Susan Bickerstaff:

It's wonderful to see everyone this afternoon. Thank you for joining us. We're going to get started now. My name is Sue Bickerstaff and I am a researcher at the Community College Research Center, and I'm very pleased to welcome you to today's Postsecondary Teaching with Technology webinar. I am joined by my co-lab colleagues, Akilah Thompson from the Community College Research Center, and Hannah Cheever from SRI Education, and we're really pleased to have three panelists with us who we'll hear from later in the hour. Candace Walker is a professor at Palm Beach State College, and Mason Gallagher and Emily Vershay are students at Wake Tech Community College. So our goal for this hour is to share with you findings from the Collabroative's research on online courses. We will introduce a set of instructional strategies that we've been testing over the past several semesters, and we will facilitate a discussion about approaches to support, learning and success for students who take courses online.

So I'll be starting off by providing a little bit of background about the Collaborative and then I'm going to turn it over to Akilah who will highlight findings from the Colab's recent publication. And then Hannah will describe an instructional model for self-directed learning, which is a set of strategies that faculty are actually currently piloting at five institutions this spring. And then we'll close with a panel discussion. If you have any questions or comments throughout today's presentation, you can submit them using the Q&A button or put them in the chat, and we'll have two moments during the hour where we actually pause and answer the questions that are coming in.

So the Postsecondary Teaching with Technology Collaborative is a partnership between SRI Education, the Community College Research Center and Achieving the Dream, and nine wonderful institutional partners who've been working with us over the past four years. The Colab is a research and capacity building center that's funded by the US Department of Education, and we aim to study and improve how faculty teach and use technology to help students apply and strengthen self-directed learning skills, to increase their success in online STEM courses.

So this framework for self-directed learning has served as the foundation for the Collaborative's research and development work. It pulls together several bodies of overlapping research to illustrate the relationship between three reciprocal learning processes with evidence of improving post-secondary student outcomes. At the top you'll see motivational processes, which include the foundational emotions and beliefs that energize students' approach to learning, things like sense of belonging, self-efficacy, agency and growth mindset. Metacognitive processes translate those emotions into an action plan as students set goals for their learning, identify their learning needs and appropriate strategies, monitor their progress and reflect on what's working. And then students use applied learning approaches to put those plans into action. So that includes actually implementing the strategies and seeking help when needed. And the cycle continues as students learning experiences then influence their motivation.

The Collaborative's research has been exploring ways to create supportive learning environments and online courses that promote students' belief in their ability to learn, their sense of belonging, provide students with positive experiences of taking control over their learning and provide instruction to help students adopt effective planning and learning strategies.

So the Collaborative's research and development activities have focused primarily on online STEM courses. We think that the framework and the strategies that we'll share later today are broadly applicable to all disciplines and all course types, but we focus on online STEM courses because they're particularly challenging to teach, they're challenging for students and online course outcomes overall tend to be worse than face-to-face courses and online courses place a greater demand on students to manage their own learning processes and their challenging environments for students to remain engaged and motivated and to understand the best ways to learn.

So that provides a little background on the Co-Lab, and I'm going to turn it over to Akilah now who's going to talk about one strand of this research, our interviews with students and their experiences in online courses and the relationship between those online course experiences and these self-directed learning processes.

Akilah Thompson:

Thank you, Sue, for that introduction and overview. Hello everyone. Yes, my name's Akilah, and so I'm just going to be sharing what we were trying to learn throughout our data collection, and it was really specifically about the kinds of experiences students were having in their online courses and the ways and the strategies that support students' motivational, metacognitive, and applied learning skills and mindsets and what may have shown up in their classes.

So we released a brief last month where we explored the perspectives and self-reported experiences of students developing and using SDL skills in their online courses. So over the next several minutes, I'll just share some of the key takeaways from it as well as the findings and then share some student-supported recommendations for instructors to help students manage their online learning.

So we analyzed interviews that we conducted between 2022 and 2023 with 25 students enrolled in online STEM courses at eight of our partner institutions that were mentioned earlier. And with them we held semi-structured virtual interviews and focus groups. Now, the sample of students that we spoke with were enrolled in several course modalities. However, the modality we happened to recruit the most students from was in asynchronous courses. In some of our earlier stages of data collection, we learned from faculty and students how challenging the asynchronous format was. So we were especially interested in learning more about how instructors were teaching and how students were learning in the asynchronous format.

When we talked with students, they reflected on various topics, including their general online experiences, how they were welcomed into the course, the structure of content and resources on their LMSs, some of their learning approaches, their assignments and assessments, and the skills and mindsets they believed were important for success. So in asking about these, our main goal was to identify instructional practices and strategies that students find most helpful in online courses and see the ways that that interacts with our SDL framework.

