!?

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One of the novel aspects of teaching during the pandemic was the opportunity to teach the same course using different instructional delivery modes within a relatively short window of time. This was not a common experience for me prior to the pandemic. Yes, I had taught a course in-person/in the classroom and then later online (asynchronously and then synchronously), and I had experimented with another course using several instructional modes over the years (asynchronously online, then in-person/in-class, then flex–combining in-person/in-class and synchronous online modes). These experiences taught me that it is challenging to deliver high-quality learning experiences in all delivery modes and each mode poses some unique challenges. But most of the courses I taught were in-person/in-class, and in hindsight, I never fully embraced the degree of change in teaching methods required to create "equivalent" engaging learning experiences in each mode of instruction. Nor did I fully understand the relative merits of each mode of instruction.

This reflection focuses on an entrepreneurship course: Startup Accelerator, an undergraduate course with no prerequisites, where students work in teams to start a business. The course is an extreme, active learning experience, where teams receive $1,000 to defray startup expenses, must start a business by mid-semester (e.g., develop a product or service, financial plans, and a legal entity), and have sales by the end of the semester in order to pass the course. I taught this course in-person/in-class for three years (Fall 2017, Fall 2018, and Fall 2019). Then in Fall 2020, I taught it using remote instruction (Canvas course with synchronous video conference classes), and in Fall 2021, I taught it using a flex mode (Canvas course with in-person and video conference participants combined for classes).

Unlike in Spring 2020, when courses had to be converted to online/remote with little notice mid-semester, for Fall 2020, I had time to plan and prepare to teach remotely. Plus, I took time during that summer to learn more about remote learning best practices, participating in several virtual conferences and workshops. For Fall 2021, there was uncertainty about the mode of instruction, and new classroom technology was rolled out shortly before the start of the semester to better accommodate a flex mode of instruction. As a result, I felt less prepared, barely recovered from the stresses of the prior school year, and faced more uncertainty about the teaching environment.

Regardless of the mode of instruction, for the course learning objectives to be accomplished, students need to form teams very rapidly because they need to create a business within five or six weeks. Money must be distributed to the teams quickly (within a week after teams are formed) so that they can use it to pay for startup expenses. Teams must work together to create their firm and share their progress and challenges via weekly presentations and class discussions. The instructor must meet with teams regularly to monitor progress, provide feedback, and mentor/coach teams. Sometimes the instructor may need to meet with individuals, to discuss unique challenges they face. The instructor must also teach students some technical skills required to successfully run a firm. Because there are no prerequisites, students may need to learn how to use spreadsheets, how

to create financial plans (e.g., unit economics, sales forecasts, income statements, etc.), and how to track key metrics for their venture. Table 1 and Table 2 provide an overview of key course activities and implications by mode of instruction.

FALL 2020: REMOTE TEACHING

As I transitioned this course from in-class to remote in Fall 2020, I focused on two key changes: building community and cash transfer. For all of the other key learning activities, I essentially planned to do the same activities, just translated into a virtual environment–team formation via speed dating in breakout rooms instead of in class, team meetings in breakout rooms instead of huddling in class, presentations via screen sharing instead of from the podium in class, team consultations in private breakout rooms instead of while huddling in the classroom, and mini-lectures using screen sharing instead of slides shared via a podium/projector/screen set-up in class. To encourage community building, I prepared two to four questions, which I asked at the beginning of each class. The questions focused on discovering shared interests, feelings today, and gratitude today. Everyone was invited/expected to participate and students could choose to engage verbally, via chat, or sometimes by a signal/sign (thumbs up/down, a number, etc.). Regarding cash transfer, the process became completely electronic using Apple Pay.

As I reflected on this experience, I realized that the remote mode of instruction actually yielded a superior learning experience versus the in-person/in-class mode in some respects. Of course, these results were only achieved when students had reliable Internet access, working computers, had their cameras on, and were prepared to engage. Teamwork and team consultations were more effective in private breakout rooms; there were fewer distractions, it was easier to hear each other and easier to focus. Private team matters could be discussed freely without worry of being overheard or embarrassing students in front of their peers. Once students learned how to share their screens, presentations flowed more smoothly with less lag time between presentations; this increased focus

and engagement. Surprisingly, the personal computer view afforded by remote instruction proved more effective than the classroom view for technical mini lectures. When viewing a computer screen, spreadsheet examples adjusted appropriately were large enough to be seen but still small enough to capture the whole. This is hard to do in a classroom–when scale is increased enough for visibility in the back row of the classroom, the perspective of the whole is often lost. It is easier to follow a discussion or explanation of a spreadsheet from 24 inches away than ~24 feet away; there are fewer distractions in your field of view, and it is easier to see and focus. During these mini lectures, I also discovered that it was easy to quickly share student work and collectively problem-solve ways to improve the work (i.e., using screen share or file share via chat with screen share). This heightened engagement and increased learning, making it more personal/specific.

With hindsight, I realize that some of the changes/improvements to the course could be achieved or applied to the in-class mode of instruction. For example, the community building activities did help build community and this approach can be applied to in-person classes, although some classroom interaction technology may be needed to ensure widespread engagement. The electronic cash transfer approach was easy, quick, and reliable; there was no reason to revert to physical distribution, even when students return to the classroom.

FALL 2021: FLEX MODE

As I planned to implement this course in Fall 2021, the mode of instruction and associated technology was not clear until a few weeks before classes started. When I found out the course would be taught in a flex mode (with some students participating in the classroom and some participating via video conference), I focused on learning the new technology. I had pioneered use of a flex mode in our graduate program (as the program grew, flex provided an efficient way to accommodate new online students without having to create new course sections with very few students). I knew the challenges of this mode of instruction and that it could be effective.

With hindsight, my experience may have given me a false sense of confidence that I could make flex work in any course. What I quickly discovered was that for this particular course, a flex mode had significant disadvantages. Team formation activities were less successful using this mixed mode of instruction in comparison to classroom and remote modes; students were not prepared to communicate across space during the first week of the course. Consequently, about half the teams were formed based on convenience–working in the same mode–rather than shared business interests or goals. This resulted in less cohesive and less effective teams. Teamwork and team consultations were challenging when some team members were online and some were in the class. Team members in the classroom had to bring laptops, phones, and headsets to class to communicate effectively with online teammates during class. They expressed resentment at having to work across space, they had chosen to be in class and did not want to work via video/phone. All privacy was lost when team consultations were conducted in a flex mode with teams having members in the classroom and online. People in the classroom had to speak loudly so the room microphones would pick up the sound for online participants to hear (or in-classroom participants, including the instructor, had to use headphones and phones/computers–essentially going online). During team presentations, online students were bored during the longer transition times in the classroom. Adjusting scale to accommodate classroom and online students during mini-lectures was challenging but doable. There was a noticeable difference between the engagement and comprehension of the classroom and online students with the online students more quickly grasping the material, asking questions, and sharing examples and work.

It rapidly became evident to me and students that the flex mode of instruction was making teamwork and team consultations harder and less effective. So as a class, we discussed the challenges and talked about options for improving the situation. We agreed to try an experiment for two weeks: We would all show up in the classroom on Tuesdays and we would all show up via video conference on Thursdays. Tuesdays would be reserved for team presentations and mini-lec-

tures, while Thursdays would be reserved for teamwork and team consultations. Everyone agreed to the plan. What actually happened was that most students showed up in person on Tuesdays, but not all, and all students showed up via video on Thursdays. After two weeks, we had another discussion, and students agreed this format was more effective, even though students who preferred for everyone to be in the classroom had not been accommodated. Teamwork and team consultations were much more effective for mixed-mode teams when all participants used video.

LOOKING AHEAD

My pandemic experiences have helped me realize that multiple modes of instruction are here to stay and they can be used in ways that improve (Fall 2020) or worsen (Fall 2021) the learning experience for students. I've learned that: 1) each mode of instruction has unique characteristics–advantages and disadvantages, 2) not all learning objectives/activities are best accomplished via each mode, 3) just as learning activities and assessments must be selected to align with learning objectives, so should modes of instruction be aligned with learning objectives, 4) planning, selection, and execution of learning activities, assessments, and instructional strategies must take into consideration and be responsive to or fit the characteristics of the mode of instruction, 5) effective online instruction, whether synchronous, asynchronous, or part of a flex format, is highly dependent on reliable technology (i.e., electricity, Internet access, computer, etc.) and participants' willingness to engage versus merely observe or watch, and 6) the flex or mixed mode of instruction is the most challenging, has the least evidence base (Kohnke & Moorhouse, 2021; Miller et al., 2021), and requires active effort to overcome the disadvantages of mixing modes (i.e., in-group/out-group attributions and resentments, differences in lag or pacing/flow, differences in quality of sound and visual experiences by mode, etc.). The flex or mixed mode was attractive to administrators during the uncertainty of the pandemic and widely adopted to manage institutional issues and give students choice. In the future, a more nuanced decision-making process that includes

consideration of the strengths, weaknesses, and effectiveness of this mode of instruction in specific learning contexts will better serve students and institutions.

Table 1: Key Course Activities by Course Mode

Key Course Activities	**In-Person**	**Remote/Synchronously Online**	**M-Flex (in-person & synchronously online)**
Team formation	Speed-dating Informal discussions	Speed dating in breakout rooms	Speed dating in breakout rooms Speed dating in class Video introductions Online discussion – introductions
Teamwork	Breakout groups	Breakout rooms	Breakout groups across space
Team consultations	In classroom	In private breakout rooms	In classroom across space
Team presentations	Log-in, find and open file	Open file, share screen	Log-in, find and open file Open file, share screen
Mini-lectures (technical)	Classroom view: podium, projector, screen, whiteboard	Screen view: screen share	Classroom view/ Screen view: podium, projector, screen, whiteboard and screen share
Funding-cash transfer	Gift cards	Apple Pay	Apple Pay, Cash App
Well-being/ relationship building	Informal greetings, “how’s it going?” (verbal)	Intentional: gratitude, challenges, all participate (verbal, chat, signs/signals)	Informal greetings, “how’s it going?” (verbal; chat not legible to students in the class)

Table 2: Implications for Key Course Activities by Course Mode

Key Course Activities	In-Person	Remote/ Synchronously Online	M-Flex (in-person & synchronously online)
Team formation	Physically and emotionally engaged (movement, energy, empowered to talk-anonymous in the chatter)	Loss of informal discussions	In-group/out-group dynamics between in-class versus online students; harder to ensure everyone met in real time; more reliance on less rich asynchronous media for meeting
Teamwork	Face-to-face communication, easy to see if someone isn't engaged, easy to intervene; can be loud; can be overheard	More private, no noise from other groups; harder to observe and intervene	Harder for teams with members in class and online (need phones and headphones with microphones, plus expertise in virtual communication techniques to effectively communicate); may trigger in-group/out-group attributions and resentments
Team consultations	Not private, need to be sensitive about communications	Private, can speak freely	Not at all private for teams with members in class and online (need to speak loudly to the room to be heard by students online)
Team presentations	Lag in transitions; lose attention and flow	Less lag, after learn how to screen share; improves attention and flow	Mixed lag; some loss of attention and flow
Mini-lectures (technical)	Can be hard to focus, many distractions (wider field of view)	Easier to focus, fewer distractions (smaller field of view); easier to share student work and work examples	Mixed ability to focus, very different views/ attention fields
Funding-cash transfer	Requires physical procurement and distribution	Completely online, electronic record, minimal effort	Completely online, electronic record, minimal effort
Well-being/ relationship building	No intentional focus on well-being, may not include or touch every student	Intentional focus on building community, offers multiple modes of engagement, includes everyone	Reverted to classroom practices, lost community building, harder to engage everyone unless everyone use technology (may need to introduce new technologies)

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Lab in the Time of COVID: Hybrid and Remote Labs for General Chemistry

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The COVID-19 pandemic posed a particularly challenging dilemma for disciplines with laboratory-intensive curricula. Perhaps the biggest challenge for our chemistry department at Salisbury University was to continue to provide an enriching laboratory experience for our general chemistry students. Skills, both hard and soft, developed in these laboratories provide the foundation for all other laboratory courses that undergraduates with various majors will later complete. Midway through March 2020, when we unexpectedly changed to fully remote instruction, our laboratories turned into data analysis recitations, with students working through their lab reports using instructor-provided data. Yet the department felt strongly that the experiential learning in general chemistry was crucial for later academic success and must resume.

A team consisting of lecture and laboratory instructors Dr. Anita Brown, Dr. Jose Juncosa, Dr. Joshua Sokoloski, Mindy Howard, and Danielle Provost devel-

oped, nearly in parallel, two solutions to the challenges of general chemistry in the times of COVID-19: remote at-home laboratory activities and a hybrid general chemistry lab sequence for de-densified campus operations. During Summer 2020, we developed and taught remote lab sections, and we used the experience gained during the creation and execution of those summer lab courses to foster the development of the future hybrid or remote labs. Remote labs were to be emergency options for campus closure resulting in a shift to full online instruction or for special sections for those students who could not safely participate in on-campus activities.

The first challenge for hybrid lab instruction was to handle de-densification in the classroom. Before the pandemic, each laboratory section included 22 students, and we ran approximately 28 sections per week between General Chemistry I and II. A typical lab lasted 165 minutes and featured a pre-lab quiz, a pre-lab lecture, the actual lab activity, as well as time for data analysis and interpretation. Under social distancing guidelines from the state and university, a maximum of nine students and one instructor could work in the lab at a time. To have all students in lab each week under these conditions, we would have had to run an impossible 68 lab sections each week.

Under our hybrid laboratory sequence, each lab section was still enrolled with a 22-student maximum; however, each lab instructor divided their lab section into three groups. Each group rotated through the same set of face-to-face (F2F) lab experiments over a three-week period. Group 1 completed a face-to-face set of labs during week 1, Group 2 completed that same set of face-to-face labs during week 2, and so on. In a single F2F session, the students conducted the equivalent of two full experiments. Thorough discussion of the requisite background and pre-lab quizzes were moved online to MyClasses, our Canvas learning management system, to maximize F2F time for the actual lab activities. The online materials were distributed as a template for all lab instructors to use. In the weeks they were not in lab, the students worked on the data analysis of the F2F experiments they had conducted and completed several online virtual lab activities. Due dates were established for post-lab analysis so that only one

completed lab report was turned in each week and were synchronized to occur after all students had completed the same set of F2F labs.

One member of "the team" was selected to be the lab coordinator for each course. This person was responsible for making sure the template site was operational and disseminated properly, for communicating with all instructors, and for making necessary rapid decisions – for example, how suddenly to offer unanticipated make up labs the next week.

To accommodate all our traditional learning objectives for general chemistry labs in an abbreviated amount of physical lab time for students, the team developed multiple new experiments. We focused on key skills such as proper use of common laboratory equipment, solution preparation, measuring concentrations of analytes via spectrophotometry, and titrations. In the first two rotations of the General Chemistry I laboratory sequence, students prepared samples to be used in future rotations and assembled them into kits that could be taken with them should campus close midway through the semester, an occurrence SU managed to avoid. The final rotation of each lab course was a lab practical for assessment of student learning.

