Transcript for Teaching Talk #9: Strategies for Alternative Program Delivery: DVM Students & Educational Literature

Dale Lackeyram: Good afternoon everyone. My name is Dale Lackeyram, and welcome to the Office of Teaching and Learning Teaching Talks. I wanted to start off by acknowledging that we are in different spaces and places that are governed by different treaties and relationships to the land. In particular now, and with the current social issues we are experiencing, the Dish with One Spoon covenant, and our collective responsibilities to each other during this unique and challenging time, really asks us to consider how we enact peace, friendship, and respect in our daily lives and actions. I'll pause for us to take a nice deep breath to situate ourselves, with this in mind and in preparation for the webinar ahead, for the types of engagement that we have planned for you. So, join me in taking a nice quiet deep breath...

Good. Thanks for taking that time to situate yourself as we move into today's webinar. Let's start with some housekeeping things. The session is going to be recorded, and a copy of the presentation will be made available via email to everyone that registered, as well as externalized on our web sites and broadcasted through a private YouTube channel. So, you will receive a web link. Our panelists have planned an engaging webinar for you today and we will queue for you a number of different ways that we are going to engage you during the course of the webinar. At the onset, at the bottom of your screen, the question-and-answer bubble that's there, or feature that's there, is the main way that you will be asking questions of our panelists. Since our panelists will be presenting and there will be a specific question and answer time, please feel free to enter the questions that come up for you, as they come up during the presentation, and we will work to get those answered during the course of the question-and-answer period. During different times in the webinar, our panelists will signal, and myself, I will signal, when we need you to use the chat feature, as we have a few activities to engage you and a couple of actions that we want you to perform during this particular webinar that they have planned.

With that in mind, I will introduce our guests for today; a lot of people who don't need too much of an introduction. I'm pleased to be joined today with Drs. Joanne Hewson and Jennifer Reniers. Joanne is the Students and Academic - Associate Dean at OVC and Jennifer Reniers is an Educational Developer in the Office of Teaching and Learning. They will be sharing best practice recommendations for alternative teaching methods, for the DVM curriculum, based on the literature and information that they've gathered from students' direct experiences. So, I'm going to pass it over to them, as they talk to you about strategies for alternative program delivery, insights from DVM students, and the educational development literature. Take it away Joanne and Jennifer.

UNIVERSITY of GUELPH

OFFICE of TEACHING AND LEARNING

otl.uoguelph.ca
otl@uoguelph.ca
Day Hall, 99 Trent Ln, Guelph, ON N1G 1Y4

Jennifer Reniers: Thank you, Dale. I'm just going to bring up our presentation here. So yeah, thank you, I'm Jenn Reniers. I know many of you from the curriculum committee and things like that, so thank you for coming today and taking the time. So, Joanne and I are going to talk today about our recommendations from the literature, as Dale said, and also from the DVM students themselves. So, in the spring: in early May, we surveyed the phase one through three DVM students about their experiences with the move to remote instruction that occurred in March, and about what worked for them and what didn't work for their learning. Interestingly, their insights were well in line with what the educational development literature says. So, they sort of intuitively seemed to know what would be effective for them. So, we'll be drawing on both the DVM students' feedback about what was effective and also from the literature as Dale mentioned.

So, by the end of the webinar today you'll be able to list effective strategies to improve student engagement in your remote teaching environment, identify and describe effective remote teaching strategies for lecture-based DVM courses, identify essential learning outcomes for labs, and list strategies for delivering learning outcomes remotely. So of course, not all labs can be delivered remotely, so you know we're not suggesting that, but for labs that can be delivered remotely, what does the literature say is the best way to do that. And finally, we'll end with some information about alternative assessment strategies. We'll talk a little bit about open-book, take-home exams and talk about how to transform existing assessments for remote instruction. So obviously, this is a huge topic and we weren't able to touch on everything today. So, we don't touch too much on accessibility or student wellness, and of course I just want to acknowledge upfront that both of these topics are really important. We are, in OTL, the Office of Teaching and Learning, hosting upcoming webinars on making your remote instruction accessible for all students, and there's also some resources from Student Accessibility Services and from the library for those important topics. So, I have some links to those or some information about how to find those at the end of the webinar. So again, we won't be touching too much on that, but I want to acknowledge that, that's of course a really important topic. So I'm going to pass it over to Joanne.