So please feel free to scan the QR code on your screen to get a direct link to the brief, but the Collaborative will also circulate the links in our communications afterwards. So with that, I'd like to share some of our findings collected from students we heard from.

So firstly, we find that positive interactions with faculty and peers can improve motivation. Some students stated that when faculty discussed their connections to an enthusiasm about course topics, whether through videos, emails, or synchronous meetings, they valued hearing directly from faculty members, but some even finding it motivating and very helpful. And when students shared that they were motivated by their peers, some cited that hearing or seeing their peers have questions about the content or their assignments, their self-efficacy increased, helping them to realize that they weren't the only ones with questions in the class.

So for our second finding, students want support to employ metacognitive skills and applied learning strategies in their online courses. The courses in our study included a variety of tools for students to navigate, such as video and text-based resources, publisher and homemade activities, reading an ebook, etc. But we found that students really struggle with different content resources and when they reflected on what would be most helpful for them to improve their approaches to learning, they reported wanting more guidance from instructors on how to use all the materials provided for them in structured and easy-to-navigate ways.

For our third, finding students reported that the more instructors interacted with students, the more students reported feeling comfortable seeking help. These interactions helped in breaking down the barrier students saw to help-seeking which some of the barriers included the belief that students should figure it out for themselves, the fear that faculty will view them as unprepared, and the perception that seeking help is implicitly discouraged. An example of a way that instructors can interact with their students is by answering and providing feedback to student postings on discussion boards and other assignments. We heard from students in asynchronous courses that it made them feel more at ease to ask questions of their instructors when they engaged with or reacted to their responses.

And finally, we find that students have strengths that lay the foundation for self-directed learning. The students we spoke with shared that they would draw on outside-of-classroom factors such as families, communities, and past experiences to navigate their approach to learning. For example, students reported that setting with their family and learning from past eras help them to achieve and build their skills.

So just building on the last finding at the end of our brief, we have recommendations for faculty teaching online courses, and we drew on the four findings from students I shared to come up with these. So one, uncover and acknowledge students' SDL strengths through reflection activities. By creating opportunities for reflection, students can lean on and share previously learned metacognitive and applied learning strategies as well as their sources of motivation and resilience. Students share that offering opportunities to showcase their interests, knowledge and understanding helps them engage with the content. So some discussion and reflection prompts might ask, what keeps you motivated when you encounter challenges in your online courses? What community, familial and cultural resources lift you up and what strategies do you use to help you stay on track in your online courses?

Our second recommendation, aim to maintain instructor-to-student connections to lower barriers to help-seeking and promote motivation. This recommendation might be done by requiring attendance for early touch points at virtual office hours. This could be for one-on-one or group synchronous office hours, but all throughout emphasizing that seeking help is encouraged and normal and communicating belief in students' ability to succeed.

Thirdly, we recommend that by creating varied and frequent opportunities for peer engagement and support for online learning early in the term. So these peer opportunities might include group assignments and activities as well as engaging with one another via discussion, video responses and text. And just to increase the success of these peer engagement opportunities, we recommend setting norms and spaces for exploring confusion, teaching one another and promoting peer discussions, all helping to foster supportive online learning environments. We also recommend implementing these opportunities for engagement early in the term as this allows for students to benefit from peer support from the start. Students reported awkwardness when they needed to communicate or collaborate with their peers so late in the term, especially when they had no interaction prior.

And lastly, providing students guidance to navigate course resources and approach course activities for optimal learning and success. Now, what this might look like is sharing ideal workflows, time estimates for assignments, and creating clear and predictable course structures and deadlines, as well as reflecting on successful study strategies. And all of these can contribute to optimal learning and student success.

So with that, please feel free to add any questions or comments that you have into the Q&A. Otherwise, I'm going to pass it over to Hannah to share the model the Collaboratives developed and tested for self-directed learning in online courses.

Hannah Cheever:

Hello. Yes, thank you everyone for joining. My name is Hannah Cheever and I am a researcher from SRI Education, and I will now be talking about what the instructional model that we've created based off of the framework that Sue introduced, as well as the findings that Akilah just went through, as well as some other data activities that we've completed.

As a reminder, we have our self-directed learning framework, which is includes three self-directed learning processes, and it informs our development of the instructional model for self-directed learning. The circles and the images show three core psychological processes and how these three processes mutually reinforce one another. So as a reminder, the first are motivational processes, and these are the I can, and these provide the foundational emotions and beliefs that energize students' approach to learning.

The second are the metacognitive processes or the I plan, where you translate these emotions and beliefs into a plan. This includes understanding how to manage learning and actively engage and adjust to the demands of any learning task.