In Summer 2020 and Spring 2021, we also offered a few sections of completely remote general chemistry labs, available for non-chemistry majors. Our goal was to recreate our on-campus sequence of F2F lab experiments as closely as possible while also ensuring that student safety was not compromised. For the General Chemistry I remote labs, completely in-house kits and experiments were designed by Dr. Anita Brown, Dr. Jose Juncosa, and Mindy Howard. Students prepared solutions using volumetric flasks and conducted titrations using plastic syringes. For General Chemistry II labs, we used commercial lab kits from Carolina Biological Supply consisting of activities that matched almost all of our traditional F2F experiments (in-house kits were impractical due to shipping restrictions on many of the reagents).

We can say with pride that our hybrid and select remote lab approach

allowed our students to conduct a full complement of lab experiments in both General Chemistry I and II even with de-densification policies in place during a global pandemic. The hybrid rotation model facilitated make-up opportunities for the students who missed lab due to quarantine or illness. The remote lab sections, while not the same training with true laboratory equipment, still served to provide meaningful hands-on work for students who would not have been able to be on campus. This accommodation allowed these students to remain on track for graduation.

We and our colleagues found one unexpected silver lining to this hybrid model approach: The lab structure forced students to work independently for all experiments rather than in pairs. Prior to the pandemic, approximately half of the General Chemistry II and a quarter of General Chemistry I labs involved students working in pairs due to equipment and space limitations with a full 22-student section. Additionally, students tended to complete their data analysis in pairs. With more individual lab activities, and all data analysis completed outside of class, students had to be more self-reliant to get their lab goals accomplished.

We also looked at student outcomes in the courses to try and understand the impact of our modified curriculum. In General Chemistry I, the modified curriculum involved more solution preparation. The lab practical was altered accordingly and so score comparison with past years is difficult. Practical scores for some hybrid sections were lower than in previous semesters, but others maintained typical scores with a possible improvement in solution preparation. In General Chemistry I, overall lab grades also decreased during the pandemic, possibly due to decreased engagement. Observations in General Chemistry II did, however, indicate that our hybrid and possibly remote lab experiences provided our first-semester students with foundational lab skills. We observed that students who took General Chemistry I at other institutions without F2F instruction faced steeper initial learning curves. This was true even with the basic skills of recognizing traditional glassware and reading graduated markings to the correct number of significant figures. Overall success in our General Chemistry II

hybrid labs was reflected by similar scores on the lab practical compared to pre-pandemic semesters.

Increased proficiency for both students and instructors in online learning was another positive outcome. Students had to be able to scan and upload their work as well as to incorporate online videos and quizzes into the traditional F2F activities of the lab course. Such ambidexterity will figure into most post-pandemic careers, so our students will be better prepared for this future of work.

Of course, there were clear drawbacks to this hybrid model. Even though students performed approximately the same amount of lab work, they had to do so over fewer F2F lab sessions. This lower frequency of physical lab work may have inhibited mastery of technical lab skills that can only be developed by regular, repeated practice. For example, performing three sets of titrations in one lab meeting is not the same experience as doing those three sets over three weeks. The hybrid model was also more work-intensive for lab instructors. Maintaining the group rotation schedule, checking rosters for campus clearance, and coordinating make-up labs was complex. Keeping groups on track required weekly emails identifying which group was meeting F2F and what lab assignments were due. Emails answering student questions increased dramatically. Grading online can also be prone to technical issues and was quite time consuming for some instructors. Additional time was required for lab instructors to set-up and maintain the online learning management sites for their lab sections. Also, we found that students did not all carefully watch or use the videos provided. In General Chemistry I, our introductory videos included embedded quizzes. Although the program required them to watch the related video segment before attempting a quiz, students easily avoided that. These embedded quizzes had a variety of issues that were very time consuming for the lab coordinator to fix.

Still, there were aspects of the modified curriculum that we will carry forward. We will continue to use some of the materials we developed. The template Canvas site created for each course contained all introductory material as well as a module for each lab. The information in the template was copied to each lab

instructor's site. Instructors could then modify some assignments and due dates, but largely used the information from the template site as is, aiding our instructors who were using our learning management system for the first time. In Fall 2021, when we returned to standard lab sizes, a template site consisting of introductory material and a gradebook entry for each lab was provided to lab instructors. We plan to continue to use these minimal template websites as well as some online instruction and activities. In the General Chemistry I labs, the original F2F labs are being modified to incorporate the greater emphasis on solution preparation and a few will include components that seemed more engaging for students.

At this point, we do not recommend fully remote labs for general chemistry at SU. Introductory videos showed the steps to complete each lab, stressed safety and technique concerns, and quizzed students on these topics. While students' pictures of key steps seemed to indicate they were using good technique, the videos of their work showed significant safety and technique problems. In the General Chemistry I remote labs, the lab practical administered during a synchronous session showed significantly reduced scores, and a significant portion of students demonstrated a serious lack of skills. To complete online labs, we recommend instructors find methods to ensure students engage with the introductory material, that students submit videos performing the labs, and that the instructor provide comments on those videos prior to the next activity.

Another recommendation for all hybrid or remote instructors is to maintain regular contact with the students during the week and to run synchronous online sessions whenever feasible. Students, especially a significant portion of first-year students, needed that structure to successfully stay on task. For many instructors teaching hybrid, though, this was not possible, as the time when students were required to be in lab online was when the instructor was in a physical lab with a different group of students. Anecdotally, when students in both the hybrid and remote sections attended sessions to work on analysis of the data, whether the sessions were required or not, the students felt they understood more, and they submitted work that was clearer and more correct. Typically,

when sessions were not required and synchronous, two or fewer students attended.

Overall, we found it possible to implement de-densified and remote general chemistry labs that maintained many of our high standards. Although far from ideal, such reorganizations of general chemistry labs can be used in emergency circumstances that limit student access to campus. Having coordinators to oversee the process, providing online templates for instructors to load their learning management sites, and maintaining regular online communication are the keys to success in these circumstances.

Lessons Learned: Novel Instructional Approaches at UMGC MBA Courses Across Europe

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As collegiate professors that teach MBA classes throughout Europe, we have had to respond to novel challenges because of the COVID-19 pandemic by employing new or modified teaching approaches. We describe the circumstances brought on by the pandemic that propelled us to experiment with new techniques, discuss the results of our experimentation, and share what we plan to build upon from our lessons learned going forward.

WHAT? PRE-PANDEMIC MAGIC

University of Maryland Global Campus (UMGC) MBA classes in Europe are 11-week long, hybrid classes with three complete weekend residencies per class (total face-to-face meeting time of 48 hours per class). Prior to April 2020, these residencies were held in person at military installations across Europe. Since then, however, due to the COVID-19 pandemic, remote Zoom sessions have replaced these in-person weekend residencies. These MBA courses apply the project-based learning format, where students learn-by-doing through engaging in solving and dealing with real-world challenges and problems. Classes consist of projects that students complete to demonstrate mastery of the stated competencies.

Our teaching and learning environment pre-pandemic at the military education centers was "magical." Our students are all military-affiliated (current and former military members and their families). Collectively, they lead by example, possess tremendous experiences, have outstanding work ethics, and demonstrate "can-do" attitudes. The most experienced students would rise to the occasion by becoming class leaders in their first MBA class and continue as class leaders with the existing cohorts for the remaining MBA classes. They demonstrated leadership by coming prepared to class, leading discussions, sharing relevant experiences, and serving as role models for their classmates.

Before teaching remotely using Zoom, we effectively used the flipped learning model to complete student readings and research before attending the weekend residencies. The residencies provided a dynamic, interactive learning environment where we guided the students to reinforce their learning as they applied the concepts. Knowing that they had to be ready to perform in person, most students would come prepared at these residencies. Teaching in such an environment enabled us to serve as coaches and mentors truly.

SO WHAT? WHY EXPERIMENT?

We found that since teaching remotely using Zoom, our students have been less prepared. Students have not felt the same pressure to engage and perform as before. In addition, we found that those students that began their MBA program in-person tended to be more prepared for their residencies when UMGC transitioned to Zoom than those that started their MBA program remotely. We believe the pressure of meeting in person and the examples displayed by the classroom student leaders established the culture and standard to raise everyone's performance level. This in-person culture has been difficult to emulate in the virtual environment. Over the past five semesters, while teaching remotely, we have experimented with recreating the best learning environment and active engagement before the COVID-19 pandemic.

EXPERIMENTS

Legal and Ethical Environment of Business Project

One of the major challenges to teaching in an on-line platform like Zoom is the lack of personal interaction and dialogue with the students (Filho et al., 2021). This is also a challenge in the face-to-face classrooms, but the added dimension of interacting through a screen, heightens this challenge. Most students in the MBA program are unfamiliar with legal concepts and ethical theories at the start of this class; however, by the end of the MBA 630 class, students have grasped many key legal and ethical concepts. So, at the end of the business ethics and legal class (MBA 630 Leading in the Multicultural Global Environment), students are challenged with a final review of the materials learned during the term.

Using games in the classroom to increase motivation and engagement is not a new idea in pedagogy or andragogy (Barber, 2021). One review game that

was utilized pre-COVID-19 in MBA 630 was JeopardyLabs (https://jeopardy-labs.com), which allows the instructor to create a Jeopardy style game. The game was then played in teams, which also allowed for building teamwork skills and collaboration. Unfortunately, this format does not work well on Zoom with more than a handful of students due to the limitation of players allowed in the game. And implementing this format on Zoom to be played in teams would be almost impossible. Fortunately, however, we discovered another online resource called Kahoot! (https://kahoot.com) to create a game-style interactive activity. The Kahoot! format allows individualized trivia-type practice, where educators can create an interactive assessment to determine students' grasp of key concepts. Like playing jeopardy, the trivia game allows for gamification in our learning environment.

In the face-to-face format, JeopardyLabs will likely be used again. The jeopardy game incorporates team building and the format functions much better than Kahoot! for in-person interaction. However, during our time on Zoom, the trivia-game has been a good replacement as an engaging and interactive tool for our classroom.

Digital Analytics Project

Our digital analytics project in MBA 640 Innovation Through Marketing and Technology requires the students to complete extensive class readings on digital analytics and participate in four online discussions in our marketing class. Then the students analyze and answer ten questions regarding a company's eCommerce site to assess the traffic volume, referrals, clickstreams, online reach data, and sales to optimize website usage. To perform this, we have our students complete a Google Analytics (GA) tutorial (Google Analytics Academy, n.d.) and perform the required analysis using Google's demo account (GA demo account, n.d.) that contains several years of data from the Google Merchandise Store.

We instruct our students to complete this tutorial and attempt to get to the appropriate GA report to answer each question before meeting for their second-weekend residency. Our goal is not to make these students GA experts but to use their analytical and critical thinking skills to analyze and answer these ten questions effectively. We then lead an interactive discussion in the second-weekend residency, where we have the students come up with the correct GA reports to analyze each question. This exercise enables the students to critically examine these reports on their own to answer the questions, ensuring they analyze the correct data.

During these face-to-face classes, our students almost always were prepared to address this digital analytics project during their second-weekend residency. Conversely, in our remote courses, they have rarely come prepared. When they come unprepared, we express disappointment because they will not maximize their learning for this project. We then redirect the last two hours of our Saturday session to complete the tutorial and identify the correct GA reports to address each question. We inform them that if they do not come prepared on Sunday, we will cancel this exercise, and they get to complete this project on their own time. They always come prepared on Sunday, and we get energetic participation from our students. Many of them work late into the evening on Saturday to prepare for this exercise, as evidenced by the e-mails and chat requests we receive from them asking questions. Our students continually identify their GA work as the highlight of their weekend.

Students have shifted their former preparatory efforts to the Zoom residencies instead of a classic flipped mode where they prepared in advance asynchronously and came ready for live synchronous sessions. As a result, the distinction between offline, asynchronous, flipped work, and in-person face-to-face residencies, compared to online flipped work and Zoom-based residences, is now blurred. Zoom, it appears, is considered by more students as flipped prep work activity instead of live discussion work.

NOW WHAT? LESSONS LEARNED

We have learned to be more adaptive with our teaching techniques to better engage our students in the on-line format using Zoom and other resources. The silver lining to the pandemic has been the ability of our UMGC Europe community to become more engaged with one another to experience different teaching techniques, some of which we can carry forward to when we return to the physical classrooms. Going forward, the adult teaching environment is evolving, and we must learn to continue to improve our techniques and not dwell too much in the past of our pre-pandemic classrooms.

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Micro-Internships to Promote Civic Engagement

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An important component of higher education is preparing students to be active citizens. To accomplish this goal, we typically integrate civic engagement through experiential learning. Extending across a wide range of disciplines, these academically directed real-world experiences can include community-based learning, internships, practicum, study abroad, service learning, and simulations. When well designed, these pedagogical practices can transform students and support communities. In this essay, I reflect on the addition of 30-hour micro-internships in COMM 490 during 2020-21 as a form of experiential learning to promote civic engagement.

INCORPORATING CIVIC ENGAGEMENT IN A COMMUNICATION SENIOR SEMINAR

I was an instructor for *COMM 490-Communication Senior Seminar* at Salisbury

University both in Fall 2020 and Spring 2021. COMM 490 is a required course for all communication seniors who do not complete an internship or a course abroad within the major. The course was fully enrolled both semesters, with 15 students from all five of the major's different tracks. The section *Applying your Skills to Public Service* was one of several seminar options available to students. It is aimed at addressing civic engagement in the nonprofit sector. Until all 2020, it had only been offered face-to-face.

During the pandemic, nonprofit organizations were operating remotely with limited capacity while managing an increase in demand for services. This unprecedented scenario posed unique challenges for everyone, and students and internship coordinators had to reimagine new forms of experiential learning adjusted for virtual placements. What did that mean for universities whose mission is to promote civic engagement?

Civic engagement is a commonly used concept that serves as an "umbrella term" (Saltmarsh, Hartley, & Clayton, 2009, p. 5) to refer to different behaviors whose goal is to better society. Adler and Goggin (2005) define it as "how an active citizen participates in the life of the community in order to improve conditions for others or to help shape the community's future" (p. 241). In this essay, I call civic engagement those academically directed activities carried out by students and that have a positive impact on communities.

Micro-internships are generally described as "short-term, professional assignments, comparable to those tasks that could be given to a new hire or a summer intern" (Parker Dewey, n.d.). While there was not a specific amount of time required for the micro-internships in COMM 490, they had to be substantial enough to require at least 30+ hours of students' time outside of class. The micro-internship projects included journalistic and video content creation, industry research, event planning, and social media and website support. Since I am the campus director of the Nonprofit Leadership Alliance as well, I promote civic engagement and encourage giving students the opportunity to network under academic guidance. With nonprofits operating with fewer financial resources,

staff, or volunteers, micro-internships seemed the most logical way to include civic engagement and to connect students with local leaders.