Joanne Hewson: Great, thanks Jenn and thanks to everyone for joining us this afternoon. It's great to see many people continuing to show up to the ongoing conversations, as we start to get our heads wrapped around what the fall will look like. So, this slide is really just to place it in the context of where that conversation is at, and to acknowledge that for the majority of you, you're already busily planning Fall '20 and perhaps Winter '21, and as part of that, we've acknowledged that all of the courses within the DVM program are required components towards their professional degree. So, we don't have the option to just not offer VETM courses in this changing time. So, we're finding ways to continue to deliver, despite the changing world around us. Jenn, can you advance me there please? Thanks.

UNIVERSITY of GUELPH

OFFICE of TEACHING AND LEARNING

otl.uoguelph.ca
otl@uoguelph.ca
Day Hall, 99 Trent Ln, Guelph, ON N1G 1Y4

Joanne Hewson: So currently, our course coordinators have already done the hard work of working with instructors to identify which components of our courses must occur face-to-face, i.e.: they require students to practice, and/or be assessed on psychomotor skills, or clinical practice that we could not find an alternate way to effectively deliver, that stayed true to the learning outcomes. The remaining content is all going to be delivered through an alternate delivery format. So, our goal being to try and keep the building only occupied by people who absolutely have to be there at any given time, because they are scheduled for a face-to-face activity, but otherwise we're asking that people stay out of the buildings to minimize how many people are there at a time, to try and keep it safe for everybody and in order to appropriately practice physical distancing and all the safety measures required to work safely. We do need to work in smaller groups. We just recently did a walk through the building and evaluated all our teaching spaces for capacity and it's very limited. So when you when you implement the appropriate measurements of space required per person and factor in the classroom space design, and inflow, and outflow, and hand-washing, and stuff like that, classroom capacities and lab capacities drop significantly down. So, likely any of those face to face components that we felt were essential, are now things that need to be done in smaller groups with more offerings, or in same size groups, but in much bigger spaces, which is not appropriate for necessarily all those types of things that we do face to face. Some are not the kind of thing where you can bring specimens into what would traditionally be a lecture hall. So we recognize that we need to strike a balance between the parts of a student's day that are scheduled for alternate delivery synchronous teaching, and those parts of the day that remain flexible through alternate delivery asynchronous teaching, so that we can spread lab groups out and have that flexibility in scheduling the face-to-face components. Next.

So, at this point we are all struggling with the concept of how do I do the instant delivery?

> Which parts should be synchronous?
> Which should be asynchronous?
> What's the right balance?

And so, I just want to sort of re-emphasize the point that this is not us sending you off, like "Off you go, get it done!", but rather, we're trying to make sure that we're there every step of the way to support you as your new questions come up and you need to circle back and check in on some details. So that is a very important thing to remember is that we have to do this together and we're here to be available for consultation and for help. On the point of help, we do have five to six summer co-op students that have been hired to work with OVC instructors to help with anything teaching related that is in the digital space, so whatever you can identify that you need to be able to move to a virtual platform or to develop engaging things with your classes in that virtual space, our co-op students can help with that, and they've just finished their training as of yesterday I believe, and they're pretty much ready to hit the ground, so we'll be connecting with department chairs and faculty next week early on, to identify where we start with them. But, if you identify things that you feel the co-op students could help you within your teaching, in the digital space, then just reach out to me at any point throughout the summer and we'll connect you appropriately.

Joanne Hewson: All right, so I'm going to hand it back to Jenn and she's going to walk you through some of the best practices and feedback from our students.

Jennifer Reniers: Thank you. So, the first thing we're going to talk about today is engaging students in remote courses because student engagement, especially in an online environment, is really the key feature; it underpins everything else that we're going to do. So, the literature shows us that student engagement predicts performance in online environments, or in remote teaching environments, and it also is associated with reduced attrition. So I know that attrition isn't going to be as big of a problem with the DVM program specifically, but there is research that shows that attrition is much higher typically in remote environments and one way to reduce that is engaging your students. So, when I talk about engagement, we're not talking about entertainment, so it doesn't need to be a dog and pony show, it doesn't need to be a song and dance, it just means touch points. So, it's times when these students are investing energy into their courses, so in classic literature on student engagement, Astin defines it as the quantity and quality of physical and psychological energy that students invest into their courses. So, having students engage actively with the material and through many different ways, even through reflection and thinking actively about the material, is what we mean when we say engagement. So, the passive posting of notes on Courselink, without any requirement for students to actively engage with that material, is not what's suggested in the literature and we'll talk more about the students input from the previous remote offering. And they also didn't find that overly engaging. So, it's finding those ways to make students interact with the material.