Finally, they're the applied learning processes or the I do. And these put that plan into action and adjust it as needed. These are are the learning techniques and self-discipline strategies that help students take greater ownership of achieving specific learning goals. As Sue mentioned, these are mutually reinforcing, so students initially reflect on their motivational processes, which leads to active use of metacognitive and applied learning processes. And then using these three processes leads to student learning success, which feed positive emotions and [inaudible 00:15:17] align with these three processes.

So we have two skills aligned with motivational processes or I can, and a reminder, these are the foundational emotions and beliefs, and the first is develop a sense of belonging. Students who experience belonging in a course feel connected to peers and faculty and feel accepted, respected, and valued.

The second skill aligned with motivation is building confidence and self-efficacy as a college student. Students with self-efficacy feel they can overcome obstacles to achieving their goals, and they exhibit a growth mindset. We are also targeting two skills that lead to metacognitive processes.

The first is engaging in regular self-reflection around learning progress. Students who reflect, assess what worked and what didn't after completing a task, and then use this information to adjust their plans for the future. And that leads to our second skill that targets metacognitive processes or planning for learning.

Students with planning skills anticipate the learning strategies they will need to meet their goals, and they can estimate the time needed for tasks and layout steps to meet deadlines. While creating the plan is related to metacognition, following through and adjusting if needed on the plan is related to applied learning. The other applied learning skill that we are focusing on are, is seeking help, finding resources, implementing and adjusting strategies. So with this skill, students are able to take action when a learning problem requires additional resources, social support, or different study strategies.

So to achieve these skills, the Collaborative embarked on several years and phases of research and development. And as part of this work, we identified instructional strategies with promising evidence from literature reviews and a systematic database review, and then worked collaboratively with instructors at our partner institutions to really fully flesh out the strategy for online learning context. And we delivered these SDL instructional supports using an online micro learning approach that offers bite-sized learning experiences while students advance through course assignments.

We initially tested these strategies individually in a series of rapid cycle experiments in 2022 to 2023 across four institutions and almost 20 instructors. In summer of 2024, we pre-piloted all three strategies being implemented together in an integrated way, again, across four partner institutions and 10

instructors. The goals of this pre-pilot were really to understand how the integrated instructional model can be implemented in a real online course environment and to gather feedback from faculty users and students. Based off of these data collection activities. We refined the strategies to what you see today on the slide. So the first strategy are videos to support sense of belonging, planning, and growth mindset. We also have a series of reflective and automated prompts focused on help-seeking, task planning and reflection.

And finally, we have a strategy around supporting student peer interaction and networking or SPIN, using technology. We'll now go into more depth into these strategies, and you can find overviews of them using the QR code on this page right now that links to our event page.

So first, the video series. This series consists of three videos, each focus on a particular SDL skill or mindset. So the first focus on sense of belonging. The second is time management and planning their learning and structuring your learning time. And then finally, a video on growth mindset. So each video, around 10 minutes, follows a consistent structure including concrete strategies to develop that self-directed learning skill or mindset. Importantly, each video also includes a reflection activity to help students think about what they learned and how they can put it into practice. These videos are on YouTube and instructors can embed them directly into their LMS or other course management platform.

The second strategy are a series of reflective prompts. Prompts invite students to prepare to study and regularly check their learning progress. Planning reflection are associated with positive gains and academic performance. These habits strengthen metacognitive processes that help students manage learning and adjust to the demands of college courses.

So we have three different types of prompts. The first are reflective prompts, which you see on the screen here, and these consist of three questions that could be implemented at any point during the course in a form of a single assignment, survey or discussion board post. They should be assigned at least twice during the term and can be repeated more if time allows. The first two reflective prompts align with academic behaviors, asking students to plan for the assignments and coursework they need to complete for this week and whether or not they've scheduled specific time to complete that work. Then the third reflective prompts thinks back upon the week, so what concepts from this class did you feel you mastered this week? And what concepts are they still struggling with? There are options to adapt the number and frequency of these prompts, including adapting the pacing for asynchronous courses to be more unit-based than time-based, as well as options to supplement the standard prompts with prompts that work more specific to your course content.

We also have two additional prompts to support metacognitive supports, an exam wrapper and a message to future student. The assessment wrapper is divided into two parts. The pre-assessment should be assigned about a week before an exam assessment or major assignment. The post-assignment should be assigned once students have received their grades and feedback on the assignment. And the assessment wrapper will be most useful when assigned early in the course so that students can adjust their preparation approaches for future assessments. So the pre-exam survey really is designed to ask students about their planning for exam, how are they going to study? The post-exam then asks students to reflect upon that plan and whether or not they were successful about implementing it or if they need to make changes.

Finally, the message to a future student can be assigned during the final week of the course. Instructors may invite students to complete messages in written or video format, and these student-generated messages can then be anonymized, integrated into future courses to motivate and encourage students in future classes. So it not only builds a sense of belonging and self-efficacy for your current students, but also ones for future classes.