CHALLENGES

From the beginning of the Fall 2020 semester, it was clear that the knowledge about nonprofits varied significantly among students. This was evident the first week of class, while I was conducting an overview of the nonprofit sector and addressing some common misconceptions, such as whether nonprofits do make profits or if they employ individuals other than volunteers. Students' motivation varied, too. Some had chosen the section *Applying your Skills to Public Service* as their first choice while others made it their second or third. Some were eager to fulfill the course objectives while others were merely fulfilling a graduation requirement.

The second week of classes continued with students listing their professional skills (e.g., business writing, video production, photography, graphic design). This was helpful for them to make decisions on the type of projects they would complete with an organization of their choice. Examples of projects carried out in 2020-21 are listed in Table 1. It was interesting to observe that some talented students who lacked experience outside the university were just realizing that the content they had learned in courses during the past four years could be applied in the "real world."

Table 1. Suggested Project Ideas for Students

• Social media campaigns
• Website updating and design
• Event planning
• Graphic design projects
• Research tasks & databases
• Volunteer recruitment materials
• Press kits, articles, & newsletters
• Video production
• Training materials
• Workshops presentations

By the fourth week of the semester, students were already working with their partner organizations. A few struggled to meet the deadline and would claim that they were not getting positive responses. I knew that we were all dealing with unpredictable circumstances, so I helped those who were falling behind by making the initial contacts for them and by providing them with an introductory letter to send to community partners. I asked students to screenshot their exchange of emails or text messages and send them to me to serve as a proof of their attempts to contact nonprofit partners. There were two students out of a total of 30 (both semesters combined) who never completed their projects and did not pass the course, delaying their graduation.

BENEFITS

Once an organization agreed to work with a student and both parties had developed a plan, students spent the next eight weeks completing their projects following the eight steps that are listed in Table 2. Colleagues in other departments may find that their majors can do many of the suggested project ideas, as well.

Table 2. 8 Steps for Success.

1. Identify a client (nonprofit staff who serves as a mentor)
2. Meet with potential client/s
3. Draft proposal
4. Final proposal
5. Progress Report #1
6. Progress Report #2
7. Evaluation from client*
8. Final presentation
**This is the only step in which the student is not involved. It is email correspondence between the instructor and the client.*

Working remotely with nonprofits helped advance civic engagement goals and yielded benefits to all those involved: students, partner organizations, and communities. The first gain for students was new knowledge, both theoretical and technical. They became familiar with an important sector of our economy and realized that it was a viable path for employment. From a practical point of view, students had the chance to further develop soft skills, such as adaptability, teamwork strategies, time management, and emotional intelligence. Hands-on learning included students knowing how to create virtual bingos and auctions, using new platforms, such as Slack to communicate within teams or GooseChase for team-building scavenger hunts. Students also benefited from networking opportunities. Some were offered internship and job opportunities that would not have been presented to them without reaching out to the community, even though they completed their work remotely.

Equity among students emerged as an unexpected outcome of networking during the pandemic. Students with a vehicle had no advantage over those who did not have personal transportation. All students, no matter their economic background, had the opportunity to learn best practices of how to contact non-profit professionals remotely and work with them from home.

Partner organizations benefited, as well. Staff from nonprofits had the opportunity to meet individuals from a new generation of the workforce. New connections often mean fresh perspectives. Students helped improve organizations' websites, assisting nonprofits in reaching out to or building their audiences, adding relevant and updated content, and integrating features that made the site's pages interact seamlessly. One student created a "donate" button for an organization's web page, helping the organization progress from their outdated practice of soliciting mail-in donations. Others supported nonprofits with photo/video coverage, new Twitter or Instagram accounts, a virtual awards ceremony, a 90-day marketing plan, and a community clean-up, among others. When one student partnered with Natik, an organization that serves Mayan grassroots organizations in southern Mexico and northern Guatemala, it dawned on me that students could serve vulnerable communities abroad.

In terms of civic engagement, some authors (e.g., Boyte & Fretz, 2010) agree that higher education has an important role in serving as a democratizing tool and to solve problems in the community. Although small in scale, students were able to solve some problems in the community and got a glimpse of how the nonprofit sector works, potentially motivating them to volunteer or seek work in the field in the future.

TOWARD A NEW KIND OF CIVIC ENGAGEMENT

A core value for higher education is to prepare students to be civically engaged. As we (hopefully) emerge from the constraints of the pandemic, this course underscored the importance of civic engagement and our need to continuously revise how we foster it. In this new world, we must adapt to shifts from in-person to online communication and class delivery; recent undergraduate enrollment decreases (National Student Clearinghouse Research Center, 2021); dramatic psychological effects of the pandemic among students (e.g., Selingo,

2021), and probably a cohort of Gen Z students with strengths and gaps in preparation unimagined three years ago.

Some researchers and educators (e.g., Welch, 2016) affirm that "to make it scholarly, engagement should be theoretically based. The work faculty members and their students engage in with the community partners should be grounded in sound best practices based on ideas and procedures that have been empirically tested and validated" (p. 36). I will continue giving students the option to work remotely with partner organizations, benefiting those without transportation. However, as I carry forward this modality, I will review sound practices and provide students with meaningful readings that give them a more solid background on civic engagement. As a result of this experience, I am working on a study to examine to what extent students' civic knowledge of and engagement with the nonprofit sector changes by virtual networking and micro-internships. The ultimate goal of this research is the development of more targeted student programming to promote civic engagement.

As we respond to the needs and expectations of a new generation of students, we must consider the needs of communities, as well, making sure that there is respect for partners and clients while carrying out of these 30+ hour projects. When well designed, micro-internships and other types of experiential learning can serve to promote civic engagement in meaningful ways. For emerging student leaders, experiential learning is an ideal path to improve their awareness of community needs, increase their readiness to lead and work in the "real world," and support communities whether local or far away. COMM 490 helped students in two ways: to develop soft skills that are increasingly in demand by employers and to articulate what they have gained through their individual projects and during their university experience.

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Global Learning without Leaving Your Seat: International Classroom Collaborations during COVID and Beyond

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In March 2020, countries across the globe implemented travel restrictions, dramatically curtailing global education programs. With the many unknowns of how a global pandemic might unfold, students studying abroad returned home in a matter of days; students planning to study overseas in subsequent semesters put their travel plans on hold. The pandemic temporarily halted international travel and exchange opportunities, but an innovative approach emerged to provide students with the opportunity for remote engagements: the "globally enhanced course." At Salisbury University (SU), colleagues from the Janet Dudley-Eschbach Center for International Education worked with SU faculty to leverage

existing partnerships and create new opportunities for students to experience global education from their homes and home institutions. We (Sarah Surak and María Fernanda Batista Lobo) were "matched" because of Salisbury University's existing relationship with La Universidad Latinoamericana de Ciencia y Tecnología (ULACIT) in Costa Rica. While we had not previously met, our universities had exchanged students for study abroad semesters for several years.

As political science and international relations professors, we understand the importance of global learning, especially studying abroad. We began our partnership in Fall 2020, connecting Introduction to Politics (SU) and Introduction to International Relations (ULACIT). Students in both classes are similar: first- or second-year students new to the study of political relations. Our initial goal was minimal. We hoped to meet four student learning outcomes: (1) Gain cultural understandings of the United States and Costa Rica through the perspective of your international peers, (2) Share knowledge about the field of study and current political scenarios in your country, (3) Discuss current international phenomena from different cultural and political perspectives, and (4) Build a network of international peers.

To meet these objectives, students participated in three activities. First, students met in small groups for cultural exchanges to simulate informal learning in an international environment. We stressed that the purpose of the meetings was to learn from each other "outside of the classroom" in ways that might occur over lunch in a cafeteria or in the evening at an off-campus location. We suggested ten possible activities, from describing sports culture to cooking a meal together online. Students were required to meet three times and document their experience individually and as a group, identifying what they did, what they learned, what they found most surprising about the experience, and how the experience related (if at all) to course concepts.

The three discussions were meant to build connection and trust as we introduced the central class assignment of participation (in the same groups) in two synchronous debates. Each group prepared a response to the discussion

questions of "should governments provide social welfare payments to their citizens?" and "should states be obligated to comply with the Universal Declaration of Human Rights and the rights and obligations conferred by it?" We used a semi-formal structure where students prepared opening and closing statements and participated in a question-and-answer round. Students completed a reflection assignment describing their experience preparing for and participating in the debate. Finally, we gave guest lectures based on our academic expertise and national experiences. The first lecture provided an overview of federal voting procedures in the United States before the 2020 general election. The second explained the historical relationship between Costa Rica and the United States.

COLLABORATIVE GLOBAL LEARNING: NEW PRACTICES AND PARTNERSHIPS

Planning a collaborative exchange across time zones, disciplines, and institutions with faculty partners who have not previously met can result in unanticipated barriers. We found that the collaboration was a resounding success despite the physical distance, personal and professional stress resulting from the pandemic for everyone involved, and various logistical hurdles. It was so successful that we continue to collaborate every semester and now assess our engagement with a formal research project to understand the benefits and drawbacks of global collaborations for student learning.

Our first exchange experience took place in Fall 2020. While Salisbury University maintained an in-person presence throughout the pandemic, at that point, almost all student activities and classes were exclusively online. From the outset, we observed that students were curious and open to the idea of virtual exchange, especially given the physical and social isolation necessitated by the pandemic. Students wanted to learn how others view the same global issues and discuss these differences from their cultural perspective and context. The discus-

sions outside of the classroom spilled into expanded perspectives for conversations of dense topics such as the quality of democracy and what responsibilities constitute civil duties. Student satisfaction with the global experience noted on course evaluations was surprisingly high, with many considering it to be the high point of the semester. In the intervening year, students have reported they continue to keep in touch with their international colleagues and groupmates at their home university.

Connecting online with peers from different cultures and countries felt "natural" for students as they have grown up as digital natives. However, we encountered some challenges as students realized the differences in connecting for social reasons vs. academic reasons. While unanticipated, part of this blurring was on purpose as the culture exchange discussions were meant to engage the experience of studying abroad. Student groups also found scheduling meetings difficult at times, as this portion of the exchange was organized, scheduled, and facilitated by the students. Our initial reasoning for this strategy was our assumption that students are likely better versed in communication technologies and more comfortable working across different platforms. We also wanted to give students agency over the discussions. We quickly found that using multiple platforms (Blackboard, Canvas, Microsoft Teams, Zoom, and WhatsApp) can create confusion as not all students in each group successfully migrated to new spaces for communication. We also found that while some groups thrived in this open environment, other groups and individuals struggled with non-formal learning. We encouraged students both individually and within our classes not to focus on grades and "success" but rather the learning experience.

One of the things that surprised us the most was the growth in confidence by the end of the global experience, particularly for skills such as public speaking, English literacy, teamwork, and communication. Students in both classes stated that they were surprised how much they enjoyed participating in the debates, noting the format encouraged critique and discussion of difference centered in a positive rather than negative environment. We were also pleasantly surprised to find that differences between English native speakers and

non-native speakers were far more minimal than anticipated in their writing and oral communication performance. Another interesting result is the willingness and flexibility of students towards changes in the schedule and assignments. We made many small adjustments throughout the semester and faced very little resistance. We believe that this is indicative of how the experience also helped support the development of global competencies and attitudes such as openness, flexibility, adaptability, and empathy.

MOVING FORWARD: COLLABORATION WITHIN THE PHYSICAL CLASSROOM

While students are again studying abroad, we will continue to connect our classrooms in global exchanges. Along with the benefits we observed during COVID-19, we recognize that not all students can study abroad due to financial constraints, family needs, or requirements of their academic programs. Globally enhanced courses also encourage students to study abroad; our first student from an exchange class just completed an in-person study semester at the other university.

While designing new projects is exciting for faculty, we also realize the importance of connecting course activities to learning objectives and assessing if we are meeting these objectives. To this end, we are now collecting data to evaluate student learning in our paired courses using three learning targets from the Association of American Colleges and Universities (AAC&U) Global Learning Value Rubric: perspective taking, cultural diversity, and understanding global systems (AAC&U, n.d.). In addition to other reflective writing, students now complete a pre- and post-global enhancement assessment where they reflect on how they understand key course concepts at the beginning and end of the semester. The questions correlate with the learning objectives for the collaboration.

We also found this collaboration personally exciting and motivating. Our regular professional conferences were canceled or moved online, limiting exposure to new academic community members. Our students yearned to engage with people outside of their home bubbles, and so did we. We look forward to our continued collaborations and hope to meet one day in person.

As we transition to a new stage in the pandemic, we face unique challenges. In our most recent exchange, students encountered far more scheduling issues than in previous semesters, likely due to increasing activities outside of the classroom as we begin to return to in-person life. Student enrollment numbers are also unpredictable now. One class was almost triple in size to the other, which resulted in larger groups to ensure that two students from each university were in each group. Most prominently, we observed differences in how our universities and students are returning to campus. While SU has returned primarily to in-person teaching, ULACIT remains online. We noticed that students that were only receiving virtual lessons remained more engaged and enthusiastic about the exchange activities.

Some of the most salient results of the experience are expressed in the remarkable traits of resilience that students, faculty, and universities have shown through this pandemic period and having to adjust from in-person to virtual classes. With different readiness levels, resources, and contexts, both partner schools supported and encouraged our program that combined academic discussions and co-development of assignments. We needed to be creative, innovative, and empathetic, and we were and continue to do so. We hope to continue to find such silver linings as we shift our pedagogical practices to a new normal.

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Teaching Equity and Inclusion through Virtual Service-Learning

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Higher education faculty were suddenly thrust into remote teaching mid-semester in March 2020 due to the onset of the COVID-19 pandemic. Faculty quickly adapted course pedagogies to align with alternate platforms for course delivery without the possession of knowledge, skills, or experience in virtual learning. Thus, one of the unexpected consequences of the pandemic included the inventive approaches faculty used to modify existing course pedagogy. Even the most challenging pedagogies were translated to alternate platforms during remote learning in the name of effective teaching at Towson University (TU).

WHAT?

As faculty from the Department of Early Childhood Education, we sought to convert a traditional service-learning experience to a virtual platform. The purpose of the service-learning experience was to promote the transformation of course content to practice with young children in preschool through grade 3. The students in the course planned an integrated arts (music, dance, movement, visual arts, three-dimensional art, play, storytelling, or dramatic arts) literacy or social studies activity with a focus on diverse, equitable, and inclusive children's literature.

When the course meets face to face, the service-learning experience takes place in real-time in child development centers and preschools. However, during the pandemic, the students video-recorded their activity for young children. After posting the videos online, community partners who were identified through the university office of Community Engagement and Social Responsibility, shared the recorded activities with teachers and families for educational purposes.

Following the return to campus, we found continued challenges with the integrated arts course in implementing a service-learning project during an ongoing pandemic. Primarily, concerns about staff and children's safety precluded on-site visits to some settings for young children. Therefore, the TU faculty used service-learning via virtual and face-to-face teaching to provide all students an opportunity to engage in reflective practice.

SO WHAT?

Effective educators are critical for realizing the vision of our profession that every young child, birth to age 8, has equitable access to high quality learning and care environments (NAEYC, 2019). To achieve this vision, early childhood educators must demonstrate the ability to effectively support the development, learning, and well-being of every young child. Further, educators have a respon-

sibility to work as partners with diverse families to support their children's education.