So, having said that, many of those ways are going to be very similar to what you use in your face-to-face classes. So, if you could take a moment now and using either your phone or another tab on your computer browser, if you can go to menti.com, you'll be prompted to enter a code. If you can enter 78 76 8, you should be asked "What strategies do you use to engage students in a face-to-face class?". So, I've got some answers coming in. So, some people use menti, that's great. We ask questions, we have students do case presentations, opening questions to start class discussions, think-pair-share, use polling. I'm going to give it another couple of minutes for some more questions. There are some more responses to come in. You hold course discussions, you have them demonstrate, use group work in case studies, simulated client interviews, quizzes. So, these are wonderful, and I think we can just kind of end the webinar now, you've all got it (sarcasm). But basically, what I wanted to show here, is that many of these techniques can be just modified or adapted slightly for an online environment. So opening questions to start, that's one of the examples that we're going to provide. If you're posting mini-lessons, which we'll talk about soon, you want to have those opening questions to get students really engaging with the material and thinking about the material as you go through. The use of technology fits really well here, so Mentimeter here, Poll Everywhere, Top Hat could come up. So, surveying the students, you can also use polling within Zoom itself. Even a quick thumbs up or a thumbs down within Zoom can be a good way to check student understanding. So basically, what we wanted to show here is that it doesn't necessarily - you don't necessarily have to reinvent the wheel. You can do what you've already done and just kind of tweak it for your online environment. So, am I back to my PowerPoint now? Excellent, thank you.

UNIVERSITY of GUELPH

OFFICE of TEACHING AND LEARNING

otl.uoguelph.ca
otl@uoguelph.ca
Day Hall, 99 Trent Ln, Guelph, ON N1G 1Y4

Jennifer Reniers: So, thank you for doing that, if you haven't used menti.com before, it's a really quick and easy tool you can use different - that was the word cloud example , but you can also do multiple-choice questions, things like that, just to get a quick survey from your class about how they're doing at the moment. So, what does the literature show us about increasing student engagement? When we talk about engagement, there's three kinds of engagement that the educational development literature talks about. Cognitive engagement is whether the students are paying attention and that's also associated with their ability to remember the information. So, in order to increase student engagement, you can use strategies to direct their attention to the most important points. So, on the survey that we distribute every year to the courses, students point out that they really like when instructors star the information that's important, or they somehow direct their attention to the key points. You can also do that by having students actively try to create those key point notes for themselves. So, at the end of the lecture, you can have students write a one-minute paper where they jot down the major takeaways that they got out of the lecture. That will it direct their attention to the key points and allow them to reflect and summarize the information. In order to remember the information, they have to be able to pay attention to it when it's first being encoded. So just decreasing distractions while they're learning is really key. Emotional engagement is also really important. So, trying to make use of those positive emotions that are linked to increased learning. Sparking the students' interest or their curiosity, so linking the content personally-relevant information. Trying to find examples from the news, or from current circumstances, or allowing the students to have some choice in a topic that they research, for example, if they have some choice then they would have inherent curiosity. So that's related to increased engagement. Motivation is also a really key factor here.

One way to increase student motivation is to encourage social interactions. So, you have to think about the interactions between the students with other students and also the interactions between the students and the instructors. So especially for phase one, when students are just beginning the program and may not know one another as well, try to think about ways to set up some social interaction between students and smaller groups. So, whether it's breakout rooms in Zoom or in your Courselink virtual classroom, or having the lab groups work together virtually, and through another way, those connections are really important. Also, the literature does show that the way the professor or the instructor comes across to students, and whether or not they appear to show care and concern, is linked to higher motivation. So that doesn't necessarily need to be touchy-feely stuff; you can show care and concern through giving students some choice or allowing some flexibility. So, the literature on the pedagogy of care shows that showing care and concern for student learning is linked to increased student motivation. Behavioural engagement is –

Dale Lackeyram: Jenn, sorry to interrupt you, we're just seeing your presenter screen right now, so if you can reshare your screens?

Jennifer Reniers: Sure.

Dale Lackeyram: Thank you. Perfect. That's better.