Our final strategy is student-peer interaction and networking or SPIN. And these are really designed to promote a sense of belonging and help-seeking in student, and it really consists of three, four components. So the first is an introductory survey in which students share non-academic information about themselves, which instructors then share an aggregate form and use to create an activity around students' shared interest. So this aligns with what Akilah mentioned about building that sense of belonging in students early in the course so that they can learn more about each other so they feel more comfortable engaging in group work later.

So then the second component of SPIN is a group activity facilitated by instructors. We are asking instructors to complete two collaborative activities that provide students an opportunity to work with peers on a meaningful shared academic task, relevant to course content. Instructors may use responses from the introductory questionnaire to form groups of students with common interests or shared times of when they would like to work.

Finally, the third component is a weekly small or a whole class discussion in which students talk about the concept they understood or struggled with and share resources. So for each collaborative activity, there should be a clearly articulated rubric for how students will work together, and then a summative reflection on how well they collaborated. So students can preview the rubric together before they begin, and then after they finish the activity, they complete the rubric and they can engage in a reflection activity individually or as a group. So these activities support students by providing structured ways to connect with one another.

So you can visit the event page, which we've put in the chat as well, and from the QR code to access draft versions of the instructional strategies. And then currently we are engaging in a larger scale pilot of these strategies with 27 instructors across five partner institutions. And so we'll revise these materials based on the data that we collect in the pilot. And we will pause here to engage in some Q&A.

Susan Bickerstaff:

Great. Thank you Hannah. And we do have a couple of questions in the chat or in the Q&A. Hannah one is just a factual question that you can confirm, I believe the videos are ADA compliant? They have been-

Hannah Cheever:

Yes, they are.

Susan Bickerstaff:

Yeah.

Hannah Cheever:

They have transcripts embedded.

Susan Bickerstaff:

Yeah. Someone in the Q&A asked about some examples of collaborative activities, and I also feel like Candace one of our panelists will have some insight into that, but Hannah, do you want to just offer some examples of collaborative activities that are specific to STEM that we've seen folks using for SPIN?

Hannah Cheever:

Yes. So first we want to say that these collaborative activities, we know that a lot of classes you already have group activities. So the SPIN strategy is designed to use the group activities that you may already

have and just embed in that introductory questionnaire at the beginning as well as that reflective component. But some examples of STEM for some group activities, we have experience with some faculty doing labs in groups for example, and then having the reflection after that. There's also grouping students, if you have a live online class, you can do group students to discuss a particular homework question that they might want to explore in a group. We also, there's other activities like jigsaw activities where you put the students into groups in whatever online system you use, either synchronously or asynchronously, where in that group students can learn about a particular component of a concept and then those coming back in either via discussion boards or others, the students then teach the other students about those core components so that then they get the holistic understanding of the concept.

Susan Bickerstaff:

Great. And we will continue to source some examples maybe of collaborative activities as we go through the rest of the hour from our panelists.

A couple of questions that are in the Q&A are related to the courses that are where this is being piloted. And so I see that there's a question about length and I can answer that. We have pre-piloted this in four-week courses over the summer. We have full 16-week courses, we have eight-week courses. I think we have probably every length of course, reflected and faculty are making adjustments and modifications. Clearly in a four-week course, you just have less time to potentially repeat things as often, but we have had success in implementing in every course at probably every course length variation.

There is an interesting question here about time estimates, and again, I'm hoping maybe Candace might speak to this or some of our panelists, but a question about how to generate time estimates given that students are going to take different amounts of time to complete assignments. So I'm wondering if Hannah or Akilah, either of you have a thought on how you might think about that as a faculty member, given that you know there's going to be a range of amounts of time that it's going to take a student to complete any task in a course.

Akilah Thompson:

Yeah, I had one thought about that and just recalling in the interviews and observations we had with faculty, we had some great examples of pacing guides that faculty would share with us. Just if you're going throughout your entire semester, looking at the dates and week by week of how you'll be structuring the content that you want the students to focus on and just being very clear about the assignments that they might be looking forward to in that time so that that's when they start to manage what they need to do.

You could also have them time how long their assignments are taking them so that then they can plan further in the future what this might look like. And yes, this might be something we will talk about in the panel discussion, but we also received great visualizations of what it could look like day to day that the student is doing throughout their week and what they should be doing when they should be studying, when they can be planning for their quizzes, reaching out to other students or their instructors just to get through that week. So just providing different resources that students can look at as they are learning differently to figure out what best works for them.