As education personnel preparation faculty, we ask ourselves how do we best build our students' understanding of diversity and equity in early childhood classrooms? The response is twofold. We must prepare our students to not only teach effectively in a diverse and inclusive classroom environment, but also to use arts integration to support diverse student needs. We strive to prepare educators who are culturally responsive and who value and serve diverse students and families well.

Furthermore, it is critical that faculty apply effective pedagogy to transform students' knowledge acquisition into real-world practice. In essence, to assure that our students sustain inclusive classrooms, we must provide opportunities for reflective practice in coursework. Pre-service educators use reflective thinking to translate the knowledge and skills learned in the university classroom to the practice of teaching. Reflective practice involves higher order thinking applied to real-world applications of knowledge and skills learned; thus, teacher competence results in a deeper level of transformative learning (Slade, Burnham, & Waters, 2018).

Traditional field experiences that promote reflective practice exist in later professional program semesters, but not in the preceding semesters. Therefore, reflective practice must be sought in alternative formats during pre-professional semesters. The virtual real-world application is achieved through community engagement between the university, schools, and families using service-learning pedagogy. This form of experiential learning supports student engagement in the service of community-based needs via structured opportunities designed to promote student learning and development through reflective practice. Reflection is a key concept of service-learning (Jacoby, 1996).

Service-learning extends traditional lecture to a more meaningful learning experience through authentic engagement with the community. Students and

faculty prefer instructional methods that are engaging and extend learning outcomes beyond knowledge acquisition alone. A trend has emerged for faculty who have moved away from lecture to more engaging pedagogies. A thorough evaluation of the use of this pedagogy in virtual or remote courses is warranted.

Within teacher preparation programs, there are multiple benefits of effective service-learning pedagogy that support reflective practice. Specifically, the benefits of sustainable virtual service-learning include: (1) The provision of reflective practice without the complications of field placements or prior to their existence in a program of study; (2) Student access to environments that are not readily accessible; (3) Enhanced access for students with limited resources to participate in service-learning opportunities; (4) Increased student learning through reflective practice afforded to students via service-learning; (5) Increased student field experiences given a teacher shortage that diminishes the number of available classroom mentors for preservice students; and (6) Student access to diverse and inclusive educational settings that enhance students' development as effective educators.

NOW WHAT?

As faculty return to teaching on campus following the initial move to remote learning, much consideration is being given to which aspects of the remote learning experience will carry forward in future course offerings. Although our campus is committed to face-to-face learning platforms, many faculty found benefits to some or many aspects of teaching online and blended courses. For the two faculty in early childhood education, the viability of virtual service-learning experiences holds promise for this course and possibly others given the potential benefits to teacher preparation programming.

Currently, we are conducting a year-long study of the impact of the virtual service-learning experience on student learning. The guiding research question

asks whether virtual service-learning will support transformative learning and the deepening of students' knowledge and skills through the application of higher-order thinking. Some students will participate in face-to-face teaching while others' experience is virtual; an average of 90 pre-service students from the university will be impacted by the experience each semester. At the end of the academic year, the faculty will analyze students' written reflections of their teaching practice to determine the efficacy of the virtual service-learning experience and to develop a list of diverse children's literature. The use of formative and summative evaluation (following both fall and spring semesters) will provide opportunities for adjustments or modifications in the project implementation between fall and spring semesters. The ultimate outcome will be the determination of the efficacy of a virtual service-learning experience in providing transformative learning in the pre-early childhood integrated arts course. Not only will the results of the study address the practicality of virtual service-learning for the two faculty involved in the inquiry, but will also support many other higher education faculty who use service-learning pedagogy in their pre-professional courses.

The implications for using virtual service-learning in lieu of or in addition to face-to-face real-world experiences exist for many higher education faculty. Several trends in higher education suggest a change in the needs and circumstances of higher education students. Foremost, faculty must be prepared for the necessity of returning to remote teaching during an ongoing pandemic. Similarly, an increasing number of students are showing interest in alternative virtual learning platforms. Additionally, recruitment, retention, and matriculation of non-traditional students may be enhanced by remote learning opportunities that address the unique circumstances of their daily lives. Finally, in professional degree programs, faculty move students from the classroom directly into field-based internships. A preemptive virtual experience offers guided practice under the complete oversight of the course faculty versus field-based supervisors and mentors.

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Finding the Silver Lining in a Pandemic: A Virtual International Interprofessional Education Course in Partnership with Older Adults Living in Baltimore, MD

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Every day in the United States, 10,000 baby boomers (born between 1946 and 1964) celebrate their 65th birthday. By 2030, adults aged 65 and older will represent more than 20% of the American population. Moreover, by 2034, for

the first time in history, there will be more people over the age of 65 than under the age of 18. This is not unique to the United States–the percentage of older adults worldwide is projected to grow from 8.5% (in 2016) to 17% by 2050 (NIH, 2016).

Healthcare systems around the world are working to identify ways to cope with the rising costs associated with the significant increase of older adults requiring complex medical care. Healthcare delivered in teams is the cornerstone of providing quality, person-centered care to older adults. It is cost effective and has been demonstrated to improve health outcomes (McCutcheon et al., 2020).

Interprofessional education (IPE) is paramount to the success of team-delivered healthcare. Throughout the country, IPE is typically delivered as a one-day activity in healthcare professional schools and programs. University of Maryland, Baltimore (UMB) is no different; we have a long history of delivering single intermittent interprofessional programs in which students and faculty from various disciplines come together for case-based learning. However, we now also offer a full semester IPE course, titled *Interprofessional Care in Geriatrics Aging in Place.* The first cohort of students representing three disciplines enrolled in the inaugural offering in 2015.

In the pre-pandemic years, the course brought together students from the seven diverse professional schools at UMB for weekly engagement with our older adult neighbors living in West Baltimore. Students are challenged to execute the goals of an age-friendly institution as they engage in a clinically focused, hands-on experience. To facilitate learning in weekly clinical huddles, students work with our neighbors in IPE teams to conduct screenings (e.g., blood pressure, fall risk, high risk medications) following the Medicare Annual Wellness Visit format.[1] Additionally, students lead the neighbors in a light exercise program, conduct home visits when necessary, and provide education and resources to assist them in navigating the psychosocial challenges affecting their ability to age in place. The overarching goal of the course is to help our older neighbors age in

the community, reduce their rate of (often not needed) check-in to the local emergency departments, and decrease the rate of admissions to the hospital.

In January 2020, this program was expanded to facilitate virtual inclusion of students from University of Helsinki, Finland using Zoom technology. The pivoting to a completely virtual program due to the COVID-19 pandemic in March 2020 enabled us to fully incorporate an international interprofessional approach to care as students continued to engage with our West Baltimore neighbors via Zoom technology. As the virtual format continued into Fall 2021 and beyond, professional students from the University of Maryland, College Park also enrolled to learn and work in interprofessional partnership with the UMB and University of Helsinki, Finland students along with the participating older adults. These weekly interactions became the silver lining of the COVID-19 pandemic.

MAKING THE PIVOT

In the pre-pandemic version of the course, students facilitated health-related conversations and games and activities (such as a "Who Wants to Be a Millionaire"-style question game) each week with our neighbors. Students also conducted ad hoc health screenings and follow-ups with neighbors who would present their health concerns in sessions voluntarily. With the onset of the pandemic, this ad hoc community structure was no longer feasible. To maintain health education and outreach to our neighbors, we welcomed older adults from several communities around the Baltimore metro area who had access to the technology to join the course remotely in online "all teach, all learn" presentations. These presentations featured experts from the UMB community speaking on high-interest topics for a mixed audience and encouraged our neighbors to share experiences related to the presentation topics. That mix of students, older adults, and faculty was meant to continue to foster the communal, dialogic approach of our in-person gatherings in a new virtual setting.

To replace our individualized health screenings, we created telehealth consultations with older adult volunteers and community members in which students were able to conduct screenings based on the Medicare Annual Wellness Visit and other screening tools. These sessions occurred in virtual breakout rooms to enable student teams to maintain care and team dynamics. After these breakout sessions, students rejoined a general session in which individual groups presented patient cases and the larger team could discuss care issues and interventions.

An additional benefit to our virtual platform was the ability to increase the scope and number of collaborators in the screenings, including students from University of Helsinki (Finland). Our strategic approach to maximizing the virtual platform appears to have continued to enable students to access the rich, interactive experiences that are necessary to developing the team-based skills for adaptive, complex task coordination, as is required in interprofessional approaches to healthcare. Our efficacy in continuing to provide students with high quality learning experiences is shown in our pre/post-course survey data.

As shown in Figure 1, students enrolled in the course in Fall 2019 (the semester prior to the pandemic) rated their ability to coordinate care for older adults on average at 4.07/5 at the start of the course and 4.22/5 at the end of the semester. In Spring 2020, which began in the usual class model of interactive in-person sessions but abruptly became virtual in March 2020, students recorded a large leap in self-rated ability to collaborate to meet care needs, from 4.20/5 to 4.60/5, a difference of 0.40. The self-reported gains in skills related to collaborating to meet resident/neighbor care needs were evident in both of the next two semesters in which the course remained virtual (Fall 2020 and Spring 2021). Though our sample size is small, these results illustrate that the virtual course delivery did not negatively impact student learning.

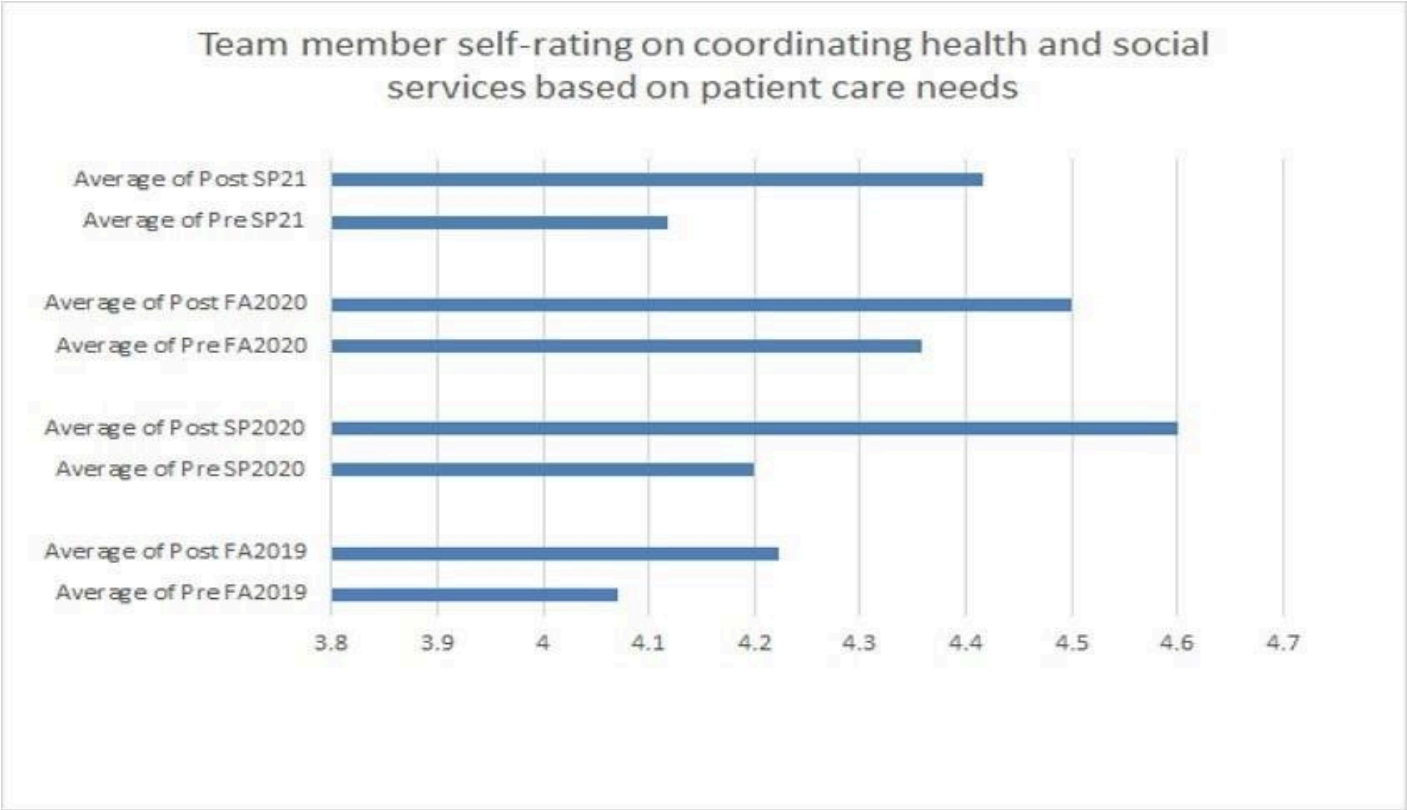


Figure 1. Student self-rating on coordinating interprofessional services to meet patient-centered care goals, comparing pre-pandemic (Fall 2019) and concurrent-with-pandemic (Spring 2020, Fall 2020, Spring 2021) semesters.

No student was left behind in learning from, about, and with each other (IPEC, 2016). We witnessed members of the team communicate with each other in a responsive and responsible manner that supported a team approach. At the end of the experience, students were able to explain common geriatric syndromes that impacted older adults, such as falls, urinary incontinence, and frailty. As part of their course experience, students were required to complete reflective journaling exercises throughout the semester. Our internal analysis revealed that the value of this interprofessional learning experience, and comments illustrated the importance of relationship-building when working as a team member in geriatrics care. Students often shared how the course helped shape their relationship with older adults and with each other. Comments such as "It takes some time to develop the relationships" and "I truly learned a lot about myself as well as about other disciplines" were not uncommon. One social

work student said, “I never knew that Pharmacists knew so much” on the heels of listening to a PharmD student present about hepatitis C in older adults.

OVERCOMING OBSTACLES

The success of our virtual format was not without its challenges.

From an international perspective: Students and faculty from Finland are used to working and studying remotely with their cameras off, resulting in a lonely, faceless learning environment that lacks a sense of community. Because everyone had cameras on in the IPE course, these participants were able to see everyone’s faces, expressions, and gestures and feel almost the same togetherness that can be felt when participating in a traditional learning environment.

From a community engagement perspective: Although many of our usual older adult neighbor participants could not participate because of a lack of equipment (computer/internet access), resulting in isolation, many others with the ability to participate experienced problems while using computers and smartphones resulting from age-related and/or disease-related changes in their mobility, dexterity, hearing, and vision.

From a teaching perspective: As course instructors, we saw an increase in the number of student participants and a decrease in the number of our West Baltimore neighbors. Lack of access to technology meant only one or sometimes two neighbors participated each week. Since we had 15 students participating in the course, interprofessional teams were often larger than what is ideal for the learning format.

From a student perspective: Working and learning as a team of interprofessional students meant that we all learned about and performed different health screenings with the neighbors. For example, it was not always the pharmacy stu-

dent who checked the neighbors' medications; it could also be the nursing student or the audiology student. This took the students outside of their comfort zones and moved them toward really learning from and about the other professionals. In addition, working with the neighbors as members of a team meant that students learned not to prejudge older adults' concerns. They talked with the neighbors and found the root concerns underlying a particular reason for a visit, not just what the students assumed the neighbor would be concerned about.