Jennifer Reniers: So behavioural strategies to increase increased student engagement. So, when we talk about student engagement from a behavioural perspective, we mean the time invested by the student, so we really want students to be interacting with the material as often as possible. So even in the remote teaching that we experienced in the spring, where it was only a two-week period, students in certain courses indicated that they sort of left the course until it was time to study for exams. They allowed the lectures to kind of pass by, they didn't engage with the course at all and they expressed that that was really overwhelming for them, when it came time to study for the exams. So, if there's no motivation or no requirement for students to engage with that course material, then then they may not do so. So, we want to require frequent investment, frequent engagement with the course material by the students and so we'll be talking about ways to do that throughout the workshop today. One way to do that is to scaffold the assignments, so instead of just having a big paper due at the end, you could have individual portions of the assignment due throughout the term, and have students get some feedback throughout the term as they work on it, piece by piece, instead of leaving the whole thing until the last minute. Even studying for exams, if there's a way that students can be submitting sample exam questions, even if they just get one point for having done it, that requirement to engage with the material in small chunks can really help. Finally, behavioural engagement is also defined as persistence; so we want to provide a way for students to ask questions and receive timely answers. If students don't feel like they can get timely answers, they won't persist in difficult material. They don't like feeling - It's understandable, they don't like feeling kind of isolated and alone. So synchronous opportunities for students to ask questions and receive feedback: holding virtual office hours, synchronous office hours, where students can engage with you in real-time, has been shown to be really successful. You don't have to do it often, sometimes, if students have lots of those office hour opportunities they won't engage, but if you have review sessions or office hour sessions before exams or at key points during the semester, students tend to take advantage of those and they expressed in the survey that they really appreciated the courses where that did occur. So some strategies to increase student engagement in remote courses: so as I've said, encourage or require students to engage frequently and actively with the material, scaffold the assignments, have students do bit by bit by bit by bit with little mini-deadlines, kind of, throughout the term. You can use low stakes quizzes, but quizzes could also be no stakes, they can be worth no marks, but you can use the conditional release feature in Courselink, where students don't see the next part of the course material until they've achieved a certain grade on the Courselink quiz. So, this is a way to kind of force the students to engage with the material or to do some pre-learning or a review of the last module, before they get the next information. So that's called the conditional release feature and it is available in Courselink, and I noticed on the OpenEd website, they do have some information resources on how to do that. Using reflection activities during and after the lesson: so those are those guiding questions for students to answer while watching a video. Muddiest point: so muddiest point paper is at the end of the mini-lecture or the teaching period.

Jennifer Reniers: You ask students what was the muddiest point for you, what are you still confused about, what seems the least clear for you at this point, and students can jot that down, they can enter that into the chat box and then that gives you A) an idea if students have a consensus around the muddiest point, maybe you want to spend some extra time on that, or review it in your next teaching time, but it also just allows students for themselves to realize, "Okay, this is something I need to explore a bit further". A one-minute paper is a similar thing but maybe you're asking them for one minute to write down the major takeaways of the video.

So, one strategy that Joanne uses is: in one of her courses she posts a document that she types in to, as the students review what was learned, what was covered in the class that day and so Joanna is going over the students' responses, adding them into the document. The learning outcomes for that lecture are posted at the top of the document and the students are generating the study notes for themselves and then that can be posted to Courselink, and then you, as the instructor, can clarify or add anything that the students missed. Classroom response systems, like iClicker or Menti are useful with the material. So, another way is for you, yourself, to "show up" frequently in class and encourage students to show up as well. So as Joanne mentioned earlier, there will be synchronous alternative delivery and asynchronous as well. So synchronous is when the students are all gathering together at once in real-time with you as the instructor, so it's important students really value that face time with the instructor, but you can also do some of that showing up asynchronously, so you can post a video announcement, if there was a frequently asked question that you feel like you are answering a lot over email, you can clarify that in a video that you post in the announcements section of Courselink. You could also, you know - you don't necessarily have to use the video feature, just posting announcements overall is really important to students. One strong theme that we got from the survey was that students really appreciated those faculty members or those instructors who were consistently communicating with them. I think that maybe people worried that their students are overwhelmed with the amount of communication, but the theme that I got from reading all the responses were that they didn't want to feel abandoned. So, this isn't the opportunity to kind of set your course up and then and then walk away. Really, that engaging - if you have a discussion board, going into the discussion board and commenting on students' posts, you wouldn't start a class discussion and then leave the room for 20 minutes, right? So, you need to kind of be engaging there, frequently showing up in class, hosting those Q&A or review sessions and requiring students to show up in class as well.

