

# Leveraging Professor-Student Partnerships for Post-Pandemic Teaching and Learning

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**Citation:** Loepp, E. & Hinz, W. (2023). Professor and student team up to identify lessons from pandemic teaching and learning. The Online Learning Consortium.

## Introduction: A Professor and Student Team Up

While the semesters that followed Spring 2020's emergency transition to remote services were less chaotic, they were hardly ordinary. For many of us, these terms constituted a more orderly version of the complicated spring 2020 semester, not a "return to normal." Today, a few semesters removed from the most disruptive periods of the pandemic, we are still adjusting, processing our experiences, and learning from them.

In January 2021, we administered a survey to students at our university to answer big questions facing higher education during the fall 2020 semester. At the time, Eric was a faculty member in the department of Politics, Government, and Law, and Will was a member of the student government. Eric had the idea for a large-scale survey to build on research he had done at the class level during the [spring 2020 semester](#). One limitation of the spring research was that it was restricted to students in Eric's classes, and the authors wanted to develop a project that could gather feedback from the entire student body.

Enter Will Hinz, a sophomore student (at the time) studying Corporate Health Communications with a minor in Human Resource Management. Interestingly, we got to know each other through joint ventures and consultative discussions between the governance groups in which they are both active: the Faculty Senate for Eric, and the Whitewater Student Government for Will. These bodies worked together extensively in recent semesters to recommend policies and procedures related to pandemic teaching and learning.

Like other institutions, ours is presently working through ideas about what a post-pandemic educational experience should look like. Indeed, this is fundamentally what motivated this project: our desire to help our institution navigate what the near-future of pandemic/post-pandemic education should look like to best serve our students, instructors, and programs. Specifically, the following key questions guided our study:

- How did the student experience differ across modalities in terms of satisfaction, engagement, and performance?
- How successful were we as students and instructors adapting conventionally face-to-face activities — like group work and certain types of assessments — into purely online activities?
- How can we best promote learning in a largely or exclusively online environment moving forward (e.g., investing in professional development for instructors vs. non-academic support centers vs. technical training)?
- Can we gain systemic insight into pandemic-specific questions — like why students do or do not use webcams — for which most of our current understanding is principally anecdotal?
- Ultimately, as we emerge from the pandemic, what aspects of teaching in 2020 and 2021 should we retain, reject, or revise?

The questions above center principally on supporting students; however, in this project we also sought to support instructors and universities by identifying practices and policies that worked and did not work during the pandemic. For instance, many instructors adopted more generous standards temporarily, such as increased flexibility with regard to attendance and assignments or permitting take-home exams instead of in-class exams. Similarly, many institutions temporarily adjusted deadlines for students concerning procedures like adding and dropping courses, or selecting a satisfactory/no credit grading option. Emerging from the pandemic, students may understandably wish to preserve some of these provisional policies, while instructors and administrators may understandably wish to revert to previous rules. Institutions seeking to craft fair and reasonable paths forward that promote personal health and academic rigor should factor in the experiences of all stakeholders. Doing so productively requires open discussions among campus governance groups held in good faith.

This is why our professor-student partnership was successful. We are both strong believers in the value of collaboration among stakeholders when it comes to crafting university standards related to teaching and learning.<sup>1</sup> We both greatly respect the views that the other person brings to the table even when we disagree on a particular policy, which does occur! We're both committed to a spirit of collaboration because we've learned from each other's stories and experiences. For instance, instructors do not necessarily consider that a student in five different courses may be navigating five completely different models for organizing a learning management system – Canvas, in our case. Similarly, students may not recognize how difficult certain requests, such as translating course material from one form to another, are for instructors. No one is unsympathetic; we simply do not always have an opportunity to see each other's entire experience.

This project represents one step we're taking to promote academic and professional empathy on all sides. We are careful in this conversation to avoid excessive prescription; our findings do not necessarily mean students must do X, or instructors must do Y, or university presidents must do Z. Instead, our goal is to highlight some of the patterns of experience that we feel should be at the center of ongoing conversations about topics such as online assessment and learning management system design and use. In the months since these data were gathered, we have presented them internally to communities on campus in a variety of forums, from student government meetings to department retreats to instructor panels. Although we periodically suggest that students and instructors consider adopting certain policies or practices, we are ultimately more concerned that campus governance groups take steps to listen to and learn from each other. We hope projects like this may serve as a model for universities seeking to promote mutually beneficial collaborations in the future.

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<sup>1</sup> We hasten to add that so, too, are the governance groups with which we are fortunate to work. Leaders of the Faculty Senate and Whitewater Student Government were both extremely supportive of this project. They are similarly committed to collaborative engagements with campus partners, and they put in countless hours of work in order to ensure the most successful pandemic teaching and learning experience possible. We are also greatly appreciative of university leaders who express curiosity about and empathy for the experiences of instructors, staff, and students on campus and who work in good faith with our governance groups to craft university policies that best meet the needs of our institution.

## The Research

The survey was principally designed and managed by Eric, with feedback and suggestions from Will incorporated throughout.<sup>2</sup> Will, in turn, organized the recruitment efforts in his capacity as a member of the Executive Board of the Whitewater Student Government. This included securing several gift cards from a favorite local eatery as incentives for participation and using the student government's listserv to distribute the survey link to all students in January 2021.

Approximately 1,500 students participated in the study.<sup>3</sup> All students were asked a series of common questions about their academic experience in fall 2020.<sup>4</sup> In addition, students were assigned to answer subsets of questions at two points.<sup>5</sup> The first set addressed several critical issues of interest in higher education: the learning management system, online engagement, group work, and grades/assessment. Students were randomly assigned to a series of questions about one of these four topics. The second set invited students to comment on one of the modalities in which they were enrolled in fall 2020. For instance, if a student took only online and hybrid courses, they were randomly assigned to answer questions about either their online class *or* their hybrid class. If a student was enrolled in face-to-face, online, and Hyflex courses, they were randomly assigned to provide feedback on only one of the three. This approach had three advantages: first, it ensured students were not commenting on modalities in which they were not enrolled; second, it allowed us to ask more questions about each modality with less risk of students not completing the survey; third, it allowed variations in questions across modality types. For instance, we asked students in Hyflex and remote courses to respond to questions about webcam use, but we did not ask these questions of students reporting on the other three modalities without a synchronous online meeting component.

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<sup>2</sup> The project was reviewed and approved by our institution's Institutional Review Board (IRB-FY2020-2021-80).

<sup>3</sup> This represents approximately 12 percent of all students enrolled at the university.

<sup>4</sup> In order to respect the preferences of respondents, we did not require students to answer questions they attempted to skip on the survey. Instead, if anyone skipped an item and attempted to move on to the next question, a prompt appeared on the screen reminding them that they had unanswered questions on the page. At this point, they could either go back and respond to the outstanding question(s), or proceed without answering. Fortunately, question skipping was extremely uncommon in the survey.

<sup>5</sup> We randomized participation in the subgroup sets in order to reduce survey fatigue and maximize participation through the entire project.

## Our Teaching and Learning Context

Institutions across the country and around the world approached pandemic education differently, and in many cases various terms are used to describe similar course modalities. To prevent confusion, we present here our university's working definition of the five types of modalities used in the 2020-2021 school year.

**Table 1**

*University of Wisconsin-Whitewater Course Modalities During 2020-2021 School Year*

	Description	Classroom component	Synchronous component	Online stream component
Face-to-face	<i>In this model, all students in the class meet face-to-face during each class period.</i>	Yes	Yes	No
Online	<i>Online courses [...] [use] techniques that primarily involve asynchronous (not live) instruction.</i>	No	No	No
Hybrid	<i>Th[is] course is taught with a mix of face-to-face and remote teaching. Some subset of the students could meet face-to face during a class period, while other students learn remotely. On other days, a different subset of students could meet face-to-face.</i>	Yes	Yes	No
Hyflex	<i>In general [...] the course is taught in ways that allow the student to choose the particular format of their instruction. As an example, a class might be entirely live streamed for every session, and students could elect to attend face-to-face or to participate via the livestream.</i>	Yes	Yes	Yes
Remote	<i>In this format, the class is taught fully remotely. Some</i>	No	Yes	Yes

	<i>or all of the course might be completed during the regularly scheduled class time.</i>			
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## Our Conversation

Once the data were gathered, we convened to review the results. In the course of identifying common themes and takeaways to share with campus partners, we discovered that it was actually the interactions we had with each other while discussing the survey findings that proved to be the most enlightening part of the project for both of us. We wish to share this experience in earnest, so we invite readers into our informal conversation about the data. Below is a lightly edited version of our discussion. We highlight a number of key data points that motivated intriguing interactions during the data review and present our principal takeaways and interpretations as student and professor. Each question from the survey we selected for this discussion is presented verbatim, along with pertinent technical details, followed by back-and-forth conversation between the authors. Recall that our goal with this conversation is not to generate a comprehensive prescription for post-pandemic teaching and learning practices; rather, it is to model a collaborative approach to the exploration of pandemic-related instructional experiences.