Hannah Cheever:

And the strategies are designed to be lighter touch for the students. So other than the group activities, which obviously can range based off of what the group activity is, we estimate around 10 to 20 minutes for a student to engage with a reflective prompt or the video and the reflection questions following the

video. However, we do understand that some students might take a little bit longer, and then that's when we kind of defer to your judgment in terms of making adaptations and customizations to these strategies. So we have created kind of a pacing guide of how often we think that it would be best to do it, for example, the prompts being twice, the assessment wrapper being once and then the message to a future student being once. But maybe you can only actually do the reflective prompts once in your course, either given your student population or just the length of the course. So we do understand that those adaptations may be needed based off the understanding that you have of your course context.

Susan Bickerstaff:

I think we have time for one more question here, and there's a question here about staff members at colleges, folks who may not be in the classroom. And Hannah, I'm thinking that this is a nice opportunity to talk about some of the resources that we're planning. I will say that the idea of this model is that it provides a set of resources for faculty because we know that colleges might have a student success course that previews a lot of these ideas or maybe through their academic coaching, their academic coaches are experts in these types of ideas, but that having the reinforcement inside the classroom is really critical, but we also know that other folks at the college are going to be important stakeholders in this.

So maybe Hannah, you could close out this Q&A with a little bit about the role of other stakeholders in supporting this model?

Hannah Cheever:

Yes. So as Sue mentioned, we designed these strategies specifically for content-based courses. However, the elements can be taken into other student success courses, but in addition to the faculty themselves and the resources that we've created for faculty themselves, we're also creating a campus resource guide. So what are some implementation supports for the staff that are around faculty to help implement this model? So for example, we're going to be creating a kind of learning workshop which will actually map out how to integrate these strategies into a course, which instructional support staff, an instructional coach could lead.

We're also creating some documents around if you're an institutional leader, how can you spread this message and make sure get buy-in and get folks involved in this process? So what is the role of that? And some talking points for the why behind self-directed learning, the why behind these instructional supports for students are so important and impactful. So we are kind of creating this suite of resources that are for the non-faculty facing materials.

Susan Bickerstaff:

Wonderful. Well, we're excited to kick off our panel, so I'm going to turn it back to Akilah to facilitate that portion.

Akilah Thompson:

Thank you Sue and Hannah and everyone for your questions. Please keep them coming. And yes, we're time for our panel discussion. So I am joined by the incredible Candace Walker who teaches biology at Palm Beach State College and two of the Collaborative stellar student fellows, Mason Gallagher and Emily Vershay from Wake Technical Community College. All have been involved in and supportive of the Collaborative's work. So we're so, so grateful that you're all here to speak on some of your experiences related to this work today.

So like I mentioned, just to our audience, if you have questions for our panelists, please submit them using the Q&A and then we'll be able to get to them as we can. So with that, let's jump right in. So Mason and Emily, we've talked a bit about the student experience in online courses today. Could you speak a bit about what your online college experiences were like, particularly in the beginning?

Mason Gallagher:

Well, thanks to Covid way back in 2020, 2021, I had to do my sophomore year of high school online. So I actually experienced a little bit of online school before getting to college, which gave me a bit of familiarity with the process. I think it has its pros and cons. Being able to go at your own pace is nice, especially if that works for you. And cons such as less direct instruction from your professors as well as less overall structure keeping you focused on the course. Overall, I would say that it's a pretty enjoyable experience, not better or worse than in-person instruction, just different. It's nice to be able to learn independently and allows me to delegate my time according to my needs.

Emily Vershay:

Yeah. I kind of have an opposite. I had an opposite experience with it. So in the beginning I had a really, really hard time with online school. It was difficult to stay motivated being away from real people and even more so because there was no connections to my professors and my peers. For me, it's hard to stay grounded and sometimes hard to remind myself that the class is even a responsibility that I have to take care of. And because my first online classes were in high school during Covid, when I started them in college, there was a huge learning curve and it was really hard for me. It was almost like a culture shock after having done it in high school during Covid, it was a struggle to manage my time and stay motivated with harder work and less physical interaction. But after learning to strengthen my skills and manage my own work, it started to get easier. So now after getting better at it, I really enjoy asynchronous learning, but it was really tough at first not having those skills yet.

Akilah Thompson:

Thank you both for sharing those pieces. We heard both of those type of examples and experiences from so many of the students that we also spoke with, and it just shows how wide of the range online learning can be and why it's so important that we have these resources to help you guys and all of us that are taking online courses to navigate these.

So just to transition a bit, so in the brief that I was talking about earlier, our findings were focusing on the importance of interacting with peers and faculty, incorporating students' strengths into the class and even effective learning strategies that are critical to the student experience. So you both just shared a little anecdotes of your experiences, but I just wonder, did any of the findings resonate with you?