UNIVERSITY ofGUELPH

OFFICE of
TEACHING AND LEARNING

otl.uoguelph.ca
otl@uoguelph.ca
Day Hall, 99 Trent Ln, Guelph, ON N1G 1Y4

Jennifer Reniers: I'm going to move on to some recommendations for remote lectures, but really, as I said before, all of these recommendations here are really just about how to engage the students, how to get them interacting actively with the course material, so that will continue into the rest of the presentation today. So, these data here are from the survey that was distributed to phase one through three students in May, and they are asked whether the revised curriculum delivered through virtual classroom, or other synchronous interactive format, effectively supported their learning. So, this is saying "Were the remote lectures that happened synchronously, - were they effective for your learning?" and you can see the blue: dark blue, light blue, and kind of medium blue, are agree, so somewhat agree, agree, or strongly agree. 80% of students in phases one through three agreed that those synchronous engagements were really effective in supporting their learning. In fact, students loved the virtual classrooms; they asked: "Why don't we always have the virtual classroom as an option with the recording of the lecture posted afterwards?". The students were next asked whether asynchronous materials such as posting voiceover PowerPoint slides, or other pre-recorded instructional videos, effectively supported their learning, and again there was a very strong agreement here from all three phases. So around seventy percent across the three phases agreed the asynchronous posting materials effectively supported their learning. So why might you use synchronous versus asynchronous lecturing? So, this is from the literature and also from the students themselves, so synchronous, for example, through the virtual classrooms, what we're doing right now is a synchronous engagement for example. Students said that this was really, really helpful for them because it gave them a reason to kind of get up and work on a certain course at a certain time of that day, instead of having all these lectures piling up that they had to watch. They knew that they should attend at the time that their lecture was scheduled. They felt that it was the most similar to the face-to-face class. They felt more engaged; in a lot of the lectures the students indicated that the lecture or the instructor used the chat features so students could ask questions during the lecture and get immediate feedback and that increased their social connection with the other students, they could chat to one another on the chat feature, and they could talk to the instructor in real-time. One disadvantage is related to that chat; students sometimes felt that it could get chaotic and that too many questions were kind of coming in, flooding that chat box and disrupting the flow of the lecture, so the suggestion there I think would be to only enable the chat box at certain times potentially through the lecture. If you are lecturing synchronously, sort of open it up to questions at certain times, deal with those questions and then continue the lecture, instead of allowing it to happen the whole way through. Another negative that students indicated on the survey was that sometimes instructors were going over the time; if it was scheduled for a 50-minute synchronous engagement, instructors would go over that time. So, it's really important to stick with that schedule the way you would in a normal classroom and make sure to not go over that time.

Jennifer Reniers: Why might we use asynchronous engagement, where we're posting recorded lectures? So, students loved having access to the lecture material whenever it was convenient for them. Students mentioned in the survey really - uh oh, I might have a Zoom bomber. They mentioned very innovative ways to – mentioned innovative ways that they used the lecture material, by watching it back again at double speed, or rewinding and watching it over and over to try and understand the information that they were confused about in the lecture. But some negatives are that they had to be disciplined to watch, so these did sometimes pile up, they felt like there wasn't something that can be done at any time, it's often done at no time so they felt like there was never a specific time they needed to do it, so they left it right until exams. They might feel isolated if most learning happens asynchronously and they talked about how when they had a question and they didn't feel like they could get it answered. There were also some technical issues that were mentioned, but the recommendation overall would be: I believe if you are doing an asynchronous lecture to make sure - sorry, a synchronous lecture, to make sure you also post a recording of that lecture afterwards. So, our recommendation based on the students' feedback from the surveys, and also the literature, is to aim to deliver some synchronous contact point with the students for every three to four classes that you have. So those could either be synchronous lectures that you conduct via virtual classrooms, where you're in real-time meeting with the students through virtual classrooms and giving your lecture as though you were doing it in person. If you're doing that, consider how you use the chat feature, potentially only enabling it at certain times and make sure you record the lecture and post it after the scheduled class time for a review. The second option is to post short pre-recorded lessons, for example, using voiceover PowerPoint and then that synchronous contact point could be a review session where students ask questions or work through pieces together. So, students also were asked about whether posting of independent study notes without video or voiceover support from the instructor effectively supported their learning, and in contrast to the results from the synchronous and asynchronous video recorded lectures, students were not as positive about this method of instruction. So, 45% of students reported that posting of independent study notes without video or voiceover support from the instructor effectively supported their learning. These quotes are not direct quotes from the students, but their summaries of the quotes. So, they felt overwhelmed by the amount of notes to go through, they couldn't get their questions answered, they felt demotivated to access it, and the context from the instructor was missing, so we wouldn't recommend that as a teaching strategy.