From an interprofessional perspective: While we still experienced the usual problems with coordinating multiple faculty members with regard to scheduling, objectives, etc., we experienced new challenges while interacting with neighbors. Our course centers on their medication, safety, and social well-being; however, these were all impacted by the pandemic. For example, through our screenings we learned that some neighbors could not afford the copay of their maintenance medications; they would rather pay for food versus medication. We turned this challenge into an opportunity when students voluntarily started a food pantry initiative with five of the buildings in which our neighbors live. Furthermore, we initiated a vaccination facilitation program on the heels of many experiencing vaccine hesitancy. We also expanded a referral service for dental needs and hearing loss.

MOVING FORWARD

While the rationale for interprofessional learning–such as greater patient complexity, the need for including patients in their care decisions, and better cost and health outcomes–becomes increasingly well-established in the literature, education and training for effective interprofessional collaboration remains a challenge. Faculty from our course have published findings that showed high-quality student learning and teamwork in geriatric care, but similar to other interprofessional courses noted in the literature, our course had been designed

on complex, hands-on collaboration between faculty, students, and community members. Because our course depended on in-person interactions, converting the course to a virtual platform raised significant questions about whether high-quality learning around interprofessional and collaborative competencies would still be possible. The results of our conversion are promising though more data is needed.

Some of this data may come from our international partner, University of Helsinki, Finland. Finland is a European Union country located in Northern Europe between Sweden and Russia. It has a population of about 5.5 million people. With nearly 10% of the population over age 75, it is one of the 'oldest' countries in the world. The working-age population in Finland is concentrated in the big cities and surrounding areas, while a large proportion of the older adult population lives in sparsely populated areas. This brings large economic and logistical challenges because of the great distance between people and services. They face the same health challenges as in the United States, including a high risk for medication-related problems resulting from multiple, excessive, or unnecessary medications.

As a result of participating in this IPE course, our Finnish colleagues desire to tackle the growing need of geriatric care expertise in health care, aiming to promote an interprofessional mindset and lifelong learning by offering a comprehensive online course with a special reference to applied geriatric pharmacotherapy. The course is being designed following the principles of constructive alignment, first introduced by John Biggs (1996) (Figure 2). Constructively aligned teaching allows the student to construct meaning in the learning activities and to build new knowledge upon what they already know. Aligned teaching is based on well-defined learning outcomes, and all teaching activities and assessment criteria are designed to support the student in achieving those objectives. In line with the teaching model employed at University of Helsinki, our Finnish colleagues are using the principle of "all teach, all learn"–meaning that all course participants, including students, contribute to teaching, that is, they teach each other and learn from each other. According to the principle of "all teach, all

learn," students play an integral part in developing the teaching and the delivery methods that support learning from each other, as highlighted in Figure 2.

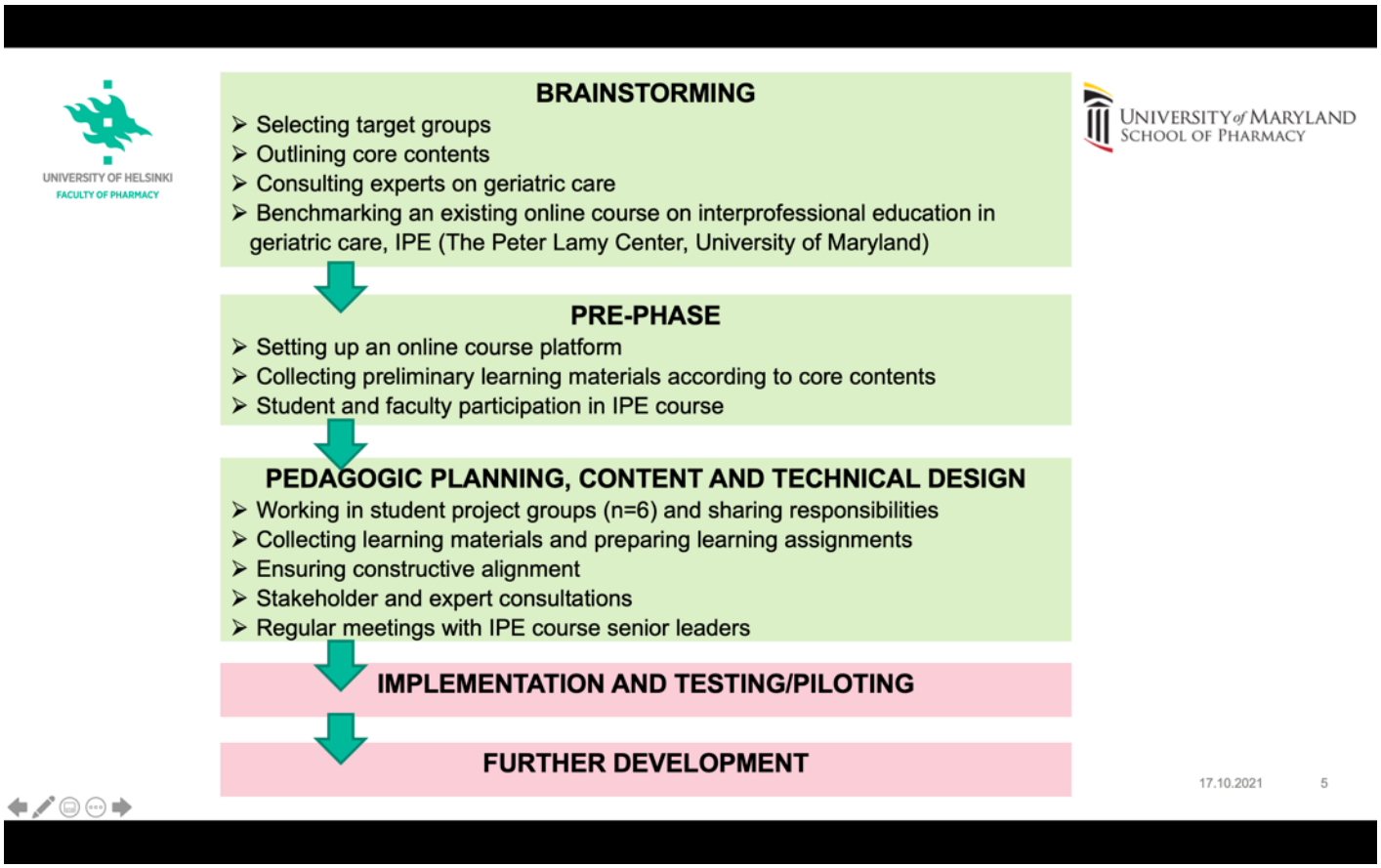
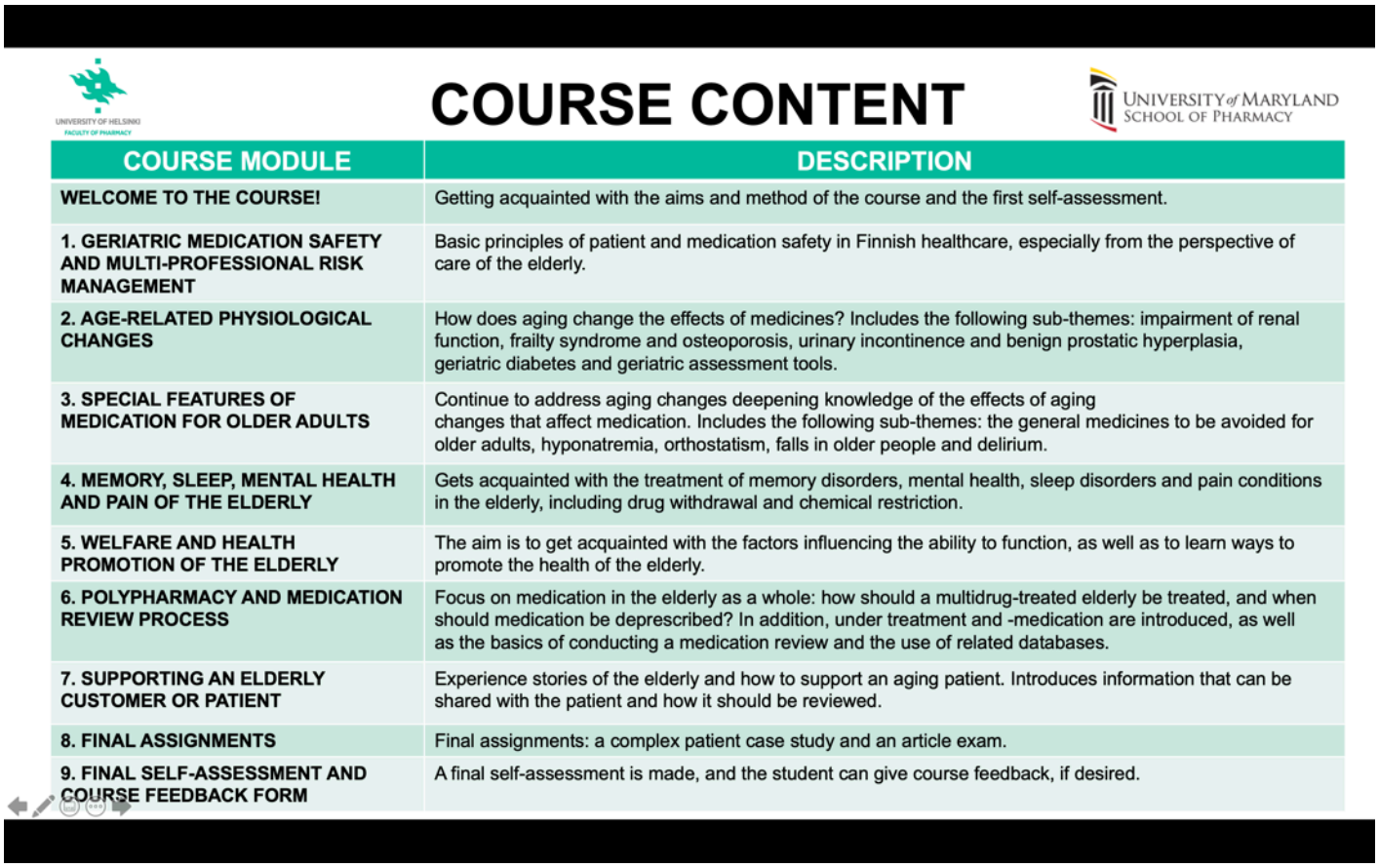


Figure 2. Phases of the development process of an interprofessional online course.

Development of this interprofessional online course during the **brainstorming phase** included collaboration with experts on geriatric care, including faculty at UMB, and benchmarking the international IPE course. During the **pre-phase**, course developers collaborated with pharmacy students participating from Finland and other European universities, as well as senior leaders of the IPE course, in order to receive practical information on good practice in the content and implementation of this type of online course. During the **pedagogical planning phase**, the course developers ensured that the principles of constructive alignment were followed and that implementation is student-oriented. To do this, a group of 20 fourth-year pharmacy students assisted with course creation and they held regular meetings with IPE course senior leaders.

Through the principle of cooperation and learning by doing, course topics and content have been divided into modules, as shown in Figure 3. At this point, the topics and the content have been created following the most important themes within geriatric pharmacotherapy that pharmacists need in their work. Later, the content will be expanded to include areas of expertise necessary for physicians, nurses, and practical nurses.



COURSE CONTENT

COURSE MODULE	DESCRIPTION
WELCOME TO THE COURSE!	Getting acquainted with the aims and method of the course and the first self-assessment.
1. GERIATRIC MEDICATION SAFETY AND MULTI-PROFESSIONAL RISK MANAGEMENT	Basic principles of patient and medication safety in Finnish healthcare, especially from the perspective of care of the elderly.
2. AGE-RELATED PHYSIOLOGICAL CHANGES	How does aging change the effects of medicines? Includes the following sub-themes: impairment of renal function, frailty syndrome and osteoporosis, urinary incontinence and benign prostatic hyperplasia, geriatric diabetes and geriatric assessment tools.
3. SPECIAL FEATURES OF MEDICATION FOR OLDER ADULTS	Continue to address aging changes deepening knowledge of the effects of aging changes that affect medication. Includes the following sub-themes: the general medicines to be avoided for older adults, hyponatremia, orthostatism, falls in older people and delirium.
4. MEMORY, SLEEP, MENTAL HEALTH AND PAIN OF THE ELDERLY	Gets acquainted with the treatment of memory disorders, mental health, sleep disorders and pain conditions in the elderly, including drug withdrawal and chemical restriction.
5. WELFARE AND HEALTH PROMOTION OF THE ELDERLY	The aim is to get acquainted with the factors influencing the ability to function, as well as to learn ways to promote the health of the elderly.
6. POLYPHARMACY AND MEDICATION REVIEW PROCESS	Focus on medication in the elderly as a whole: how should a multidrug-treated elderly be treated, and when should medication be deprescribed? In addition, under treatment and -medication are introduced, as well as the basics of conducting a medication review and the use of related databases.
7. SUPPORTING AN ELDERLY CUSTOMER OR PATIENT	Experience stories of the elderly and how to support an aging patient. Introduces information that can be shared with the patient and how it should be reviewed.
8. FINAL ASSIGNMENTS	Final assignments: a complex patient case study and an article exam.
9. FINAL SELF-ASSESSMENT AND COURSE FEEDBACK FORM	A final self-assessment is made, and the student can give course feedback, if desired.

Figure 3. Planned content of the online course.

CONCLUSION

Out of the challenges that COVID-19 pandemic introduced, opportunities

were born. Lessons learned included those about our neighbors and their ability to participate, including problems using computers and smartphones due to changes in mobility, dexterity, and vision. "Faceless" learning environments that lack a sense of community can be mitigated by asking everyone to turn on their cameras so that participants can feel almost the same togetherness as a face-to-face learning environment. In the end, we appreciate the opportunity to participate in the *Silver Linings* faculty showcase and hope our story offers inspiration to others seeking to construct powerful IPE experiences for students .

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1. See https://www.medicare.gov/coverage/yearly-wellness-visits.

COVID and the Choral Educator: Preparedness, Perceptions, Attitudes, and a Way Forward

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In Fall of 2019, I started my first 'real' job in academia – serving as an Instructor of Music at Black Hawk College in Moline, Illinois. I was bushy-tailed and bright-eyed, ready to take on an established choral program and make it my own. My initial semester in this position was tough but rewarding. I felt like I was making connections with students and building a choral 'family' – a safe space where lasting friendships and musical collaborations can exist. In Spring of 2020, my enrollment nearly doubled what it was the previous semester. I saw so much potential and possibility.

In the foreground, news of a looming global pandemic started to dampen my hope and enthusiasm. By March, all of my choirs had to cease rehearsing in person and move to rehearsing online. Directing choir using Zoom was not anything that I had ever thought of doing nor was prepared to do. After a few initial attempts at conducting and singing on camera, I realized that trying to teach musical shaping, articulation, phrasing, and dynamics was nearly impossible.