### Question 1

**Wording:** “Describe fall 2020 in one word.”

**Answer Options:** Students were given a blank text box in which they could type any word. No examples or suggestions were provided in order to encourage authentic responses.

**Total responses (n):** 1,570



**Figure 1.** Word Cloud of Most Common Words Used to Describe Fall 2020 Term

**Table 2.** *Most Common Words Used to Describe Fall 2020 Term (Percent of Total Responses)*

1. Different (11 percent)	6. Unique (2 percent)
2. Stressful (10 percent)	7. Rough (2 percent)
3. Challenging (6 percent)	8. Hard (2 percent)
4. Interesting (5 percent)	9. Weird (2 percent)
5. Difficult (4 percent)	10. Hectic (2 percent)

**Will:** Here is a word cloud that visualizes the frequency with which different terms arose in response to this question. Words like “difficult” and “rough” underscore the fact that although we put some contingencies in place for fall 2020, many educational experiences were still new and different, even after some emergency online teaching and learning in the spring. For instance, many students and instructors were in new modalities in the spring 2021 term, as well.

**Eric:** And new modalities will continue for many, as will new challenges, such as getting back into a classroom after so much time outside of it. We really need to be cognizant of the learning curves that many students and instructors are still facing and respond accordingly.

**Will:** I agree. We still have a lot to learn about how to succeed with remote/online education, so we need to stay alert for opportunities to improve as instructors and as students. At the same time, I also see in this image evidence of the growth that many students have experienced in dealing with many complex variables and circumstances. These submissions motivate me as a student government official; we may all be tired of the pandemic, but that doesn't mean we've resolved every question about how to function during it – and after it subsides.

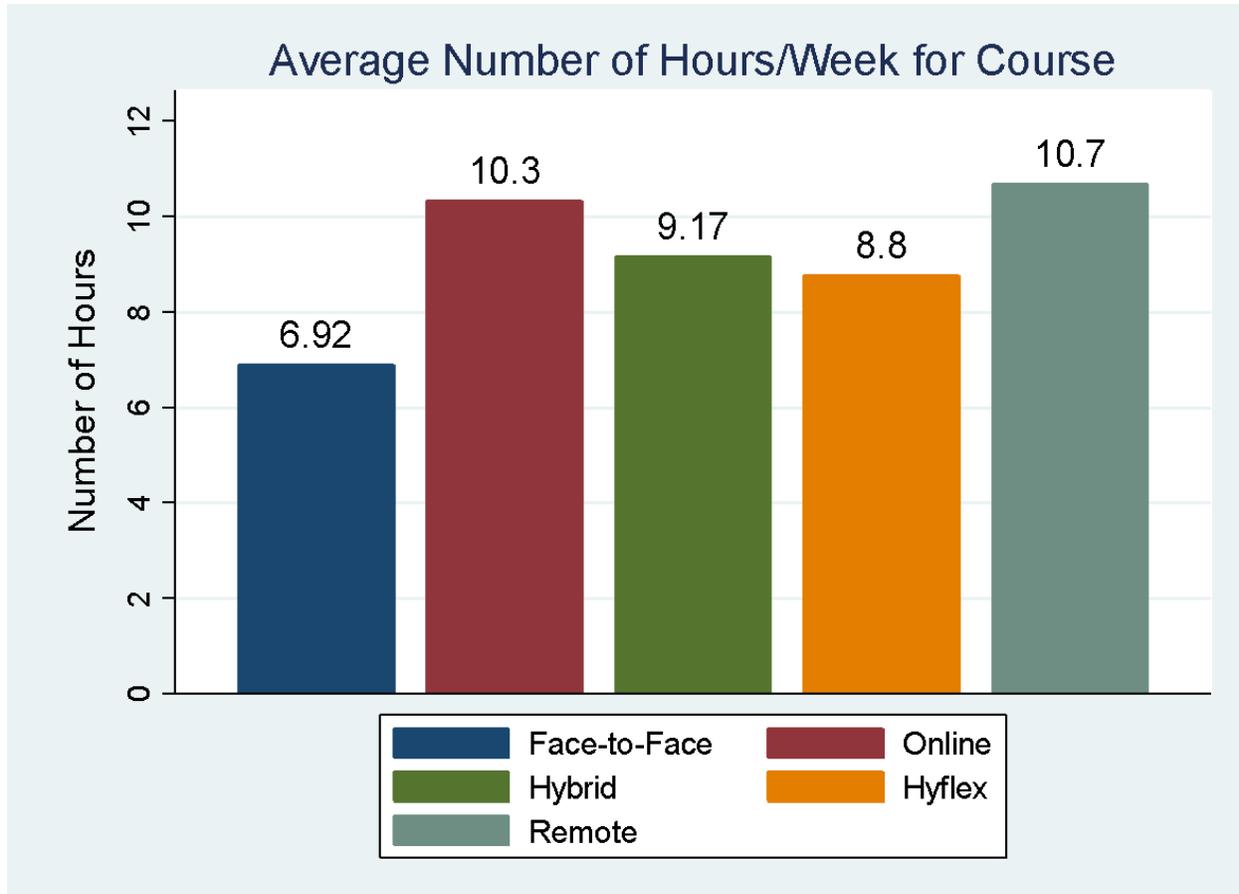
## Question 2

**Wording:** “How many hours per week did you spend in your [face-to-face / online / hybrid / Hyflex / remote] course?”<sup>6</sup>

**Answer Options:** Students were given a box to type a number.

**Total responses (n):** 1,413

<sup>6</sup> Recall that all students were asked to elaborate on *one* of the modalities they took a course in, so every student only answered this question for one of their courses.



**Figure 2.** Average Number of Hours/Week by Course Format

**Eric:** One thing the pandemic forced us to do was take a course that was designed for face-to-face learning and translate it into other modalities that were new for everyone. It was interesting for me to talk to faculty colleagues about how much time they spent delivering the same course in, say, a hybrid format compared to delivering it in a face-to-face format. In most cases, not surprisingly, teaching a course in a modality for which it was not originally designed takes more time. For example, I do activities in my introductory course in American politics that involve moving around the room to different stations, or categorizing a series of flashcards as a large group by voice vote. It was definitely a lot more work for me to prepare courses in non-face-to-face modalities, but even the face-to-face classes had to be adapted, too.

It's interesting to see a similar pattern for students that I would expect to be the case for most instructors: all courses took time, but generally, face-to-face courses typically required the least amount of time for students. Will, why do you think we are seeing this pattern? Is it a matter of technology challenges slowing some people down? Are instructors assigning different amounts of work? Are students feeling different expectations across different types of courses?

**Will:** In order to answer that, I want to start with a little context. Prior to the pandemic, most students had experienced one or possibly two types of courses: face-to-face, or fully online. The pandemic forced several new modalities on us, and in many cases, we had to take courses in modalities we did not want. I think that gets lost in this conversation sometimes. Instructors need to be careful not to assume that a student in, say, a fully online course actually *prefers* to be taking the course online. They may have to take it online because that is the only modality available, and they have to take that course to graduate on time.

This is important because it directly affects both engagement and learning. In my case, face-to-face is the best type of class for how I like to engage. It just works best for me. So when I had to take courses in other modalities — which isn't anyone's fault, it's just how it was — engagement was harder for me. When engagement is harder, learning does not come as easily. I think these data are telling us that for many students, the new modalities were a barrier to learning. Hopefully, a small and surmountable barrier, but a barrier nonetheless.

It was not that the classes were inherently more difficult in terms of what the instructors covered, nor was it that technology problems hampered the ability of students to do things like watch recorded videos. Rather, it was simply harder to engage in new modalities, and in talking with students, I heard this a lot: the investment required to connect and interact with people and with material in these modalities was higher than it was in face-to-face courses. As a result, people required more time to achieve the same level of understanding. I don't mean to disrespect professors, by the way. I know you all worked really hard to try and make it work.

**Eric:** No offense taken. Anything we try for the first time is going to be a bit rough. You should see my syllabi from my first semester teaching. They are much better now because I've better calibrated my courses to align with the context in which I teach them.

**Will:** I appreciate that, but it's on all of us. And there's one more thing worth mentioning in the interest of full disclosure on this point. If I'm in a synchronous class meeting in my dorm room with my webcam off, I am much more likely to get distracted than I am in a synchronous meeting in an actual classroom.

**Eric:** When I taught remotely during the pandemic, there were a few accidental "unmutings" that revealed extracurricular activities going on during class meetings. It was certainly frustrating at times, but I totally get the temptation. I mean, the Xbox is *right there*. Heck, I've had the temptation myself during some long faculty meetings that took place remotely. I had to move my guitars out of the room where I usually attend the meetings.