So, the literature on those pre-recorded lectures: it's fairly clear that shorter videos are more likely to be viewed; so, we would recommend that you consider dividing your lecture up by learning outcome and posting one video per learning outcome. So, you would really focus on communicating one outcome per lesson. So, this is just an example here, there are many, many ways you could divide up this learning outcome but imagine that your learning outcome was to fully cover recognition, diagnosis, and treatment of disease X, or for students to be able to list the recognition criteria, diagnosis, and treatment of disease X, so that's normally what you would cover in your 50-minute face-to-face lecture, sort of everything the student needs to know about disease X.

otl.uoguelph.ca
otl@uoguelph.ca
Day Hall, 99 Trent Ln, Guelph, ON N1G 1Y4

UNIVERSITY of GUELPH
OFFICE of TEACHING AND LEARNING

Jennifer Reniers: One way, and is this only one way, that you could break that up would be to have three separate lessons. So, there's still a total 50 minutes but your first lesson, you're just going to talk about the physical exam and the history findings, like risk factors for disease X. Your second lesson: you would create a problem list and prioritize the problems, you would establish a diagnostic pathway, that's all you're going to cover in lecture two. Finally, for lesson three you would determine the best treatment, identify the prognosis and talk about preventative measures. So, chunking your lessons up by outcome, students are more likely to watch the full video and it's shown to be more effective. So these recommendations are from a study conducted in 2014 where the authors analyzed 6.9 million video viewing sessions on a Massively Open Online Course, or a MOOC, and they measured student engagement with these videos; so they measured whether or not students continued to watch the full video after the video started, and also whether students engaged with any follow-up activities that were related to the video, like any quizzes related to the videos, and they found that shorter videos were more likely to be watched and engaged with. Informal and personal videos were more likely to be watched and engaged with, compared to formal videos and there's been further research that supports that. So, you don't need to feel like you need to be standing in a suit to in the front of a formal classroom; it's okay if your kid comes in, hopefully not, hopefully mine doesn't again, and videos that included the instructors face, not just voiceover were more likely to be watched, and including motion like a whiteboard cursor on the PowerPoint slide was more likely to be watched. They also found that instructor enthusiasm does matter. A similar study surveyed students in STEM and education courses about the effectiveness of video recorded mini lectures. They found similar things: shorter is better, around 15 minutes, they found the students did like the lectures being organized by outcome, and we would recommend as well to use the captioning to make lectures more accessible. So, the captioning can be done through PowerPoint itself; there's an auto-captioning feature, or if you upload your videos to a private YouTube channel, there's auto-captioning, I believe on YouTube as well. You would have to go through and listen back and make sure that the captioning is correct and that could potentially be a job for one of the co-op students as well. But it is recommended for accessibility so thinking about creating these smaller mini-lessons might be something that's fairly new but organizing your lessons around outcomes is really supported through the educational development literature; it really is best practice.

So, what we've created - and we will share a lesson planning template at the end of this workshop today - but what we suggest is to use the BOPPPS lesson planning model, so B-O-P-P-P-S, so each element of the lesson is something that you can aim to include, and it includes participatory learning and it's really focused around the outcomes. So, B stands for Bridge, so you bridge into the topic, so it could just be a quick summary where you say, "We're talking about disease X", "Last time we talked about the problem list, today we're going to be talking about the diagnosis"; that could be enough of a bridge. Then you want to state the outcomes for the lesson, then you do a pre-assessment. Pre-assessment is something like a poll or a think-pair-share, a Mentimeter question, a short paper, like a short one-minute paper with students jotting down ideas. So, this is just a way for the students to engage with the material and for you to kind of know what students are coming in, what knowledge they're coming in with. Then the biggest kind of chunk of your lesson will be the second P, the participatory learning. This is a lecture or a demonstration.