More importantly, I saw that most of my students did not have adequate internet bandwidth, nor rehearsal space, to sing at home and thus were mostly disengaged. Within a week or so of trying to rehearse on Zoom, I pivoted my goals and focused on enriching my students' understanding of historical and stylistic elements to our choral pieces. Even with this shift in focus, it wasn't enough. As a collective, we wanted to sing together – that's what we set out to do. As we realized that this would not be possible, we spent the last weeks of the semester processing our collective grief through listening and sharing music.

Amidst the confusion, stress, and pressure of the situation, I began to wonder how other choral directors were holding up. I joined pedagogy groups on social media but seldom saw posts related specifically to choral teaching. Within online communities of choral professionals, I saw that most educators turned to creating virtual choirs as means of keeping their students engaged. Choral programs with large resources tended to produce more virtual choir recordings than others. Coming from a smaller program with a budget already accounted for, I could not afford to contract our professionals to assemble and sync individual videos into a virtual choir format. I tried to put together a virtual choir recording on my own. Many of my colleagues did as well. We all felt the pressure to figure out how to create a virtual choir, regardless of how difficult it was and how much time it took away from other important tasks, such as pivoting our other classes to an online format, supporting students, or attending to our own families and individual circumstances. Seeing that just about everyone I knew was teaching choir over Zoom and spending countless hours creating choir videos, I thought it would be interesting to conduct a study and capture this moment in history.

I called my colleague Dr. Scott Rieker at Frostburg State University and asked if he would be interested in conducting a research study together. Scott and I graduated from University of Southern California, where we both studied Choral Music and Music Teaching and Learning. His expertise in quantitative analysis complemented my skills as a qualitative researcher. Together, we set out to conduct a study that captured a moment in time – a time when choral

directors had to shift gears and take on a whole new skill set in order to do their job, all to survive in their positions and support their students. We wanted reading the published result to be a cathartic experience for choral educators, where they can see our data and say, "Yes, this resonates with me. I was in the exact same boat."

The goal of our study was to try to understand the impact of moving from in-person to online instruction in a choral setting, the teachers' feelings of preparedness before the pandemic, the adaptations teachers made during the pandemic, and any shifts in perceptions and attitude regarding their experience. Since pivoting to online instruction (and doing it completely on their own) was such a crucial piece to capturing choral educators' experience, we used the Technological Pedagogical Content Knowledge (TPCK, later TPACK) framework for professional development as a theoretical lens and established our guiding research questions (Mishra & Koehler, 2006). From there, we put together an online survey. The first section of the survey explored choral educator perceptions of preparedness in thirty different technological areas. The second section of the survey contained twenty-seven questions gauging choral educators' attitudes and perceptions on a variety of topics related to online education. The third section consisted of two open-ended questions, asking what skills/abilities/etc. they wished that they had gained for online teaching during the COVID-19 pandemic, and for whatever other information they thought we should know. Data derived from this section constituted the qualitative component of our mixed-methods study. The final section consisted of demographics. Once we finished collecting data, Scott took on analyzing the quantitative data, while I analyzed the qualitative responses. At times, I felt like taking on this project was more than I could handle. In the end, however, I do think that conducting this study helped validate my own feelings surrounding what was happening, ultimately enabling me to make meaning out of the situation that I was in.

The trends that we observed in our findings were in line with our expectations. First, teachers were not prepared to teach choir online because they had marginal formal training to do so. Most study participants shared that they had

to teach themselves by watching tutorials on Youtube, attending webinars or reading through online PowerPoint presentations. When asked what they thought were the biggest challenges with online instruction, teachers ranked lack of community, latency (the "lag" between when a person on one end creates a sound and the person on the other end hears and responds), and technological "haves" and "have nots" among students as the top three obstacles. We also found that the experience of teaching choir online shifted our study participants' perceptions and attitudes toward using technology. Within our inquiry into perceptions, we considered two avenues: teachers' perceptions of their students, and teachers' perceptions of their own experience and abilities in an online environment. When it came to their students, teachers were disappointed and disheartened at how few students actually attended online Zoom rehearsals. Like their perceptions of their students, teachers did not feel that they themselves were effective in the online environment. They felt disconnected from their craft, their teaching, and their colleagues. After fully analyzing the data, we saw what was becoming a familiar picture – isolation, struggle for competency, feelings of frustration and loneliness, and a lack of clarity on how to move forward.

When we published our study, several of my colleagues and former mentors reached out to say how glad they were that something like this came out. While some said that they were relieved to see that they weren't the only ones who felt that they did not do a good job of pivoting to online instruction, others said that our article gave them something to bring to their administration and say, "Look! I'm not the only one who is struggling and needs professional development to be successful in this new online landscape." To me, the most salient results of the study were not in the analysis of the findings but rather in the fact that we were able to take a snapshot of a moment in history within our profession, with all of the emotions that went into it. By giving study participants room to share their opinions in an open-ended section of the survey, I believe that our study normalized the emotional response to the pandemic – feelings of anger, despair, confusion, loneliness, and shame.

As things continued to change and guidance about the COVID-19 pandemic

was constantly changing, we wanted to publish our study during a time when the discussion on pivoting to online teaching was still relevant and students were not back in the classroom. We recruited survey participants via announcements in choral-, higher-ed-, and music-centric Facebook groups to which we belong, as well as announcements on our personal Facebook pages and personal emails, to create a hybrid convenience and snowball sample. What surprised us was the rather high 27% completion rate by participants. The final sample was primarily female (77%), white (82%), predominantly working in suburban settings (43%), and employed at only one job (74%) in the realm of K-12 education (71%). We had hoped to recruit a more diverse sample, but that did not work as planned. After we submitted our article for publication and heard that it was accepted, we waited for over five months to see it published. It seemed as though interest in the topic of the pandemic was waning. Perhaps with our study particularly, going back in time and dissecting what happened during one of the toughest moments choral educators have faced in their careers, wasn't very appealing. We were approaching summer, after all, and many of us wanted to forget what just happened. In retrospect, I am glad that we worked on the article as efficiently and quickly as we did. Capturing a moment in time requires swift response, and although the sentiment was not one of hope and positivity, there was merit in that as well.

Going through the process of working on this study refreshed my commitment in collaboration. Had I taken this idea and ran with it myself, I likely would have lost momentum and quit. Yet together with Scott, I was able to accomplish so much more. Not only was it motivating to work with a colleague (and thus combat my own feelings of loneliness and disconnect that I was experiencing at the time), but it enabled us to look at data from two different vantage points – quantitative and qualitative. In reflecting on our study findings, pivoting to teaching choir online resulted in many teachers gaining a new technological skill set.

Just recently, while leading an in-person rehearsal, I had to tell my students that it may come to us needing to rehearse online again. They looked up at me in dismay, but I was able to reassure them – now that I have gone through it

once, I've learned and can now do it better. Even within impossible circumstances, with latency issues and constant disengagement from students being the looming reality that may happen again, educators have gained a sense of resilience and grit. Now that most choral classrooms are back to teaching in person and using Zoom infrequently, it would be interesting to look at how the period of Zoom instruction has impacted the students and consider whether participation in virtual choir projects (that were so popular during the onset of the pandemic) has had a positive impact on students' musical and emotional development. We captured how teachers felt about what happened; now, is there a way to find out the impact the switch to online instruction had on students? Undoubtedly, we will see some answers to these questions emerge in our classrooms soon.

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Are We Truly Listening? Does Higher Student Engagement Promote Academic Integrity?

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This paper started out as an attempt to broach the hypothesis that stronger student engagement and student-faculty relationships are likely to result in higher levels of student academic integrity, in the hope that further research will be undertaken to either validate or overturn that hypothesis. The aim was to raise awareness and spur action to make the quest for academic integrity more root-cause-driven: focusing less on policing and enforcement, and more on student relationships and engagement.

While pondering and exploring this hypothesis I was inexorably drawn to examining the various dimensions of student engagement itself: what does it mean; how is it assured and measured and by whom (students, faculty, administrators, etc.); how does it relate to course content and quality; what is the role of faculty; how can technology be creatively leveraged, etc.? And, given these numerous dimensions, I reflected deeply on the implications that enhanced stu-

dent engagement could have, not only for academic integrity, but for higher education itself.

The roots of my interest in both student engagement and academic integrity predate the COVID-19 pandemic and my full-time association with the University of Maryland system, but the pandemic heightened my engagement with students because I needed to be more aware of and responsive to their needs, challenges, physical and psychological well being, and extenuating circumstances. I observed that this heightened engagement and awareness opened a vivid portal into the student experience that led to thought-provoking questions and realizations.

For example, my increased engagement and communication during the pandemic seemed to engender greater student interest in learning and practical applications, which in turn made them more motivated to tackle and complete challenging assignments on their own or with minimal assistance from me, rather than seeking simple and mechanical exercises, taking shortcuts, or looking for canned solutions elsewhere. I felt compelled to ask myself the obvious but long overdue question: Why do students really cheat on assignments? Could at least a part of the reason be that they do not adequately understand the course material and/or the assignments, or that they are not sufficiently motivated because they do not fully appreciate the practical value of the assignments; or that there is a shortfall in the level of student and/or faculty engagement?

The more I mulled over these questions and the longer the pandemic dragged on, I realized that all my questions germinated from one overarching fundamental question: Are we (faculty and administrators) really *listening* to our students? This realization resulted in framing this paper around the theme of listening, literally but more so figuratively.

ARE WE TRULY LISTENING?

I would posit that the COVID-19 pandemic has made us academics better listeners, maybe even forced us to become better listeners. Our academic profession is heavily skewed to one-way communication with students that places emphasis on didactics, lecturing, instructing, and grading – and the art of listening is usually not a top-of-mind priority. I dare say that "listening" in academics is sometimes no more than monitoring students' performance on assignments and activities. Communicating with students can often devolve into providing brief feedback on that performance. Often, this feedback is just enough to support the assigned score or grade.

Various models have been developed to capture the progression of listening levels (e.g., D'Mello, 2021; Kimsey-House, Kimsey-House, Sahdahl, & Whitworth, 2011; Scharmer, 2016). At the lowest level is listening to the audio (or our filtered version of the audio), with subsequent levels progressing toward incorporating body language, emotions, situation and context, and ultimately, the overall psyche–the pinnacle of the listening continuum where the communicator is so attuned to the mental, emotional, and psychological context of the listener that words and actions are interpreted against the backdrop of this richer context. The pandemic has compelled us to interpret and exercise time-cherished rules, assumptions, policies, beliefs, and standards in the context of students' individual circumstances and challenges, whether physical, emotional, intellectual, or psychological. We have thus been forced to climb the ladder of listening and evolve from passive listening (or interpreting and observing) to the realm of active listening (perceiving, feeling, and empathizing).

So, what does listening have to do with student engagement and academic integrity? If we are actively listening to students, we should know why they cheat. Well, I did a quick search of the literature to attempt to understand why academics believe that students cheat. As I suspected, most of the literature approached the topic from the viewpoint that culpability for cheating rested

squarely on students. Let's look at the commonly cited reasons or beliefs for students engaging in cheating:

- Student-related characteristics: laziness, lack of motivation, talent, or ability
- Time challenges
- Rivalry: because classmates cheat, I may get a lower grade if I don't cheat
- Procrastination, which results in finding the quickest way to submit an assignment
- Students don't really care about learning but just want the degree or credential

In my humble opinion, these assessments of why students cheat do not gravitate to root causes, and they reek of several well-known biases, minimally confirmation bias and correspondence bias (the latter being the tendency to draw inferences about dispositions from behaviors that can be entirely explained by situational context). None of these reasons even consider that we academics might share some culpability for academic integrity lapses by creating conditions and situations that might drive some students to cheating. Could there be another missing part of the puzzle: *Do we make learning efficient, convenient, and engaging so that students may be less inclined to cheat?*

I posed the above question about this missing part of the puzzle during my Lightning Talk at the University System of Maryland Kirwin Center Fall Faculty Showcase on September 30, 2021. I was pleasantly surprised and gratified when about two months later, on December 5, 2021, Harvard Business Publishing featured an article, "Are Your Assessments Helping Students Learn? How to Boost Retention and Discourage Cheating by Approaching Testing as a Learning Tool" (Raynak & Tkacs, 2021). The article lent credence to my hypothesized link

between academic integrity and student engagement. Here are three direct quotes from that article:

> "Educators can reduce students' inclination to cheat in the first place by better engaging them in class and giving students more opportunities to showcase their knowledge" (para. 10).

> "Because learning is a process, educators must explore strategies for evaluating learning that actually help students master the content—not just regurgitate it" (para. 2).

> "By teaching in the way that allows the brain to best assimilate new knowledge, we give our students a better chance at becoming successful lifelong learners" (para. 7).

Turning the spotlight away from our students, let's take a good hard look at ourselves in the mirror. Could there be other root causes for students cheating that implicate us, a few of which might be:

- The classroom content is outdated or disorganized or does not lend itself to easy assimilation and understanding
- There are inconsistencies, redundancies, gaps, inaccuracies, etc. in the content
- Concepts are not explained clearly, and the students are expected to connect the dots between disjointed readings, references, assignments, etc.
- Assignments require knowledge and skills that do not have a clear link to learning materials
- Practical implications of the readings and assignments are unclear (so students see no value in expending effort to complete them)
- The professor is not adequately engaged in facilitating and/or simplify-

ing learning

- A survival of the fittest attitude prevails vs. a no student left behind ethic

HOW AND WHY SHOULD WE ENHANCE OUR LISTENING?

To practice better listening, we would do well to borrow a leaf from the book of our counterparts in industry. In product development, paramount importance and focus are placed on the user experience: How do we make a product simple and intuitive to use? We academics sometimes conflate making learning simple with dumbing things down or with making learning simplistic. This does not have to be the case. In fact, a very prominent academic, none other than Albert Einstein, was the one who said, "If you can't explain it simply, you don't understand it well enough."

While it is probably true that Einstein might not have been able to explain his general theory of relativity to a high schooler, he was likely implying that he could explain it simply to someone who had adequate prerequisite knowledge. In academia, we do have prerequisites for our courses, so why can't we make every course simple for whoever has the prerequisites? And judging whether a course is simple or not should be done by students and academics (not academics alone!). Simplicity does not necessarily imply that learning is quick or effortless, but that learning is broken down into logically connected components, each of which is simple, clearly explained, and appropriately contextualized; and that these components collectively build up to a conceptual or practical crescendo that generates some aha moments and deep realizations and insights.

We often deviate from simplicity because, unlike our industrial counterparts, we do not design our product in a user-centric (meaning student-centric) manner. We do focus on numerous other very legitimate centricities: Knowl-

edge-centric, critical thinking-centric, Bloom taxonomy-centric, skill-centric, competency-centric, objective-centric, Quality Matters-centric, etc. While these centricities are absolutely essential, they will not fully bloom in a soil that is not fertilized with a strong student-centric focus. And while instructional design does bring a degree of user-centric focus to course design, it only focuses on a small part of the total user/student experience. The instructional designer is not involved in the complete student learning experience (assimilating course material, critical thinking, completing and submitting assignments, taking exams, etc.).