Okay, but back to the serious stuff. Will, do you have any advice for instructors who are teaching in a new modality for the first time? What should they know about the translation process from face-to-face to something online?

**Will:** The most important thing to know is that even if you are engaging with students synchronously online, it's not the same as being in the classroom. Obviously, we all know that, but what I mean is that *streaming* a live event is not the same as *being* live in the room. Even if I *can* interject by typing a comment or raising my digital hand or something, it's not as easy as it is in the classroom. Even if an instructor knows how to use the chat function in

a web meeting (and not all of them do), they may not see a particular comment, or they might not see a digital hand raised. In a classroom, that never happens. Online, it is common. And I get it. They are trying to teach. But I don't want to interrupt, and if we get three slides past my question before the instructor sees my raised hand, it feels weird to ask to go back. So a lot of students may not bother trying to ask a question, even if they have one.

**Eric:** That's a great point. I must admit that simultaneously teaching and monitoring the chat was extremely difficult to do, especially when many people were chatting at once. It's so cool to see that much engagement, but the comments disappear too quickly to take them all in. And don't forget some students will send private messages only to the instructor, so the group chat is more like a group chat plus multiple one-on-one chats. One thing I eventually did that was helpful was to integrate intermittent pauses during remote sessions so I could catch up on chat messages. Students could ask me to clarify or follow-up on something from any slide during the segment we just completed. Plus it gave folks a chance to stretch, hydrate, etc.

**Will:** That's a great idea. Yes, please, keep doing that! I'll also add that digital presence and availability is incredibly important. Office hours are not a new thing, but having online office hours is fantastic, especially for students who maybe are not on campus during face-to-face office hours, or who only need to ask a few quick questions and prefer not to hike all the way across campus to visit your office.

### Question 3

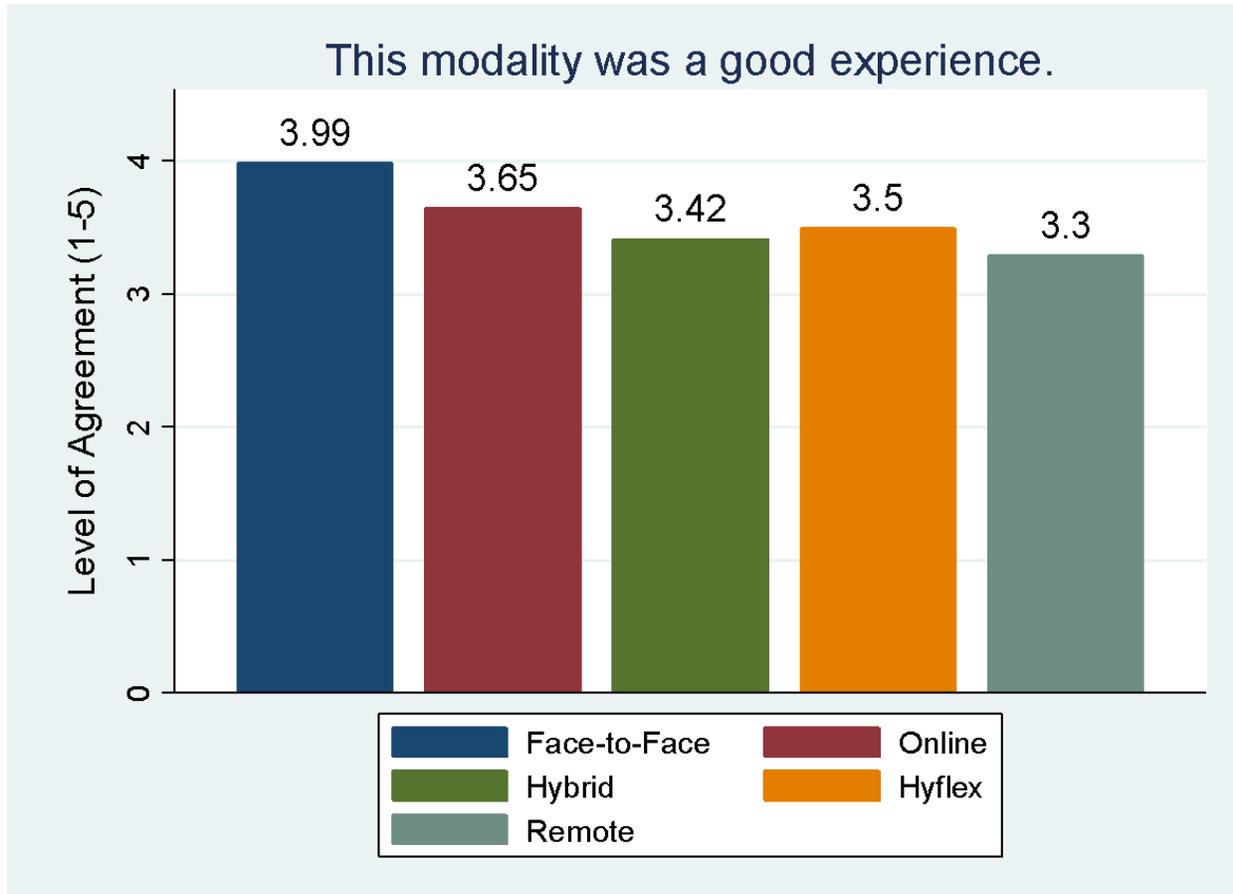
**Wordings:** "To what extent do you agree with the following statement: 'This modality was a good experience.'"<sup>7</sup>

**Answer Options:** Students responded using a five-point scale where "1" meant 'strongly disagree' and "5" meant 'strongly agree.'

**Total responses (n):** 1,427

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<sup>7</sup> As with the last question, recall that all students were asked to elaborate on one of the modalities they took a course in, so every student only answered this question for one of their courses.



**Figure 3.** *Student Experience by Course Modality*

**Eric:** The highest marks on this question went to the modalities with which students and instructors are most familiar: face-to-face and online. At the same time, the other three are not *that* far behind. That's really encouraging. These were brand-new modalities for almost everybody involved, and they were implemented during a period of high-stress for students and instructors alike. It's a real testament to the creativity and commitment of everyone involved that none of these modalities were outright rejected.

**Will:** Agreed. It is not that any modality itself is bad. Rather, these data tell me that students are dedicated to their educational pursuits, and instructors are doing amazing work to support students.

**Eric:** All that said, we may not all be able to offer this many modalities on a routine basis moving forward, so where should we focus our energy? I'll share that teaching via synchronous online meetings for the duration of a typical class period — the "remote" option — was a mixed experience for me. Many students embraced the opportunity for live interaction, but it was really difficult to do things like have a group discussion with three

dozen students in an online space.<sup>8</sup> I am not averse to more video-enabled instruction, of course, but formats that involve primarily streaming a live session to a large group did not quite hit the mark, in my view. Will, when you look at our data, the comments, and your experience on the Whitewater Student Government over the last year, how would you characterize the utility of the new modalities we tried out during the pandemic? Which ones worked well, and why?

**Will:** I do think a mix of modalities is good, including traditional face-to-face classes, purely online courses, and something in between. Obviously, different universities will do things differently, but having a middle option that creates more opportunities for students and makes use of both in-person and virtual elements should be a part of our future in higher education, regardless of the pandemic.

It's also important to note that most of the time, the instructor is what makes the difference, not the modality. Also, for what it's worth, when I register for courses, I focus first on what I need to graduate, and then things like what time of day the class meets and who is teaching it. I don't worry much about the modality, though, to be fair, I'm sure that some students do.

#### Question 4

**Wordings:** "Rank order the following six items such that the most important element to successful digital learning is at the top and the least important element is at the bottom."