Mason Gallagher:

I think for the majority of people, that peer interaction, that being able to see peers responses to the material and see their ideas is a very important part of the learning process. One issue, obviously, with online classes, especially the asynchronous ones, is you don't get that interaction with your peers. And if you do, usually it's something through a discussion board, which many students that I know personally would often describe as impersonal and insincere, which is a big challenge when it comes to online learning.

I think the ideal approach for fostering peer interaction online would be to supply the students with the infrastructure and the ability to connect with their peers in the class and then allow students to engage

at their own pace and own discretion with their peers in regards to whatever coursework they're working on or whatever questions they might have.

Emily Vershay:

Yeah, I also think the students being motivated by interactions is really resonated with me, but I also really felt the instructional practices affect help-seeking among students. That one I really felt too. I've had quite a few online classes where the instructor basically just posted the work for the week. It was maybe a quiz and a writing assignment and that's it. No discussion boards, they wouldn't respond to emails, basically no interaction except the work for this week has been posted and that's it.

It's hard to stay motivated in a class where even the professor doesn't seem very interested in helping or in the topic at hand at all. I've even had one of these professors tell me that I just need to be reading the text better or be more prepared, just like it mentions in the findings. That type of reaction from a professor when asking for help is crucial to a student's willingness to reach out again, I think, even in future classes. In my head, I imagine that's a freshman's first course and they receive an email back scolding them for not understanding an assignment, and that's probably going to affect them for the rest of their schooling.

So yeah, I think professors making an effort to interact and coming out from the get-go and telling students that they're willing to help if needed makes a huge difference. And I also think on the discussion board side, if having class-wide discussion boards is helpful so that we talked about earlier, students can see each other's questions and feel more comfortable asking for help in that aspect. So yeah, I think the findings are really on track with what I've experienced and that interactions really make a difference in experiences and courses.

Akilah Thompson:

Great, great points guys. In all these pieces, that's what we were hearing as well. Just that caring touch sometimes just between faculties and peers to other students to make it feel like we're humans in this online space and that you can share your experiences as you do get into this course and you're navigating it together and just offering more opportunities for these discussions and exploring those confusing times when you're unsure about your work and everything that you can go to each other and to the instructor. So just making sure that the way you're interacting really helps in that space.

So really thank you guys for those pieces. So I'm going to transition to Candace because I know that you've had experience teaching online courses. What were some of the challenges or barriers you were working to address when you volunteered to work with the Collaborative?

Candace Walker:

How much time do we have? I think that online is just an ever-changing thing. Anybody who teaches online can probably completely agree with me there, where you're constantly trying to tweak and constantly trying to make adjustments that can help your students. You take for granted how quickly you can make those adjustments in person and how much easier that is honestly, to get that instant feedback from your students when you can tell that they don't understand a topic or are having something that isn't quite clear. You can tell that really fast in an in-person class, whereas online sometimes that's not completely obvious.

And so I think the challenge is always, how can I make my online classes mimic as much as possible, my in-person experience? And that just takes a lot of tweaking. It really does. I've been really grateful to join this group because these types of tools that you work with and you try out, sometimes you swing and miss. So, I think that that's really important is that if you're feeling that as an online instructor, you're

not alone in that, sometimes your very best efforts, sometimes the students didn't even see it. You're like, oh, I totally intended for that to be something that my students watched and benefited. And then sometimes that's just completely disregarded. And so even the challenge of, how do I make sure that these are being used as intended is a really big challenge as well.

Akilah Thompson:

Such excellent points you raise that it is in a different space, but it doesn't have to be entirely different. You don't have to start from completely nowhere that you do have these resources that you can apply to online. You are absolutely no stranger to innovation. You won a National Institute for Staff and Organizational Development Excellence award last year and you were recognized for creating an online lab course at Palm Beach. Don't shake your head. This is something to be proud about. Congratulations. But I know that you used the strategies from the instructional model in the courses. So how did you feel about adopting these learning strategies and were they challenging to implement and introduce to students?

Candace Walker:

Absolutely. I still want to tweak things. I'm still going to tweak things on a regular basis. I really appreciate the acknowledgement of the award. That's super sweet, but I definitely don't feel like an expert in it still. So I hope that that resonates, that if you don't feel, if you still feel really unsure about designing your course and working on it and continually trying to make it better, that you're not alone.

I would say for me, I have just tried different iterations of each of the things. And my best advice is what does your course need? What makes the most sense for your course? And kind of start there. So when I designed the online lab, what was really nice is I had had experience with these pieces with each of these different things, and so I was able to have that be intentional in the design from the get-go.

The design we researched for online lab is a really big deal for online majors, biology lab, we wanted it to be hands-on, but we needed it to be asynchronous and offsite and that is a huge hurdle to overcome. So we researched different companies that could provide kits so that students could still learn how to use a real microscope, how to still do real experiments at home, what that would look like, what would be the safety concerns. So that took a lot.