I intend to evolve this paper into one that includes a full-fledged student-centric learning and course development model that identifies and leverages various aspects of student engagement; draws from best practices in industrial product development and instructional design and quality; promotes value-focused and agile course/program development; and is responsive to the requirements of external stakeholders (employers, industries, professional certification bodies, etc.). I believe that this model is long overdue and vitally essential not only for providing students with the learning experience that they rightfully deserve but also because its absence poses an existential threat to our academic institutions.

It is widely acknowledged (even in academic circles) that our academic institutions do not adequately prepare students for employability. The May 2021 issue of the *Harvard Business Review* included an article, "The U.S. Education System Isn't Giving Students What Employers Need" (Hansen, 2021). The author, the CEO of Cengage, draws attention to the fact that the growing gap between the skills employers need and the skills (or lack thereof) that academic institutions are cultivating is prompting several companies to develop their own educational offerings. Here are some direct quotes from that article:

"Some organizations are taking their own approach to providing valuable alternate education options. For example, IBM created their Pathways in Technology Early College High School (P-TECH) to help students gain employable digital skills, while Google recently announced new certificate programs and job

search experiences aimed at finding roles that match candidates' experience and education" (para. 10).

"There's a direct disconnect between education and employability, where employers view universities and colleges as the gatekeepers of workforce talent, yet those same institutions aren't prioritizing job skills and career readiness. This not only hurts employers, but also sets the average American worker up for failure before they've even begun their career, as new employees who have been hired based on their four-year educational background often lack the actual skills needed to perform in their role" (para. 7).

"Since the beginning of the pandemic, job postings for entry-level positions that require a bachelor's degree fell by 45% — pointing to the fact that employers simply want candidates who have more skills and experience in the real world" (para. 6).

If we do not acknowledge these facts and self-correct, many of our academic institutions may go the way of the dodo. I have spent sixteen years in industry, been in the teaching and training profession for many years, have conducted in-house training and consulting for companies, and have taught at several universities. I can honestly state that most of the academics I know would admit to the less-than-ideal state of classroom content and quality, and would acknowledge that students face many challenges as a result. Here are some honest questions we can ask ourselves to consider being and practicing the change that we want to see in our students:

- Do we know a course or classroom in disrepair?
- Can we recall a time when we turned around student performance with a little extra concern and engagement?
- Are we open to admitting that our own behaviors, practices, attitudes, and processes (and maybe even our occasional apathy, egos, or hubris) create conditions that may drive students to cheat or may result in their

performing well below their full potential?

- Why don't we do alpha and beta testing on our courses, so we incorporate the end user (student) perspective, as happens with most commercial products?
- Finally, are we *truly listening?* To our students, to their employers, to the industries and professions that we claim to prepare them for, and, most importantly, to our own consciences and our deepest sense of what is ethical, fair, just, and right?

The lessons from the COVID-19 pandemic would be lost on us if we do not continue to engage in active listening to our students, appreciate their lives and context, be mindful of their many challenges and future needs, and truly seek to design learning and assessment to engage them and fully prepare them for their future professions. We need to keep running with the listening baton that the pandemic has forcefully thrust into our fists, so we can sprint forward and gain momentum on the listening journey long after the pandemic has become a distant memory. It is my sincere hope that the student-centric learning and course development model referred to above will add one small stride to that sprint and hopefully compel students to engage more and disfavor breaching academic integrity.

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A Curriculum-Wide Defense against Zoom Fatigue

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WHAT?

A team that has responsibility for academic affairs, student affairs, assessment, and technology delivery at the University of Maryland School of Pharmacy came together during the COVID-19 pandemic to blend the best practices of student-centered online learning environments with the competency-based needs of our Doctor of Pharmacy (PharmD) curriculum. Specifically, our major focus was minimizing "zoom-fatigue" and ensuring wellness at a curriculum level, rather than course or class level.

The PharmD degree is a professional doctorate, with three years of mostly didactic courses and skills labs followed by a year of advanced experiential rotations. The didactic portion was traditionally offered as a full-time, in-person program, with course activities and assessments spanning 8:30 am-5:00 pm, Monday-Friday. During the initial emergency pivot to virtual delivery in Spring 2020, we transitioned academic and assessment activities to synchronous and online following our existing schedule. Student, faculty, and staff feedback showed negative effects on well-being, and our Fall 2020-Spring 2021 solution was a student-centered, coordinated approach to scheduling that **limited synchronous time across the entire curriculum.**

We worked with course managers to create a blended delivery model that balanced the use of asynchronous and synchronous delivery methods in a predictable schedule that supported students across different time zones, as many students chose to move home to shelter in place. It also created a model where synchronous activities were at consistent times, providing a structure for the students.

SO WHAT?

Virtual delivery of didactic education is the future, but "Zoom fatigue" severely limits student learning (Sharp, Norman, Spagnoletti, & Miller, 2021, p. 13). Zoom fatigue has been defined as "exhaustion with overuse of virtual plat-

forms" (Wiederhold, p. 437). Being in a web conference uses a great deal of cognitive energy because it violates so many social norms and because academic classes are scheduled all day (Amenabar, 2020; Rutledge, 2020; Sharp, Norman, Spagnoletti, & Miller, 2021; Supiano, 2020). Over the summer it became clear we would not return to in-person in the fall, so we reviewed a range of suggestions for limiting Zoom fatigue, which focused on the delivery of individual sessions (breaking into modules with breaks), or from the point of view of the recipient, such as allowing time away from the screen (Sharp, Norman, Spagnoletti, & Miller, 2021; Rutledge, 2020; Supiano, 2020). Our observations of the emergency pivot showed us that it was far less than ideal to have back-to-back classes, even if faculty did end their classes at 10 minutes to the hour, which did not always happen. The sheer number of classes in a day led to students reporting they could not stay engaged after about 2-3 hours.

As such, we proposed to the faculty a complete restructure of the academic schedule at a curriculum level, starting from a maximum of 2-3 hour blocks of synchronous activities, together with designated breaks. Due to students being widely located, we also limited the work-day to between 10:00 am and 4:00 pm EST, to allow for different time zones within the US. Exams were offered virtually, and all took place at the same time of 10:00 am EST. We specifically scheduled office hours to aid faculty and students with their structure and time management. An example of a "block schedule" is shown in Figure 1.

Example: P1 Fall 2020 Block Schedule

		8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM
Monday	P1		Office Hours	P1 Exams/ Student Experience		BREAK	Student Org Meetings	Synchronous	Synchronous	Office Hours		
Tuesday	P1		Office Hours	Abilities Lab 1			BREAK	Abilities Lab 1				
Wednesday	P1		Office Hours	P1 Exams/ Student Experience		Dean's Admin Hour	BREAK	Synchronous	Synchronous	Office Hours		
Thursday	P1		Office Hours	P1 Exams/ Student Experience PHMY536 Study Skills (4 sessions) WebEx		P1 Class Advising	BREAK	Synchronous	Synchronous	Office Hours		
Friday	P1		Office Hours	P1 Exams/ Student Experience		BREAK	Student Org Meetings	Synchronous	Synchronous	Office Hours		

Figure 1. Example: P1 Fall 2020 Block Schedule.

After the development of the "block schedule" came the difficult step of gaining faculty buy-in for redesigning all academic courses to be consistent with the block schedule, in time for Fall 2020 implementation. The three academic departments within the school each have a Vice Chair of Academic Affairs (VCs). Together with the authors, the VCs developed a philosophy for delivery and assessments and guidance documents based on the core value of "minimizing Zoom-fatigue and ensuring wellness at a curriculum level." It was key that faculty have the opportunity to review and provide feedback on the guidance documents, which were then also approved by the faculty governance body.

After approval in the early summer, we assigned Instructional Design and Academic Affairs staff to each course to aid the faculty leader of the course, the course manager (CM), to help guide the transition from in-person to distance learning. We conducted frequent CM meetings by class year to ensure progress, collaboratively solve problems, and optimize the plan based on collective experience throughout the summer. We scheduled one CM meeting to decide collectively how to balance instructional preferences for synchronous learning and the best-practice rationale for limiting total synchronous time to help students opti-

mize their learning. This resulted in negotiating the number of course contact hours delivered synchronously down to less than 50% of pre-COVID-19 course contact hours. The remaining contact time was shifted to asynchronous delivery including pre-recorded lectures and out of class assignments. To support this change, we worked with faculty to develop new approaches for asynchronous delivery, and new assessment techniques beyond our traditional exam format. We also arranged numerous town halls with both students and faculty to describe the approach and philosophy, and took all feedback into the planning process.

NOW WHAT?

ACHIEVING THE GOAL

Our approach described above involved significant effort in terms of communication with all parties, and to no surprise there were a range of contrasting opinions among all stakeholders. The need for clear leadership while embracing faculty governance is often a difficult path. We therefore encourage all who follow a similar approach to ensure the involvement of all stakeholders, and clear communication about the process for decisions, and being active participants in the process.

MEASURING STUDENT WORKLOAD

We found that the incorporation of asynchronous activities (such as readings, video watching, or assignments) led to perceptions of increased workload

and effort by students; the common phrase being “You’ve just added more stuff!”. As such, whether real or perceived, this was an important aspect for us to address. We reinforced the use of Carnegie Units as a measure of total student effort to align with the traditional 15 hours of lectures equaling one credit. We adopted the Enhanced Course Workload Estimator from the Wake Forest University Center for the Advancement of Teaching (n.d.); we asked all faculty to utilize it in their planning and to include this calculation on course syllabi for transparency. Importantly, we communicated to students that this estimator was being utilized to plan their overall course workload, to help inform their perceptions about effort.

ASSESSMENT

A survey was generated to ask both faculty and students of their perception of quantity, length, and placement of synchronous sessions, with the majority agreeing the length (2-3 hours daily), the number of sessions, and the placement (between 10:00 am and 4:00 pm) were all appropriate.

INSTRUCTIONAL DESIGNERS

Our assignment of instructional designers was critical, as they provided guidance to the faculty and ensured timelines were met. One added benefit we found was holding frequent meetings of the instructional designers themselves as a group to share experiences, and ask questions from each other.

A GUIDE IS NEEDED

The regular, limited synchronous sessions allowed a regular schedule so both students and faculty could plan around those sessions. We received feedback that the flexibility of the asynchronous activities was welcomed by many students, but also heard from a significant number that a lack of structure for the asynchronous activities was a new experience. To address this, as we moved to the spring, we incorporated additional guides for the students in terms of proposed times to complete asynchronous activities. This was an important finding, as many students have only experienced traditionally structured educational models, and require mentorship in developing skills to manage asynchronous activities.

FUTURE

As the fall 2021 semester began, we transitioned to return to campus but retained the model of a blend of limited synchronous activities, now in person, supplemented by asynchronous activities. We retained the approach to allow students the flexibility they seek through optimizing physical presence on campus to allow for increased engagement with faculty, staff and importantly, each other. It also allowed them to plan academics around other commitments. This flexibility is critical for future students who are diverse in their backgrounds and personal situations.

CONCLUSION

This past year was an exercise that none of us ever envisioned having to complete. It did provide us insights with the workload necessary to make it happen, and further understand the needs of all stakeholders (faculty, administrators, staff and students) to ensure a continued effective learning process. This

experience helps us to prepare logistics when future pivots are needed again, and demonstrates the success of taking a different approach and perspective to effectively deliver classroom material to our students.

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Online and Blended Learning Planning Matrices

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Due to the unprecedented and unexpected impact of the recent COVID-19 pandemic on higher education teaching and learning, higher education faculty were thrust into remote teaching with very little if any preparation. In fact, most faculty barely had time to adapt their traditional courses to remote learning, much less transform them into effective remote platforms supported by best practices in instructional design and technology (Dill, Fisher, McMurtie & Supiano, 2020). The consequence was most faculty who were already in the middle of an academic semester began to translate existing face-to-face courses to remote learning without expertise or experience.

The continuation of remote course delivery in the subsequent academic year gave rise to rapid development and delivery of professional learning initiatives across university campuses to support faculty in their continued efforts. Foremost, universities needed to provide faculty access to new knowledge and

skills necessary for technology-driven platforms. Specifically, the remote course development process includes awareness of online and blended course delivery formats, platforms, models, pedagogies, and best practices (Lederman, 2020).

To support faculty's development of online and blended coursework at Towson University, professional learning workshops promoting best practices were provided to more than 550 faculty. Full- and part-time graduate and undergraduate faculty participated in one of five one-week synchronous or two-week asynchronous workshops on online and blended course development. In addition to providing best practices in instructional design, pedagogies, assessment, and course development, the workshop content emphasized the use of a series of unique matrices designed to assist faculty in course planning. Further, faculty peer-mentors offered guided practice in using the matrices to participants and exemplary planning was spotlighted across academic departments and colleges. Lastly, instructional designers facilitated discussion board participation to address individual and common questions that arose.

WHAT?

A five-step course development process was modeled for faculty. Several steps of the process included the use of the planning matrices developed by a faculty member and teaching fellow. The course development process included the following processes: (1) Determine course platform [e.g., synchronous versus asynchronous]; (2) Determine technology models [e.g., remote learning, rotation schedule, flex learning]; (3) Align models and platforms (matrix 1); (4) Determine course pedagogy that aligns with best practices in instructional design (matrix 2); and (5) Plan course instruction based on technology models and pedagogy (matrix 3). The matrices can be found in the Appendix.

SO WHAT?

Whether intentional or due to extenuating circumstances, the transformation of traditional face-to-face university course delivery to online or blended formats is an arduous task for most university faculty who do not possess the expertise in instructional technology or design to support this process. A blended solution is not realized simply by translating the curriculum to a technology platform. Similarly, requiring students to read online text or view a video does not result in a hybrid course of study. In fact, to do so will only serve to create a "technical hodgepodge" (Tipton, 2020).

The quality of all teaching and learning is the cornerstone of higher education efficacy. Student recruitment, retention, and matriculation is correlated with the quality of the academic programs and the performance of the faculty who deliver them. Further, consistency of teaching and learning across coursework is critical to institutional success in the provision of quality academic experiences. Although the needs of current and future students indicate a trend toward virtual learning, the expectation remains for high-quality academic programming. Thus, faculty must be well versed in the most effectual means for developing and implementing online and blended courses to deliver coursework that meets the academic standards of the institution, the discipline, and profession.

An expanding body of professional literature regarding instructional design in online and blended courses offers guidance on the work of individual faculty, programs, and colleges in higher education. For example, McGee & Reis (2012) conducted a review of the literature to produce a synthesis of best practices in blended courses in higher education. A qualitative meta-analysis resulted in a common set of principles and best practices in design, pedagogy, technology utilization, student assessment, and course delivery. The authors build a case for the application of best practices to increase the likelihood of successful utilization of consistent practices and processes that support course effectiveness.

While neither the format of course design nor mode of instructional delivery alone guarantees the quality of teaching and learning, both knowledge of best practice and innovative applications can increase the prospect of effectiveness of online and blended courses. With thorough contemplation, planning, and execution, course transformation makes use of new technologies, pedagogies, and design components consistent with online and blended modalities. The course development process includes awareness and appropriate application of online and blended course delivery formats, platforms, models, pedagogies, and best practices.