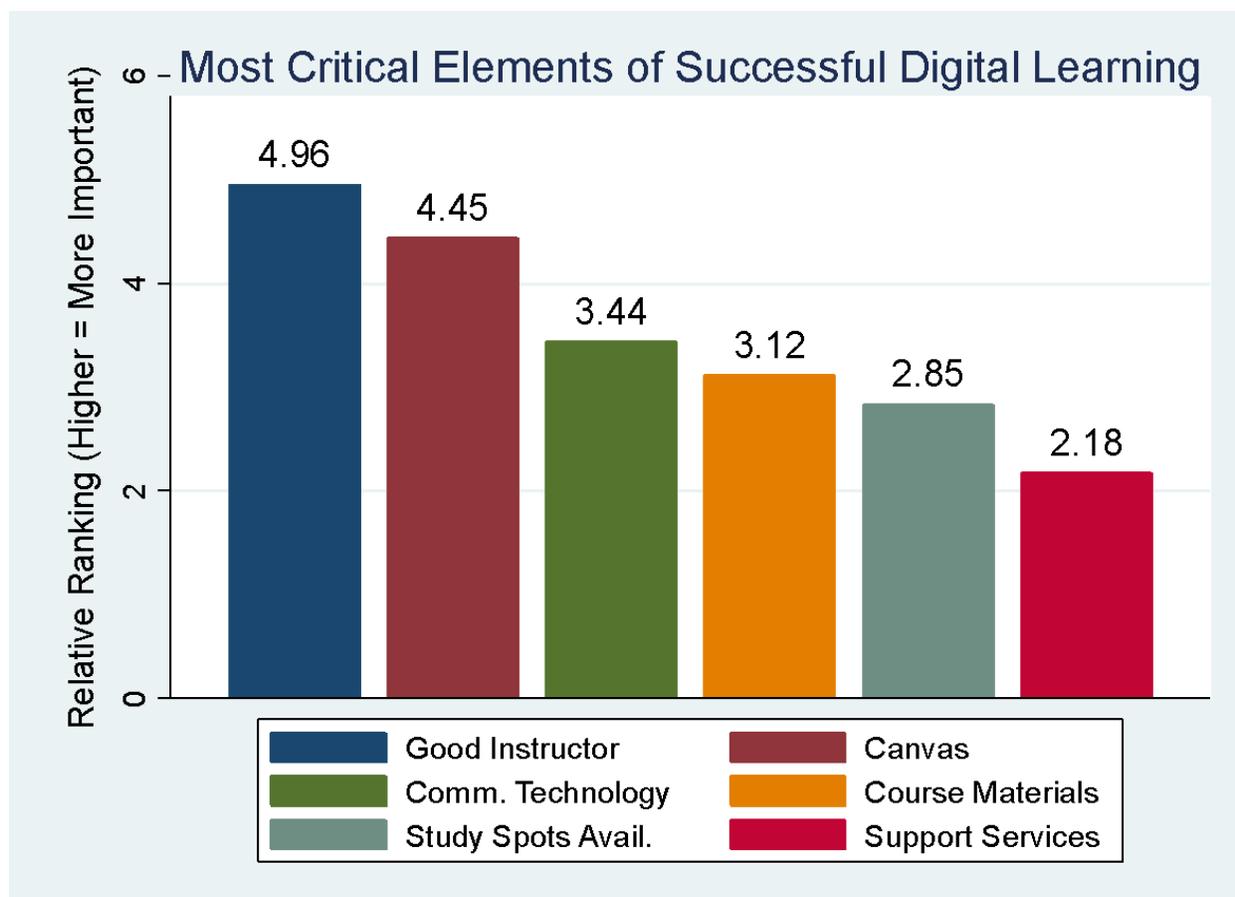
**Answer Options:** Students were presented with the following items in random order and dragged them up or down so that the most important feature was at the top of the list and the least important feature was at the bottom: 'Course materials (e.g., textbook, worksheets),' 'A good professor,' 'Communication technology (e.g., email, Webex),' 'Support services (e.g., tutoring center),' 'Adequate places to study,' and 'A well-organized Canvas course.'

**Data coding:** Data were reverse-coded so that higher numbers correspond with a higher ranking; therefore, the higher the number in the table, the more critical students considered the element to be.

**Total responses (n):** 1,318

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<sup>8</sup> Note: at the time of the survey, breakout rooms were not available on our remote meeting tool. This feature has since been added.



**Figure 4.** *Most Critical Elements of Successful Digital Learning*

**Will:** I was not surprised at all to see instructors rated as the most important element on this list. When an instructor is passionate about what they teach, it makes for an exciting course. Books and videos and such are important, but it really is the instructors that put it all together and make the magic happen. All that extra work you all have been doing? It really helped us out.

I also want to comment on the communication technology side. Students had all kinds of communications experiences with instructors. Some were extremely active in terms of things like sending weekly email updates with reminders about that week's material, and others did not use communication tools that much at all. One thing I really appreciated was that some instructors even went out of their way to message students to ask how they were doing, separate from coursework. That was really nice of them. Students notice and appreciate that kind of thing.

**Eric:** Without a classroom in which we can give oral reminders, those communications tools become all the more essential.

**Will:** One hundred percent. Even if it is in the syllabus, it is still helpful to get the reminder.

**Eric:** Sort of like an airline giving a last call over the loudspeaker that your flight is leaving. The departure time is on your boarding pass, and listed on the reservation, but a little digital nudge can help get everyone over the finish line.

**Will:** Can we take a minute and talk about the lowest-rated element, support services? This rating could be misleading, because these services often do such a good job that students do not frequently think about them. They are very important parts of the university.

**Eric:** Completely agree. The network of people working to ensure a successful learning experience is vast, and includes many people not listed on a class roster. None of us could do this without them! I suspect part of the reason for a somewhat lower ranking is that many students were partially or entirely remote during the pandemic semesters, so some services were simply not utilized as much as they normally are. In addition, many people may simply not be aware of how many service centers were operating around them. I marvel when I think about all the extra lifting that these centers on campus undertook during recent semesters and still undertake today. There may have been supply chain challenges, but dining services still had to safely feed thousands of students. There may have been physical limitations on campus like mask-wearing and social distancing, but the Center for Students with Disabilities still had to coordinate a quality education for students who needed their services. This was a team effort, through and through.

**Will:** What else stood out to you in these rankings?

**Eric:** My eye was immediately drawn to the learning management system (LMS) bar. The LMS is underappreciated in higher education. It may be tempting to view the LMS as a repository for course information, or a place to post grades, or other “passive” activities. But the truth is the LMS can also be the hub for course activity, even in face-to-face courses. One thing I did in spring 2020 when the pandemic hit was reflect intently on this question: “How can I make this page as useful as possible for students?” I tried a few new designs, sought feedback from students during spring break (yes, several amazing students took time out of their spring break to meet with me to talk about changes to Canvas!), and implemented a few new features that I hoped would help us succeed when we returned.

**Will:** What kinds of features worked well?

**Eric:** One example was to literally translate every activity for every week into a series of steps. “Step 1: Review this book chapter.” “Step 2: Come to class by clicking this link at class time o’clock on this day.” “Step 3: Review our slide deck here.” “Step 4: Here’s what you are turning in for a grade this week.” And so forth. I also worked to provide more updates digitally, since I would be losing the opportunity to push reminders orally in the classroom.

But there was also the humanization element of it all. The LMS can be a place to connect as people, not only as instructor and pupil. One thing many students liked in 2020 was my weekly “Loepp Log,” where I recorded a short video with non-essential commentary about a variety of topics. Perhaps a rant about a bad officiating call in a hockey game I saw, or a story about a recipe I failed miserably to prepare the night before. Things like that. It was my way of trying to replicate those informal but pivotal few minutes before and after face-to-face class meetings when students and instructors chat, either about a class issue like when something is due, or, more often, our critical reviews of the newest binge-worthy series on Netflix. These are valuable interactions, not so much because my views on hockey

or cooking are particularly relevant to the study of political science research methods, but because I want to foster a culture of access and approachability so when students are in a difficult spot, they feel comfortable reaching out. And what better way to do that than comparing hot takes on the *Great British Baking Show* or *Tiger King*? Sometimes, students would send questions for me to answer on the next Log. I was touched that they cared to ask, and I'm hopeful those silly videos brought some measure of normality to my class. Bottom line: the learning management system can play an important role in helping us make connections as people.

From your perspective, Will, what sorts of things did instructors do during the pandemic that were really helpful for students? Would you recommend that they keep doing them even after the pandemic subsides?

**Will:** First, I'll reiterate what I said above: keep a digital presence. That can take multiple forms. You can be synchronously present through things like virtual office hours. But there is also the idea of using the learning management system to its fullest potential. Even in face-to-face classes, the learning management system is really important. Sometimes people forget that.

A second thing instructors did that was helpful was to reimagine how they assessed student work. A lot of instructors got really creative during the pandemic and came up with neat alternatives to things like multiple choice exams and long essays. Students demonstrate their knowledge in different ways, and I hope the pandemic encourages a wider variety of evaluation tools to become commonplace in higher education.

**Eric:** Those are both great points, and you and I figured students would have some interesting comments about these topics when we designed the survey. So let's take a closer look at some of the data specifically on the (LMS) and on assessment.