UNIVERSITY of GUELPH

OFFICE of TEACHING AND LEARNING

otl.uoguelph.ca
otl@uoguelph.ca
Day Hall, 99 Trent Ln, Guelph, ON N1G 1Y4

Jennifer Reniers: The last P is a post-assessment. This is where you're measuring whether the students actually met the learning outcome for the lesson. So, these are not assessments for grades, these are classroom-based assessments typically. So, the example that I shared that Joanne uses is a really good example of a post-assessment. So, you could save the last little bit of a lecture, for students to generate study notes as a group, or if you're doing this in an asynchronous video you could just instruct students to write down the muddiest point or the three takeaways from the class and then make sure you include a summary where you're summarizing those major takeaway points.

So, having gone through lectures, we're going to move on now to recommendations for labs. So, from the students, they asked that in-person labs and rotations be prioritized for the fall, but they said certain labs they felt could be done remotely. They asked that if that was the case then instructors use videos, demonstrations, online simulations, things like that. They liked synchronous lab sessions when possible, so maybe the students do some part of their lab independently but they liked to be able to meet as a group with the lab instructor to take up the responses or to discuss the case or to have the instructor watch what they were doing and then a recommendation for rotations was (audio error) - about hospital cases over Zoom. That did happen in at least one of the rotations in the spring, and the students really liked that. So, in order to determine how to run a remote lab, I know many of you have already worked to do this, so what you would do is review your lab or rotation learning outcomes and determine what outcomes are essential for a student to succeed; so what do they need to know and do in order to be successful in that course, in that phase. So, you think about the learning outcomes as the things that the student will be able to know and do by the end of that program, phase, course, rotation, lab, or lesson. So, for example, a phase 1 phase learning outcome is to explain the interrelationships between form and function and common domestic animals. A phase 2 clinical-medicine course learning outcome is to create a complete medical record that reflects the physical exam findings, patient history, and current assessment. So, they can be quite broad such as the phase learning outcomes overall or quite specific such as creating a medical record.

So here I've got two examples, so the top example: identify intracellular structures and normal tissue using a microscope. So, this would be a face-to-face activity where students use a microscope to view tissue and identify the intracellular structures, but you could do most of that remotely. For example, remotely, if the essential element of that outcome (audio error) - intracellular structures, what students would do remotely, would be to look at images of magnified normal tissue and label and identify the intracellular structure on those images. So, then I would need to revise my learning outcome to say they're identifying and labeling the intracellular structures and normal tissue, but they're not using a microscope because we wouldn't necessarily be supplying all the students with a microscope. So, you can see that the essential element there, which was not the psychomotor skill in this case, but was the identification element, is maintained and they are able, maybe, even to do a little bit of an extra step with the labelling. You're just losing that using a microscope piece; so that's just an example of how you could potentially modify an outcome for a remote delivery. So, I wanted to turn briefly to Joanne now, if you could share your clinical-medicine outcome there.

Joanne Hewson: So, the second example we've provided here is actually a blend of several of our learning outcomes in the clinical medicine courses, and so Jenn had asked me to provide a second example and honestly it was kind of challenging because I kept looking at the learning outcomes and going "Oh that one we can completely do virtually", "Oh that one's totally easy to do virtually", so I had to blend a few together to be able to come up with an example that needed some modifying. So, the outcome is using a problem-oriented medical approach: identify a problem list, generate differential diagnosis, and suggest common tests to be used, perform common tests, and interpret test results. So, in that face-to-face experience for the students in labs, they would identify abnormal findings on animals whether they be the teaching animals or clinical patients, they would select appropriate tests based on their differentials and interact with the test results. As I mentioned, much of this I felt could be very easily done remotely, and so the remote activity would be that they would still identify abnormal findings, but now on a simulated case, they would select the tests based on their differentials and interact with the test results, and the piece that they wouldn't be doing would be actually performing those tests to get the results. So, the revised outcome would be very much the same as the original outcome, but we would strike out the "perform common tests" part of that statement. And, I would point out that, you know, sometimes you wrestle with the concept of "...but I feel that that part is also critical to their success in the program" and I agree absolutely agree, and we do need to keep in mind when things like a learning outcome has part of it struck out in a course that we need to intentionally track that outcome and embed it in a subsequent experience, if it's still part of what's critical to a student's training. So, we had that conversation at the curriculum committee yesterday, where, because the (?) didn't happen, the students felt that they didn't practice as hard at physical exams and they felt they would be coming into their subsequent year with a bit of a gap because they acknowledged they hadn't practiced, and so we go into that knowing they're starting at a slightly different place, and we need to close that gap before we move forward. So, it's very important to track them if you are deleting part of an outcome that you feel is critical. I'm going to hand it back to you Jenn.