The rationale for the provision of faculty workshops at Towson University was the need to support faculty in their rapid shift to remote teaching, as decreed by the university administration. Thus, it was determined that teaching during the pandemic would be enhanced with the establishment of intensive summer workshops. As the staff and affiliated faculty of the Faculty Academic Center for Excellence at Towson (FACET) prepared the professional learning for faculty, several principles guided the workshop development and implementation. Foremost, we recognized the need to begin at the point where most faculty found themselves in terms of knowledge and skill acquisition in teaching online and blended courses. Similarly, we needed to know what it was the faculty already knew about the course transformation process. Of equal concern was determining what faculty needed to know to be successful and to emulate best practices. Two final principles guided the development of professional learning workshops: the best way to deliver new information effectively, and how best to reach faculty to teach them without overwhelming them.

NOW WHAT?

Although most higher education campuses are returning to face-to-face teaching and learning, it behooves faculty to ask themselves what worked when

teaching remotely and how do they carry forward the best aspects of the experience. Faculty expanded their awareness of pedagogies such as case-based or mastery learning, for example. They are now poised to explore how to use the effective approaches to learning in face-to-face platforms. Further, faculty learned technology models that may be useful in a blended course, such as flex learning which allows students to choose the schedule for learning (McGee & Reis, 2012). In fact, flex learning may address the needs of adult learners in graduate degree programs. These and other questions should be asked and answered by individual or collective groups of faculty in various disciplines.

Those tasked with faculty professional learning and instructional support wonder what continued training faculty need to maintain proficiency in blended course development and implementation. Planning of faculty development approaches, including workshops, communities of practice, and consultation activities, will reflect this objective.

As faculty continue to develop blended coursework, what new considerations exist as lessons learned from their recent experiences? The matrices developed for the summer 2020 online and blended teaching workshops will continue to form the foundation of all faculty development activities related to teaching. There will be an intentional focus on the importance of pedagogy as a scientific and evidence-based endeavor.

INFORMING TEACHER EDUCATION PREPARATION

In addition to higher education coursework, the pandemic caused Pre-K-12 classrooms everywhere to move to virtual meetings. As universities prepare future educators, we must consider how to provide prospective teachers the knowledge and skills necessary to develop and deliver blended instruction. Additionally, research should focus on how blended instruction impacts and meets the unique needs of young learners. Finally, we should determine how blended

instruction allows highly capable young learners to access post-secondary coursework while attending secondary schools.

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APPENDIX

PLANNING MATRICES

Course Design Matrix

TOWSON UNIVERSITY

	Project-Based Learning	Case-Based Learning	Flipped Classroom	Experiential Learning	Mastery Learning
Remote Learning	Students complete asynchronous or synchronous group projects	Online course modules begin with a real-world case study	Students prepare for online group learning	Students compete hands-on experiences off-campus	Students move through online course modules based on mastery
Flex Learning	Students select projects based on choice to complete online or F2F	Students work through case analysis either online or F2F	Students prepare for learning online then choose online or F2F applications	Students choose online or F2F applications of course content	Students choose online and F2F course activities based on mastery
Self-Directed & Self-Paced	Students work through projects of their own choice at individual rates of learning	Students complete case analyses at their own rates and paces of learning	Students work online and come to F2F meetings based on readiness	Students work at their own pace through online and community, studio, or lab experiences	Students move through online learning at their own pace based on mastery
Rotation Schedule	Students rotate through modules based on the project development process	Students rotate through online preparation and F2F case analyses	Students rotate between online and F2F class meetings	Students rotate between asynchronous online learning and synchronous applications	Students rotate through F2F and online modules based on mastery
Lab or Studio Rotation Schedule	Students rotate between online preparation and lab or studio work	Students rotate into case resolution testing in labs or studios	Students rotate between online and F2F studio and lab assignments	Students use labs and studios for real-world applications of course content learned online	Students move into labs or studio work after mastery of online learning

Matrix One.

Course Planning Matrix

TOWSON UNIVERSITY

	Course Design	Active Learning	Assessment	Student Engagement
Project-Based Learning	Course modules support and move students through project development	Student projects are based on current issues, problems, trends, & real-world experiences	Rubrics guide students' work through the project development process	Students work together to complete projects
Case-Based Learning	One or more real-world cases guides instruction and module progression	Students analyze real-world scenarios to transform content to action	Students are assessed on integration of course content and case analysis	Students study cases and post analysis on the discussion board
Flipped Classroom	Student readings, lectures, and demonstrations are viewed prior to class meetings	Students come to class to apply content learned outside of class ahead of time	Formative assessments are used to determine readiness for class meetings	Students conduct peer-group work in the classroom after preparing remotely
Experiential Learning	Course assignments and content reflect real-world experiences or practice	Students work in the community, labs, or studios to apply course content	Student assessments are based on application of content versus rote learning	Students work together to reflect on community experiences
Mastery Learning	Self-paced student modules	Students use real-world applications to demonstrate mastery	Formative and summative assessments	Students are placed in groups for differentiated instruction

Matrix Two.

Matching Course Models & Schedules

TOWSON UNIVERSITY

	Online	Asynchronous	Synchronous	Hybrid
Remote Learning	All teaching and learning occurs online without any face to face meetings	All learning occurs online with student learning occurring on individual schedules within posted deadlines	All students meet off-campus in a virtual classroom at the same time	Some student learning occurs synchronously while other learning takes place asynchronously
Flex Learning	Students can choose to work online all or some of the time	Students can choose to work on their own schedule	Students work online but on a fixed schedule	Students choose when to work online and/or face to face
Self-Directed & Self-Paced	All learning takes place online and students progress through modules at their own rate.	All course content is posted and completed online on self-paced schedules	Students progress through in-class activities of interest at scheduled meeting times	Students participate in online self-paced learning modules but come to class for support
Rotation Schedule	Groups of students rotate through modules or other fully online course components	Students rotate through group work, assessments, viewing lectures, on their own schedules	Students work through stations in scheduled virtual meetings	Students rotate between online and face to face (studio, lab, classroom) course experiences

Matrix Three.

Silver Lining in the Liberal Arts: Fulton Remote Teaching Specialists

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In 2020, I enthusiastically agreed to serve as the new Associate Dean of Salisbury University's Fulton School of Liberal Arts, the largest SU academic unit, home to 18 academic majors, 40 minors, three graduate programs, and a post-Baccalaureate certificate. In addition, Fulton plays a vital role in General Education for nearly all undergraduate students, and connects to the community through the visual and performing arts, civic engagement, public lectures, and international outreach. I accepted this position in early March 2020. What could possibly go wrong? By Spring Break, two weeks later, there was no denying the global pandemic of COVID-19 as all university members were sent away from campus to continue the essential operations of a university from home.

My first official day on the job was July 1, 2020, where my inaugural task was to coordinate strategic support for faculty to teach in the pandemic. During that summer, faculty were recovering from an unanticipated spring "pivot" to mandatory distance learning and were anxious about how to prepare for a fall semester like no other. Several SU Fulton School department chairs, led by Tim Stock (Philosophy), Emily Story (History), and Dave Johnson (English), proposed a

new program committed to supporting our faculty and students during this challenging time for university instruction. Our Dean, Maarten Pereboom, was in full support as he recognized the need for faculty to collaborate on learning and sharing best teaching practices. The Fulton Remote Teaching Specialists (RTS) program was born.

We anticipated that the fall 2020 semester required strong, networked, pedagogical support for faculty members to adapt their teaching successfully using masked face-to-face, hybrid, remote, and online models. We understood the necessity to re-envision distance learning, especially in our unique disciplines like glass blowing, ceramics, music, theatre, dance, and media production, but the challenge loomed too in our humanities and social science programs at a university that values our small class sizes, high impact practices, and close teacher and student engagement.

The RTS program began with 15 faculty from different programs in the arts, humanities, and social science, who agreed to: 1) identify a useful resource for socially-distanced teaching, 2) lead one 90-minute applied workshop on what they learned, 3) act as a point of contact throughout the year for department faculty on instructional challenges and solutions, and 4) participate in fall colloquia to assess where we were in our instruction. During the process, we also created an open access RTS MyClasses site that has over 100 users, 35 teaching tools A-Z, 461 resource files, and 30 hours of workshop recordings.

The 15 RTS faculty were selected to represent their liberal arts disciplines in a variety of instructional modes, using self-selected techniques or technology. Each received a $1000 stipend for their training, time, and needed resources. The RTS leaders trained from July 7 through August 5, starting with an orientation with Fulton Dean Maarten Pereboom, Associate Dean Chrys Egan, and Instructional Design and Delivery Liaison Haley Cristea. RTS met remotely with guest trainers Lee Krahenbuhl, who was then Interim Dean and Program Director of Stevenson University's Online Program for Communication Studies, Business Communication, Interdisciplinary Studies, and Professional Studies; and

Mei-Yan Lu, Professor of Educational Leadership and former Acting Chair of the Instructional Technology Department and Associate Dean of the College of Education at San Jose State University. RTS also met as a cohort to discuss their progress, questions, and concerns.

The RTS 90-minute experiential workshops were offered the week of August 10-14, 2020 from 9:30 am to 4:30 pm in the same mode as the teaching demonstrated: masked face-to-face (F2F), hybrid, remote, or online. The schedule below indicates faculty member, department, planned fall teaching mode(s), and workshop topic.

- Monday, August 10: Fulton Remote Teaching Specialist Workshops
    - 9:30-11:00 am: Aric Snee, Art, F2F and Hybrid: Capturing Studio Demonstrations and Facilitating Group Critiques in a Hybrid or Online Class
    - 12:30-2:00 pm: Michael Desper, Theatre and Dance, F2F and Hybrid: Virtual Performance Strategies for the Virtual Classroom
    - 3:00-4:30 pm: Brittany Foutz, Conflict Analysis and Dispute Resolution, Hybrid: Conducting Online Simulations
- Tuesday, August 11: Fulton Remote Teaching Specialist Workshops
    - 9:30-11:00 am: Tim Robinson, History, Hybrid: Students Teams, Primary Documents, and Accommodations
    - 12:30-2:00 pm: Louise Anderson, Music, Hybrid: Engagement: Flipgrid, Zoom Polls, Google Forms, PollEverywhere
    - 3:00-4:30 pm: Catherine Jackson, Interdisciplinary Studies, Hybrid: Hyflex Classroom Activities and Discussions
- Wednesday, August 12: Fulton Remote Teaching Specialist Workshops
    - 9:30-11:00 am: Yujia Song, Philosophy, Hybrid: Getting the Most

out of Canvas

- 12:30-2:00 pm: Paul Scovell, Communication (Community and Professional), Hybrid: Canva v. Spark
- 3:00-4:30 pm: Ryan Sporer, Sociology, Remote: Social Annotation with Perusall Co-founder and CEO Brian Lukoff

- Thursday, August 13: Fulton Remote Teaching Specialist Workshops
  - 9:30-11:00 am: Adam Woodis, Modern Languages, Hybrid and Online: Canvas Conference Features and LightBoard Usage
  - 12:30-2:00 pm: Jen Cox, Communication (Media and Journalism), Hybrid and Online: Zoom, Panopto, and Kahoot
  - 3:00-4:30 pm: Lilia Dobos, English, Remote: Enhancing Community and Writing Experiences
- Friday, August 14: Fulton Remote Teaching Specialist Workshops
  - 9:30-11:00 am: Echo Leaver, Psychology, Remote: Padlet and Professor Presence Online
  - 12:30-2:00 pm: Shane Hall, Environmental Studies, Hybrid: Managing Sensitive and Controversial Topics
  - 3:00-4:30 pm: Sarah Surak, Political Science and Environmental Studies, Remote: International Exchange and Education of Global Students

Although the Remote Teaching Specialists were from the Fulton School of Liberal Arts, we opened the workshops to all SU employees, having 416 attendees over the weeklong sessions. In addition, we hosted a follow-up hybrid practice class with 35 faculty to try out the classrooms' new Zoom cameras, while simultaneously speaking to people on Zoom and in the classroom, while wearing masks. Recall how unfamiliar this experience would have been for almost all teachers in August of 2020, especially in a mask.

Throughout Fall 2020, we held three 90-minute RTS colloquia Zoom sessions with panelists grouped by allied disciplines. We invited all SU members plus local public-school teachers to attend. In early October, RTS faculty in the humanities explored what we had learned so far, and what we wish we had known earlier, over the first month of the semester. Our social science faculty considered our teaching innovation progress in November, including remote international education. In December, our arts colleagues shared innovative practices for visual and performing arts, and multimedia education.

Although the official RTS training concluded in December 2020, RTS faculty remained available to support teachers throughout the academic year. Additionally, four of us decided to share what we learned by presenting at teaching conferences, including Salisbury University's Teaching and Learning Conference, the University of Maryland Eastern Shore's Innovation in Teaching and Learning Conference, and the University System of Maryland's Silver Linings Conference. I served as the panel chair for these sessions, which featured Paul Scovell highlighting Canva and web portfolios, Brittany Foutz illustrating case studies and student engagement, and Echo Leaver exploring Padlet and professor presence. These conferences allowed us opportunities to trade ideas and experiences with different faculty.

One lesson I believed that most faculty learned about preparing to teach in the pandemic is that we worried about some of the wrong things. Our initial anxieties, beyond the health risks of the pandemic itself, were not knowing how to use the new (or new to us) teaching tools and techniques needed for distance learning, and how the educational content would translate in alternate teaching modes. Initially, we worried about not embarrassing ourselves in front of our students as we attempted to use the Zoom camera and features, but we became pros (except for occasionally still forgetting to unmute ourselves). Yet we discovered that you can direct an avant garde online theatre production and a creative symphony orchestra concert with masked players. You can teach modern languages online, including instructing French from SU to students in China. You

can, and perhaps now prefer, to have your whole class read and annotate articles together online.

We started off fretting over Panopto, Perusal, and Padlet, but soon came to realize the real concern was about people. We discovered ways to keep our and our colleagues' morale up as we taught sometimes to less responsive rows of black boxes or weary, masked faces. We became increasingly attuned to student mental health and our own unpaid labor bracing ourselves, families, and communities. Some of us simultaneously oversaw our children's online K-12 education as we taught our own college courses. However, through these experiences, we gained new perspectives on how to lead ourselves through crises.

Perhaps the most profound silver lining of working in education during the pandemic was the undeniable emergence of our strong, successful self-leadership, "the leadership we exercise over ourselves" that can influence others (Neck, Manz, & Houghton, 2017, p. 2). Traditional, pre-pandemic higher education leadership understandably tended toward the leading of others in a visible, expected hierarchy. Revisioning socially-distanced education during a pandemic required the awkward transition to self-leadership as internal and essential. Faculty, staff, and students had to engage in "inside-out" leadership discovering their confidence and competence (Bryant & Kazan, 2012) through trial-and-error deductive processes (Neck & Houghton, 2006). As a result, educational leadership and instruction have been transformed. Our understanding of teaching, learning, and leading in higher education have expanded beyond previous boundaries.

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