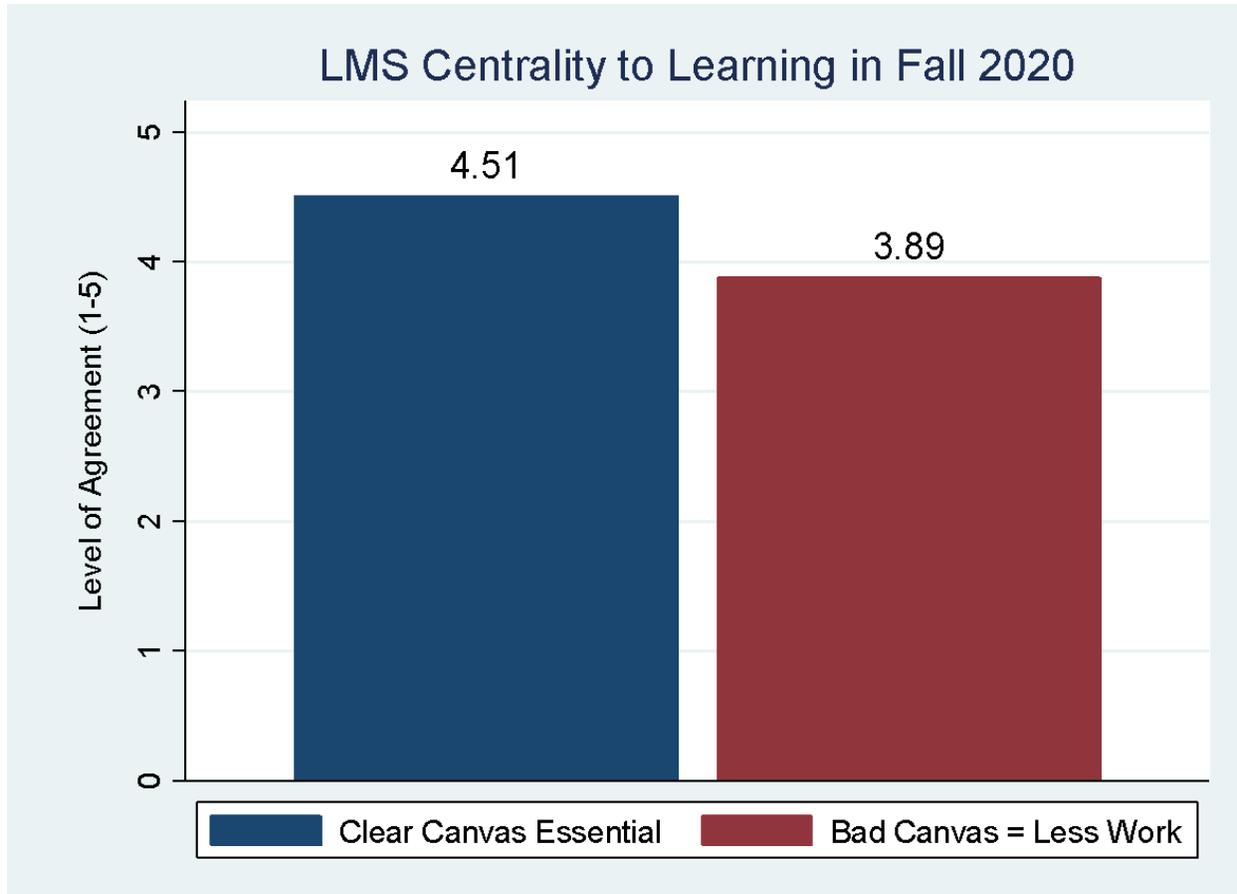
## Questions 5a and 5b

**Wording:** "Please indicate the degree to which you agree/disagree with each of the following statements about Canvas."

- 'A clear Canvas course is essential to learning.'
- 'I was less likely to complete my work if a course Canvas site was poorly-designed.'

**Answer Options:** Students responded using a five-point scale where "1" meant 'strongly disagree' and "5" meant 'strongly agree.'

**Total responses (n):** 345



**Figure 5.** *LMS Centrality to Learning in Fall 2020*

**Eric:** I was not surprised to see a number much closer to five than to one for the first question, but the average exceeded 4.5 out of five. Sixty-three percent of students indicated the highest level of agreement possible, and another thirty percent reported the second-highest level of agreement. Many instructors in higher education did not have a learning management system when they were students themselves. Or, if they did, it was very basic. Will, obviously clarity in general is a good thing, but why is LMS clarity so essential for students?

**Will:** Because a lot of students are juggling five or more classes. Even if no instructor is doing a “bad” job with Canvas, it can still be a lot to manage in terms of where items are located, who is using what Canvas features, etc.

**Eric:** The other item has a lower average, but I actually find it the more compelling answer. In general, students were more likely to agree than disagree with the statement that a poorly designed Canvas course reduced the likelihood that they turned in their work. We don’t often think of the LMS as being particularly important in this regard. *It’s just where we post assignments and where students submit them.* But it really does matter, doesn’t it? Will,

tell me three things every instructor should do to help students get the most out of their learning management system.

**Will:** Number one: put all assignments on the calendar. Many instructors create assignments that link to a gradebook, which is awesome, but adding a due date on the assignment so it shows up on our dashboard is incredibly helpful. Number two: formally update course materials when changes are made. We know courses sometimes have to be adjusted based on things like illness, current events, or fire drills, but please update materials like the syllabi in digital form so students do not accidentally develop their work around outdated standards. Number three: post regular announcements that reinforce key dates that are upcoming. I know professors often have these dates in other places like the syllabus, but it is extremely helpful to get reminders, as well. Eric, would you add anything from the instructor perspective?

**Eric:** These are great points, Will. I'll add that on more than one occasion, students have pointed out an error I made in my digital course space, such as a due date that is incorrect. I really appreciate that feedback. We all miss things sometimes. We're human! It's helpful to build a culture where students appreciate that instructors may need to adjust course content from time to time, and where instructors appreciate that many students are managing five or more courses that each have different standards and schedules. Students do have a responsibility to manage their time, their materials, and their work, but we as instructors can help you do so through our design and delivery. One thing instructors can do to promote this culture is to have conversations early in the semester with their classes about how they plan to communicate, the process they will use to make adjustments to the course as necessary, and how they approach issues like sending students reminders.

**Will:** Clear and concise expectations help everybody.

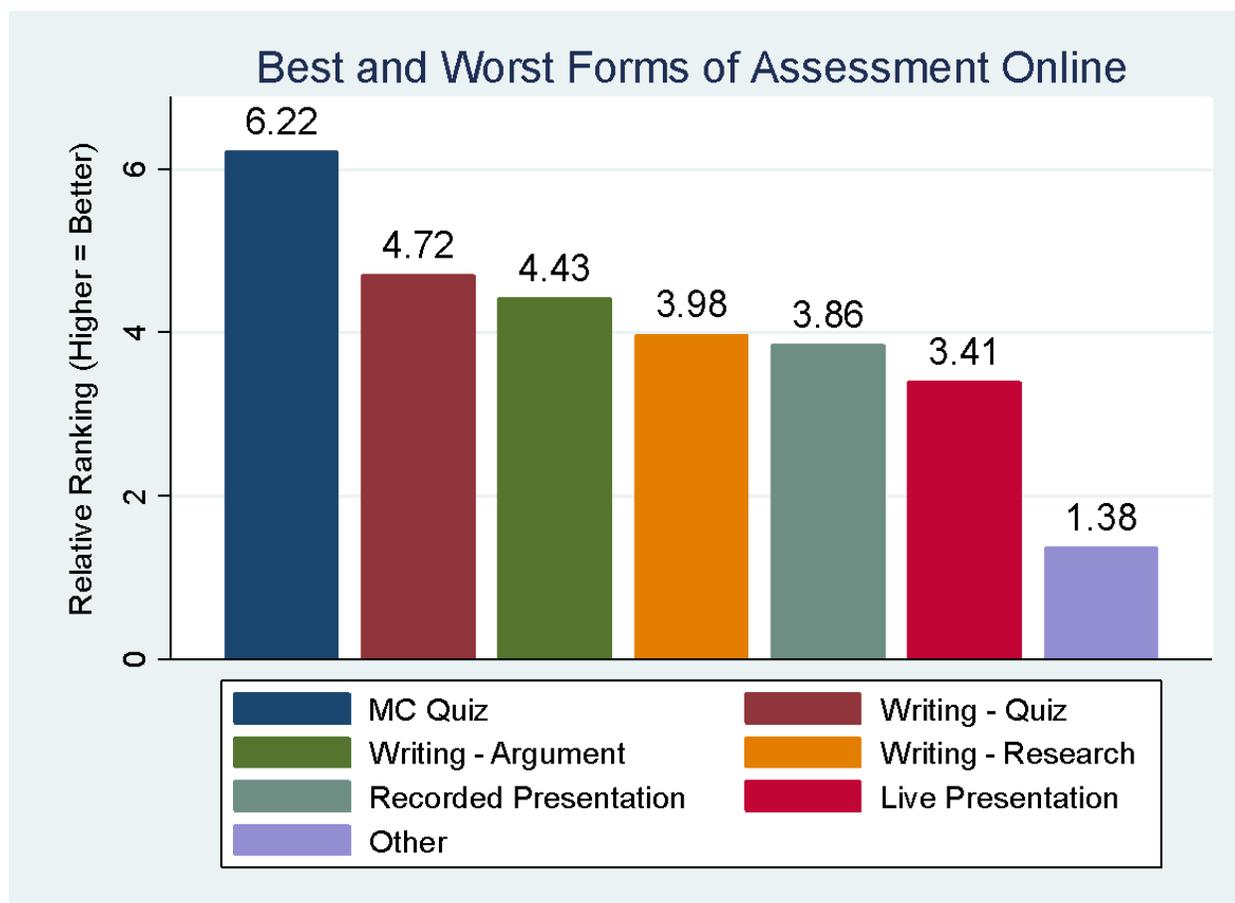
## Question 6

**Wordings:** "Think about the activities you completed in fall 2020 for points and grades. Looking back, what are the best and worst forms of assessment in an online environment? Drag-and-drop the following so the assessment strategy that you feel is "best" for an online environment is at the top and the assessment strategy you consider to be "worst" for an online environment is at the bottom."