We then really, really worked on how can we get the same things that we need from an in-person lab executed well in an online setting. So how do we mimic the group aspect, having your lab partners, having a lab group is such a massively important part of the learning process. How do we incorporate that in as well? And I think that that's kind of a tricky thing. So, taking these tools and having it be something where from the very beginning we knew we wanted to incorporate these, I think that really helped. But even if you're not at the beginning where you're designing something from scratch, just going through and saying, okay, where do I see these logically fitting? Where do I already use things like this? How can I make these work for my class, I think is extremely helpful.

Akilah Thompson:

That's great. And hearing your points, I wonder if you could just give a little bit more detail about the examples of changes or improvements that you've noticed in students over time.

Candace Walker:

Sure. Oh, so in lab, I would say that I lean the most on the prompts and the group work. So every week starts out, well, first of all, at the very beginning of the class, I give them, here's the expected workflow. This is what your normal work week will look like. And every single day you've got to parcel it out.

There's no way to do all of it at the end. So you're going to have to really figure out a way that you can space out your work and make sure then that you're making a plan. So then on Mondays, there's always a pre-lab, and the pre-lab is where it says, what is the expected time for this lab? What's nice about lab is that with our experience with running the labs, that tends to come largely with experience. There's some labs that you know can run in three hours because you've run them in person frequently.

And then there's some labs where you know that there's going to be an overnight setup and they're going to need to be aware of that. They've got to prep for that maybe a day, two days in advance. So that was always a first question, how much time does the lab say is expected here? And then what is your plan? And then we had where the expected day that you're going to actually turn in your lab report is Wednesday, but so that's to get the most points. If you want an A, you got to turn it in by Wednesday, B for Thursday and C for Friday, and then after that, then it's done. Because by that point, then you're going to need to switch gears and work on your next week's lab. So even just setting the scaffolding of what was expected so that they could understand that sometimes things happen, but we're going to shoot for a plan of having this done by Wednesday so that you can get the most points.

And then I think it really helped to use the discussions as well. So again, pre-labs, you did, what was your expected time? What are the noted cautions? What are your lab supplies? You take a picture of all your lab supplies to show that they're organized and ready to go in the pre-lab. I also really wanted them to learn hypothesis testing. So that's a thread then that we'll have every single week. What's your hypothesis for this experiment? I need you to interact with the material now so that you know why we're testing the things we're testing, and I need you to have a guess so that you learn the process of scientific method that we want you to learn and reinforce every week.

And then I would have practice questions that were more on content. And what I could do with that then is then if those are those turned in on Mondays, on Tuesdays then, that's when I could interact and say, "You know what, you missed a huge caution. You're going to need to make sure that you, you didn't say this noted caution, and this is a really big one that you're going to need to do. Or it looks like you were struggling with this topic. Let me point you to this instructional video that I have, or this demonstration that I've already created for you just to make sure that you know that I do have those things available to you, and I want you to watch those." And so I could kind of interact with them right away and hopefully correct some things before they did their experiments by that Wednesday.

Then the Wednesday part, if they turn in their lab reports, that is a big group forum, but they're randomly assigned two peer reviewers to go through and see their work. So it's not just me looking at their work, and in fact, if they catch each other's mistakes, they can then reflect on that in the discussion and say, "You know what, I think I made this mistake and I think this is why," and I'll still give you credit for it if you were able to catch your mistake and say, why did you think that mistake was made and help each other out?

So then they really worked on helping each other out and getting that sort of, almost like a lab partner experience of just let me check your stuff. You check mine and we'll make sure that, "Oh, yay, okay, you had the same issue." And that also was really nice where they could say, "Boy, this just did not work for me." Sometimes that happens in science. Not every experiment turns out like you think, but I need you to be critically thinking as to why you think that went wrong, and I'm still going to give you credit for it if you go through and you do that, but sometimes that requires some help. It helps to bounce ideas off other people.

So I've leaned on that really heavily, and we did that every single week. And so just having that consistency, I think, of the prompts, you will answer those same prep questions every single week because we have a different lab every week, so they're still applicable. You will then go through and kind of show your mastery of it with your lab reports, but then you can also go back and talk about, "Wow, I

see my mistake. I see what I did wrong here," and we're still going to work through that together. And so I hope that helps kind of answer your question. That one's a very specific lab question, but of course, if people have other questions that aren't as lab specific, I'm happy to answer that too.

Akilah Thompson:

Much appreciated. Candace, that was a great walkthrough of your thinking and intentionality behind all of your examples and just hearing that how you were trying to make sure that you're trying to replicate that environment and really being forthcoming about that is so helpful to hear.

So I do want to just turn it back to Emily and Mason. I think we have a little bit more time. So you both have kind of just walked through all of your online experiences, and it's unique in the sense that you've both been able to learn a lot about self-directed learning as being fellows for the Collaborative and the strategies we've been discussing. And you've both just mentioned how there are pros and cons to the online learning sphere and that you've both been navigating and such. And so I'm just wondering, have either of you changed the way you've approached your courses since you've been working with the Collaborative?

Mason Gallagher:

I wouldn't say that my approach to learning, especially online, has changed much after working with the Colab. However, with that being said, I've already been intrinsically doing a good portion of the strategies discussed, especially in the categories of the metacognitive and applied aspects when it comes to things such as self-regulation, adapting to demands in the moment as well as week to week, as well as reflecting on what is and isn't working and just overall evolving my approach to my learning as the need arises.

Emily Vershay:

Yeah, I think I definitely have changed the way I approach my courses online and in person. My self-directed learning skills have gotten much better and I've found myself going into online courses feeling a lot more confident in how my semester will go. This work has given me the chance to be intentional about where I sit to do work or to join meetings, and that has impacted how I do my schoolwork outside of this. And since joining, I've found myself being more organized and focused on tasks and less distracted by things around me. As I mentioned earlier, online classes are usually difficult for me because it lacks real accountability and face-to-face personal connection. I'm a communication major and I thrive around people. So without the connection to my peers and professors, it's really great that this has given me a lot of better self-directed learning skills to make those classes a lot easier for me. Yeah.

Akilah Thompson:

Thank you both. So just being mindful of time, we do have one more question for all our panelists and such, but I just wonder, and whoever can speak first as you're comfortable in your experiences, how can online course instructors build on the strength students bring to their online classes?

Candace Walker:

I'll go ahead and take a stab at it first, if that's okay. I think that it helps to sort of put the expectation out there and then really see how they rise to the occasion. I think that that really helps. Here's what I expect you to do, and then I'm going to give you a really, really interesting problem to solve right out of the gate, and then we can work through it. So I'm going to hand you this really large kind of difficult

process that maybe it's a group project, maybe it's a lab experiment. And then as you work through it, then I want you to know that I'm right there. I'm right there with you. You can reach out, but it's almost like you won't know that you need me until you try this really kind of difficult thing.

And so I would recommend that where I've seen students really take to what, honestly, we were a little leery of, how easy is it going to be in the lab experiment, for example? How easy is it going to be for people to do this and record themselves doing things and run experiments in their kitchen by themselves?

And a lot of them really liked it. And so I would say be brave with that and go ahead and give it a try. Give students a big ask, but then let them know that you're there. Let them know they don't have to do it alone, but I do, I am going to, I want you to rise to this occasion. I want you to step it up. And I think that a lot of them really do.

Akilah Thompson:

Mason, Emily, if you guys had thoughts?

Emily Vershay:

Yeah, I think I can add to that. So with what you're giving students, there was actually something mentioned in the findings that I really liked and that would be really helpful here. So someone talked about how their professor was actually listing the assignments out by week in their online class portal rather than by unit or by lesson. And I think that's something an instructor can be really intentional about to support and build on time management skills and planning as well for people, especially those who have self-directed learning strengths already, but also to help keep people on track and build up who might not have started the course already with the skills. So I think there's a lot that professors can do, and for me it starts by just actively thinking about how to build and strengthen the skills, time management and planning and stuff like that to set students up for as much success as possible.

Mason Gallagher:

Yeah, I don't really have anything to add on that. I think Candace and Emily did great.

Akilah Thompson:

Well, I appreciate all of you for your willingness to share a bit of your experiences with us today. Your input really helps us further how we're designing these strategies and SDL skills to make them more effective for instructors and teachers and also support staff helping in this effort. So thank you again, and just I'm going to pass it back to Hannah to close this out with some reflections and next steps.

Hannah Cheever:

Thank you. Yeah. So for some next steps for the Collaborative, we are going to continue to collect and analyze data from the pilot on usability, feasibility, and promise for improving student outcomes. Continue working with our fabulous student fellows and learn more from their experience and refine the instructional strategies that we presented here and integrating them into a comprehensive set of resources both that are faculty facing as well as non-faculty facing to support implementation. And then we're going to focus on disseminating our final instructional model as well once we have that complete.

And so after this webinar, we will send out the recording as well as the transcript and some links that we included. If you have want to request today's presentation materials for either a colleague or another email, perhaps it wasn't your registration email, feel free to fill out the form on the left using that QR

code. And in addition, on the QR code on the right, please sign up for our Collaborative newsletter to learn more about our upcoming opportunities in terms of where we're presenting, findings that we are having from all of our various study activities. And yeah, so just want to say thank you so much. If you have any other questions, feel free to visit us at our website, follow us on Twitter, and thank you all for being here today.