**Answer Options:** Students were presented with the following options in random order and dragged them up or down so that the most important feature was at the top of the list and the least important feature was at the bottom: 'Multiple-choice quizzes,' 'Essay/writing-based quizzes,' 'Writing tasks: arguments,' 'Writing tasks: research,' 'Live presentations,' 'Recorded presentations,' and, 'Other.'

**Data coding:** Data were reverse-coded so that higher numbers correspond with a higher ranking; therefore, the higher the number in the table, the better the student considered the assessment tool to be.

**Total responses (n):** 322



**Figure 6.** *Best and Worst Forms of Assessment Online*

**Eric:** It's interesting to see multiple-choice (MC) quizzes as far-and-away the preferred assessment approach among students. Will, do you suppose this is because multiple choice questions are easier to answer with access to the Internet? Or is there something about the *method itself*, such as a finite number of choices in an environment where you may not be able to ask a clarification question, that makes it appealing?

**Will:** It's both. If instructors use the same quiz questions in an online course that they used before in a face-to-face course, the quiz will be easier because students have access to the Internet. Sure, instructors can forbid outside resources or use programs that freeze/lock browsers to limit cheating, but unfortunately the temptation is still there for many people. It is also true that multiple-choice assessments are simply easier to manage. Students taking a quiz late at night, for instance, may not be able to ask a professor a question if they are confused by something. It is helpful in those situations to only have to worry about selecting the appropriate answer rather than generating it from scratch.

**Eric:** That makes sense. Multiple-choice exercises can still be valuable online, particularly for low-stakes formative assessments, but instructors may need to modify them. For instance, in an online class I wouldn't ask students to identify the standard margin of error in a political poll because that is easily searchable. Instead, I might present them with a poll

and ask them to select a newspaper headline that most accurately describes it. It's still multiple choice but of a higher order that promotes critical thinking.

Here's something I've been thinking a lot about, Will. What can instructors do to increase enthusiasm for presentations? One thing the pandemic taught us is that remote engagement with others is a vital skill. Consequently, I do not think we should necessarily eliminate them entirely as an assessment strategy, even though they are not highly rated in the survey. But what can we do to improve their efficacy in the online environment? How can we make them better?

**Will:** I encourage instructors to maximize autonomy to present on issues students care about. If we are passionate about a topic, we will be all-in on the presentation. Another reason ratings are lower for presentation-based assignments is that students can struggle to understand exactly what they are supposed to do. Instructors should provide examples to highlight their objectives. They should also connect students to information and resources related to the creation and uploading of media. Contrary to popular belief, not all college students are tech-savvy!

**Eric:** Let's turn to data about test anxiety. In addition to asking people about the best and worst forms of assessment, we also asked students about what kinds of assessment induced the most anxiety. Obviously, college involves some pressure to deliver, so some stress is okay — it's what compels us to study hard. But we don't want eustress to become distress. That does no one any good. So, Will, what are the key takeaways in the anxiety data?

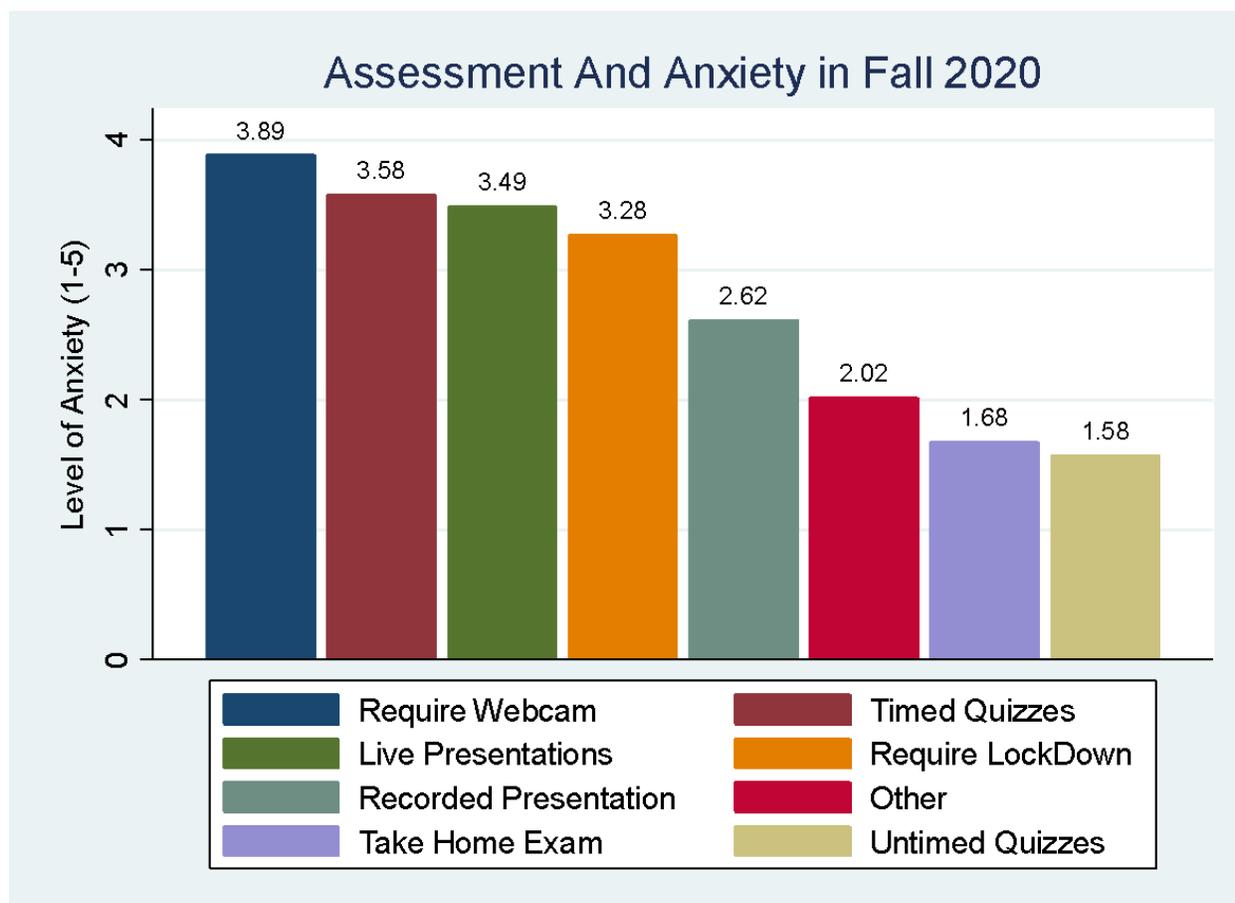
## Question 7

**Wording:** "How anxious do each of the following assessment tools make you feel?"

- 'Quizzes with time limits'
- 'Quizzes with no time limits'
- 'Requiring LockDown Browser'
- 'Requiring webcams'
- 'Take-home exams'
- 'Live presentations'
- 'Recorded presentations'
- 'Other'

**Answer Options:** Students responded using a five-point scale where "1" meant 'not anxious at all' and "5" meant 'extremely anxious.'

**Total responses (n):** 345



**Figure 7.** *Assessment and Anxiety in Fall 2020*

**Will:** I'm not surprised that the main thing students don't like is to have to have their webcam on. Have you ever had a camera on you during an exam, Eric?

**Eric:** I believe there were cameras during my GRE, but otherwise not to my knowledge.

**Will:** It's really weird. You feel like you are in trouble even if you haven't done anything wrong. It feels like someone is staring at you, even if no one is. I get that there are security issues, but it seems excessive.

**Eric:** I totally understand. That would mess with my mind, too, and during an exam is not where you want those kinds of distractions. I don't want to speak for all instructors, because I'm one person at one university teaching in one discipline, but in my view, there is rarely a need for webcam usage during exams. Again, there could be specific instances where there may be a legitimate need; however, "just having students turn on their webcams" does not strike me as a solution to concerns about exam integrity more generally.

But webcams were not the only issue. It's not surprising to me that more anxiety is associated with assessments that involve completing tasks on a specific time frame, like

timed quizzes or live presentations. However, I don't think it is always appropriate to eliminate all time constraints on assessment. There are times in life when we need to show up and deliver on a schedule. At the same time, I want students to perform their best. So how can we balance these two goals, Will? What is a reasonable ask of both parties in this situation?

**Will:** It starts with having a dialogue. I've had instructors talk to the class about their assessment plans and listen to feedback from us about things like how many or what format of tests we have. We really appreciate that consultation. I know we can't do that in every situation, but it makes us feel more part of the whole process.

Another way to help achieve this balance is to have smaller, more frequent assessments like quizzes done outside of class or online and larger, higher-stakes exams in person.

One other thing that comes to mind: students have gotten used to completing exams on computers over the last few semesters, so as we come back in-person, it's actually kind of stressful to go back to paper and pencil, with the clocking ticking behind you, and that sort of thing. Just something instructors should keep in mind.

**Eric:** Transitioning *back* is still a transition.

**Will:** Exactly.

**Eric:** A lot of instructors utilized take-home exams during the pandemic. What do students think about those? Are you equally motivated to study for them? Should we keep them around?

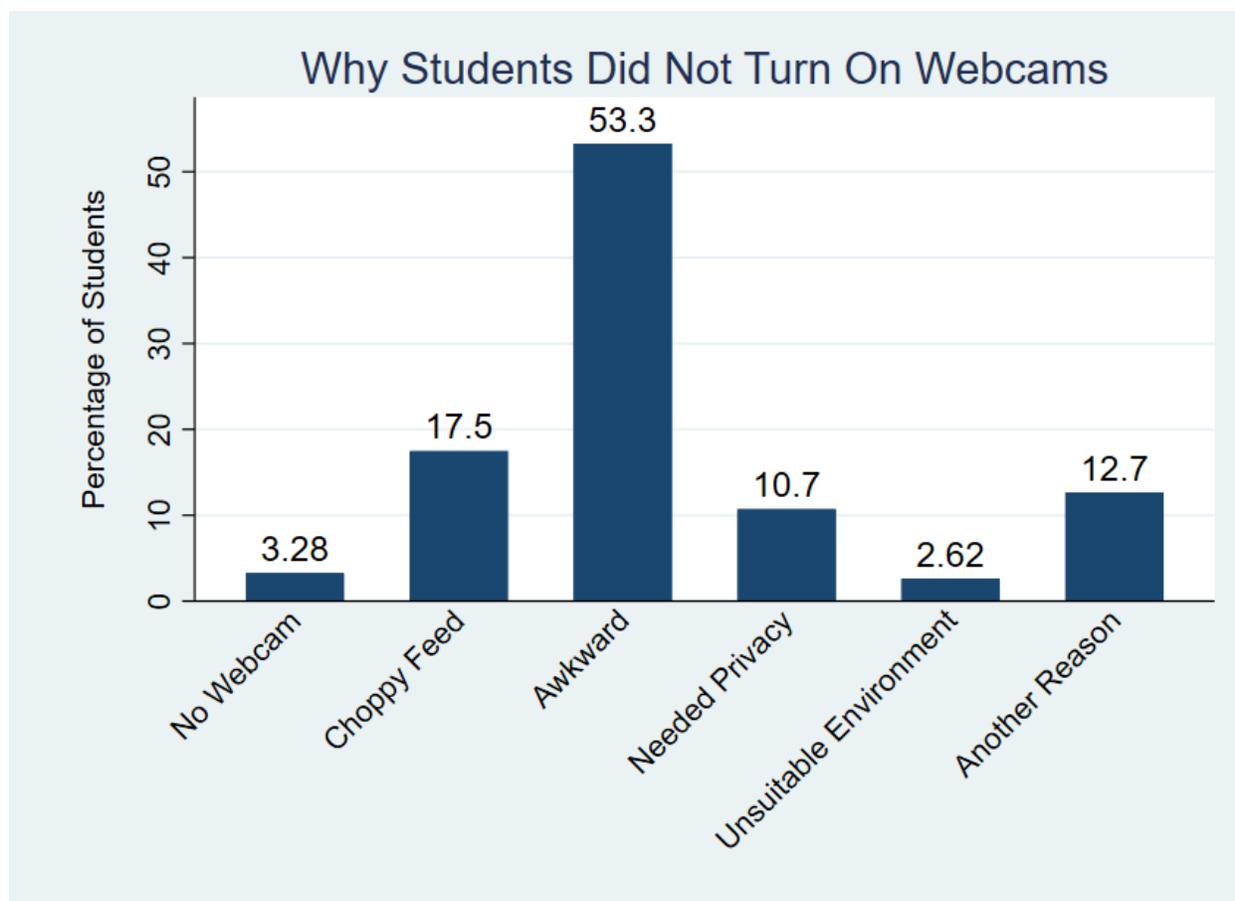
**Will:** I think they have a place. The big advantage is they are less stressful. There is no time limit, and we can do the work in an environment we feel comfortable in. I won't lie — sometimes they are easier because we have more time to do the work. But the right assignment can actually push us to think much more creatively and critically because we have more time to think about it.

## Question 8

**Wording:** "What is the MAIN reason you did not regularly have your camera on?" [Note: students only answered this question if they previously indicated they did not regularly have their camera on.]

**Answer Options:** Students were given a series of options from which to pick the most appropriate reason, including: 'I did not have access to a webcam,' 'Turning on my camera made the video feed choppy (e.g., bandwidth issues),' 'It was awkward when no one else was doing it,' 'I did not want others to see my surroundings,' 'I was in an environment where my camera could not be on (e.g., at work with other people),' and, 'Another Reason.'

**Total responses (n):** 458



**Figure 8.** *Why Students Did not Turn on Webcams*

**Will:** What's most interesting to me is that lack of webcam use is not principally a technical issue, such as not having a camera or losing a smooth feed when a camera is on. The main issue is that it is just *weird* to have your camera on when others do not. But I get that instructors want to see us. Eric, how did you approach the webcam question in your remote meetings?

**Eric:** The thing with webcams I found is exactly what you said: it isn't strictly a matter of rules, but rather a matter of culture. Instructors can motivate — and not merely mandate — camera use if they build a culture for it. A good strategy for building a more cam-friendly culture is to consult with students. Get a sense of their preferences and limitations, and invite them to help design a webcam policy that works for everyone. The strategy that worked for me was to make specific webcam requests for special occasions but not ask for them to be on all the time. For example, in my parties and elections course fall of 2020, we had a candidate for Congress join us to talk about life on the campaign trail. Camera use was near universal that day because we planned for it. But since many students genuinely cannot use webcams, I hesitate to endorse the idea that camera use should be mandatory.

**Will:** That cultural piece is huge. I think the webcam challenge speaks to a lack of focus on peer-to-peer relationship-building. Things that happen organically in a face-to-face setting

need to be organized more formally online. Many people may have assumed that a remote course is basically the same thing as a face-to-face course: "I'll watch the professor." "The students will watch me." The connection isn't as natural. I think we get this on the surface, yet we don't completely appreciate just how big a deal it is.

**Eric:** I had no idea until spring of 2020 exactly how much I relied on facial expressions to gauge comprehension!

**Will:** Who knew eyebrows were so important in the classroom?! Let's consider another finding about webcams. In addition to individual camera use, we also asked students about their preferences for *other* people having their cameras on in a digital classroom.

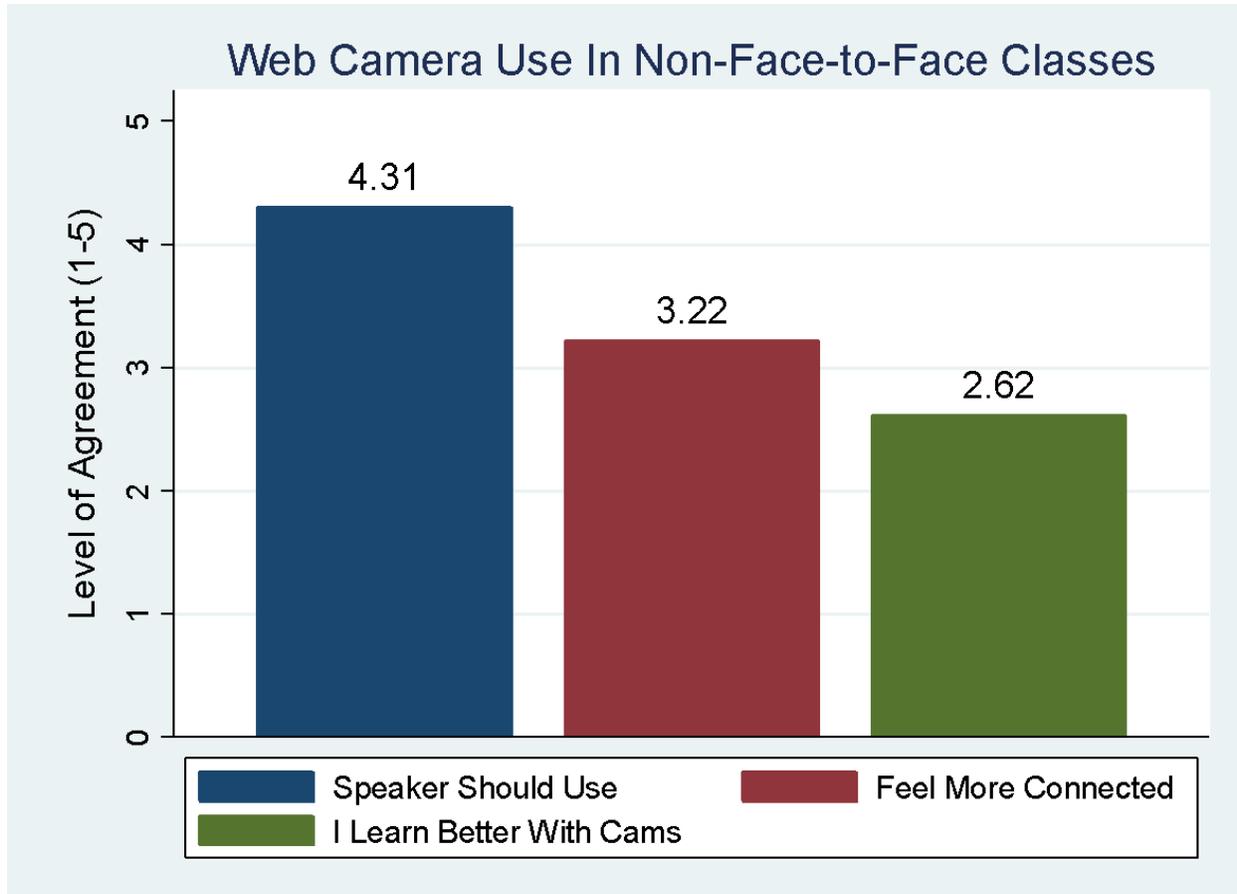
### Question 9

**Wording:** "When it comes to cameras, what do you think about each of the following?"

- 'Even if students do not have their cameras on, the instructor/speaker should.'
- 'I feel more connected to the class when everyone has their camera on.'
- 'I learn better when others have their cameras on.'

**Answer Options:** Students responded using a five-point scale where "1" meant 'strongly disagree' and "5" meant 'strongly agree.'

**Total responses (n):** 470



**Figure 9.** Webcam Use in Non-Face-to-Face Classes

**Will:** One big thing I noticed was that even if students have their cameras off, they really want to be able to see the instructor, even if they are presenting material on a slide deck.

**Eric:** It's interesting to contrast these data with what we were just talking about. Students often do not want to use their webcams, yet I think everyone understands that it can be helpful to instructors when they do. This is all the more reason for instructors to have thoughtful, deliberate conversations with their classes about webcam use so a reasonable policy can be established, especially since for many students the issue is classroom culture and not technology restrictions.

**Will:** For sure. At the same time, the other two data points are intriguing, too. Students do not really feel more connected to people when everyone has their cameras on, and they even report disagreeing — a bit, on average — with the statement that they learn better when they can see everyone else.

**Eric:** That goes a little bit against what we might expect, and what we see in television advertisements for remote meeting products. What do you think is the cause of this, Will? Is seeing everyone else distracting?

**Will:** I think that's part of it, yes. If we're not actively interacting with each other, it doesn't make much sense to be staring at each other during class, even if it is just tiles of faces across the top of the screen while the instructor is presenting something. Maybe you get distracted by something another student is doing. Or maybe you start to worry if everything looks okay behind you or if your shirt is on straight.

**Eric:** I must say I'm a little disappointed I didn't see more roommates photobombing each other during remote teaching sessions. Or maybe they were and that's why some cameras were turned off!

**Will:** About 13 percent of students did indicate "Another Reason" in the webcam question. Maybe "My roommate's antics" should have been an answer option!

**Eric:** You need to come guest lecture in my research methods course about survey design!

## Conclusion: Collaboration is Key

Our goal of this research project was to identify ways universities and instructors can better understand and support the needs of students during the pandemic. We were grateful for the opportunity to conduct this research, and we have disseminated and acted on its results. We gave “shout outs” to hundreds of instructors identified by students as difference-makers in their academic lives. We hosted panels during which instructors shared successful pedagogical strategies they developed in their courses. We recommended the adoption of various practices and procedures based on student feedback and instructor experience.

Although our primary goal was to serve the university community, the two of us are also extremely fortunate to have learned a lot from each other during the process. The conversation above represents only a fraction of the longer discussion we had about the pandemic teaching and learning experience over the course of numerous video calls and masked meetings. The process of developing and analyzing the survey proved valuable to both of us. We both generated survey question ideas that the other did not think of. We both came to the table wanting to address challenges that we had experienced in our classes or that our respective governance groups had identified as concerns worthy of empirical scrutiny. Simply discussing whether to include certain items on the survey was itself incredibly revealing about our respective priorities. Once we had the data in hand, we enjoyed another set of spirited conversations about what the data meant for our campus community. In many cases we drew similar conclusions, but it was not uncommon for us to interpret the data in disparate ways. Unpacking those differences was a rewarding and constructive process for us both.

We would like to close our conversation by encouraging instructors, students, and administrators to invest in rich — not simply long — conversations of their own about what post-pandemic plans for their universities should look like. Perhaps that will involve surveys like ours, perhaps it will not. The method is not as important as the results it produces and the conversations it inspires. Ongoing dialogues and consultations, not merely compulsory notifications or extemporaneous requests, are the key to crafting blueprints for success.

## Appendix A: Question Data in Tabular Form

Below are tabular alternatives to the data presented above in graphical form.

**Table A1**

*"How many hours per week did you spent in your [face-to-face / online / hybrid / Hyflex / remote] course?"*

Modality	Hours Spent on Average
Face-to-face	6.92
Online	10.3
Hybrid	9.17
Hyflex	8.8
Remote	10.7

**Table A2**

*"To what extent do you agree with the following statement: 'This modality was a good experience.'"*

Modality	Level of agreement (1-5)
Face-to-face	3.99
Online	3.65
Hybrid	3.42
Hyflex	3.5
Remote	3.3

**Table A3**

*“Rank order the following six items such that the most important element to successful digital learning is at the top and the least important element is at the bottom.”*

<b>Item</b>	<b>Ranking</b>
A good professor	4.96 (1 <sup>st</sup> )
Canvas	4.45 (2 <sup>nd</sup> )
Communication technology (e.g., e-mail, Webex)	3.44 (3 <sup>rd</sup> )
Course materials (e.g., textbook, worksheets)	3.12 (4 <sup>th</sup> )
Adequate places to study	2.85 (5 <sup>th</sup> )
Support services (e.g., tutoring center)	2.18 (6 <sup>th</sup> )

**Table A4**

*“Please indicate the degree to which you agree/disagree with each of the following statements about Canvas.”*

<b>Item</b>	<b>Level of agreement (1-5)</b>
A clear Canvas course is essential to learning.	4.51
I was less likely to complete my work if a course Canvas site was poorly-designed.	3.89

**Table A5**

*"Think about that activities you completed in fall 2020 for points and grades. Looking back, what are the best and worst forms of assessment in an online environment? Drag-and-drop the following so the assessment strategy that you feel is "best" for an online environment is at the top and the assessment strategy you consider to be "worst" for an online environment is at the bottom."*

Item	Ranking
Multiple-choice quizzes	6.22 (1 <sup>st</sup> )
Essay/writing-based quizzes	4.72 (2 <sup>nd</sup> )
Writing tasks: arguments	4.43 (3 <sup>rd</sup> )
Writing tasks: research	3.98 (4 <sup>th</sup> )
Recorded presentations	3.86 (5 <sup>th</sup> )
Live presentations	4.31 (6 <sup>th</sup> )
Other	1.38 (7 <sup>th</sup> )

**Table A6**

*"How anxious do each of the following assessment tools make you feel?"*

Assessment Tool	Level of Anxiety
Requires a webcam	3.89
Timds quizzes	3.58
Live presentations	3.49
Requires LockDown browser	3.28
Recorded presentation	2.62
Other	2.02
Take Home Exam	1.68
Untimed Quizzes	1.58

**Table A7**

*“What is the MAIN reason you did not regularly have your camera on?”*

<b>Modality</b>	<b>Percentage of Students</b>
It was awkward when no one else is doing it	53.3
Turning on my camera made the video feed choppy (e.g., bandwidth issues)	17.5
Another Reason	12.7
I did not want others to see my surroundings	10.7
I did not have access to a webcam	3.28
I was in an environment where my camera could not be on (e.g., at work with other people)	2.62

**Table A8**

*Student Perceptions About Camera Use by Others*

<b>Item</b>	<b>Level of Agreement (1-5)</b>
Even if students do not have their cameras on, the instructor/speaker should.	4.31
I feel more connected to the class when everyone has their camera on.	3.22
I learn better when others have their cameras on.	2.62

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