Jennifer Reniers: Thanks Joanne. Okay, so we have some effective teaching strategies for remote labs. So, these are, again, from the literature, from the VET literature especially. So, a simulation or roleplay: this is something students really, really like even pre the remote teaching, they really love the simulated client interviews that they do in Art of Veterinary Medicine. So, a simulation is where students experience a fake, a simulated version, of a real phenomenon or a process and the strength is that students can experience the outcomes when the parameters of that process change. Simulations, though, take a lot of work to build and there are some good ones available online, so potentially you don't reinvent the wheel. Take a look and see what's out there. So, I have some examples here. So, the simulate client interviews are something that's already happening in the program and could most likely continue in a remote capacity, potentially changed a little bit. There is some literature - it's a bit older now - but the virtual simulations are effective and support student learning. So, this study was on a virtual ventilator to teach mechanical ventilation. Whitman College has a virtual fetal pig dissection, it is freely available.

UNIVERSITY of GUELPH

OFFICE of
TEACHING AND LEARNING

otl.uoguelph.ca
otl@uoguelph.ca
Day Hall, 99 Trent Ln, Guelph, ON N1G 1Y4

Jennifer Reniers: Unfortunately, the quizzing tools isn't working within it right now, but they say they are working on that, but there are nice pictures and it's fairly interactive so that could be useful for a phase one anatomy potentially. Labster doesn't have a ton of vet/med content but it does have some more basic science like biochemistry, genetics, things like that available. Colorado State University have really nice anatomy stimulation, so canine, equine, feline, and bovine simulations. They're currently being made available for free if you do want to embed them in your learning management systems, in Courselink, there's a contact person there to do that, and there's also a neurological exam simulation. So those are a few simulations that are available. Another effective teaching strategy for remote labs include case studies; so, in a case study, you can include patient history, clinical signs, behaviour test results, and ask students to interpret and work with that information. So OVC has purchased ten software licenses for Articulate to allow instructors to build interactive cases, where students can apply their knowledge in specific case scenarios. So previously, Articulate cases were used really successfully in the Clinical Medicine II course and the students enjoyed engaging with those. So that's something, again, that if you're interested in that, there could be co-op student support for that. So, talk to Joanne about that and there's also storyboarding that can be done, so we have some nice tools to create those interactive case studies. Expert modeling is really recommended especially for those technical and procedural skills where students really need to see step-by-step how to do something. So, for a physical exam for suturing, for all those psychomotor skills, so it can either be a step-by-step video of the instructor demonstrating the skill, this could also be done synchronously where you set up a tripod and video yourself as you're going through these steps of the physical exam. There's also some pre-existing videos online I'll show you this Horse Side Vet Guide in a moment and then you can also use this strategy in the reverse where you ask, after you've instructed the students how to perform the skill, you ask the students to video themselves performing the skill and they upload that for feedback. Do make sure that you provide that feedback for students, so they don't practice incorrect techniques. You can provide personalized feedback but that's obviously a lot of work, so another way to do that would be to provide, kind of, a generalized feedback to the class where you talk about some common errors that you saw and correct those so that students learn. There was some concern from some students previously that they're worried that maybe they're suturing incorrectly, and they keep practicing that incorrect suturing. So that step by step video is demonstrating it and then giving the feedback around the incorrect techniques is really important for the students.

The Horse Side Vet Guide is a website of the same name that was created by an equine vet, board-certified equine practice veterinarians. So, it includes hundreds of fast fact sheets, how-to videos, and anatomical illustrations. It's actually designed for horse owners to use but, I mean, I can't vet the accuracy of the videos, I'm not an equine vet or a vet at all, but it is potentially a good resource as well. So, these piece of pictures here are from that site. Finally, two more effective teaching strategies for remote labs are at home lab kits: so these are currently, I believe, being put together for certain labs, so that you could include things like bandage material, syringes, draping, things like that. So, connect with Joanne here if that's something, again, you want to put together for your lab. And, then short synchronous meetings with lab groups so students can ask questions in real-time.

otl.uoguelph.ca
otl@uoguelph.ca
Day Hall, 99 Trent Ln, Guelph, ON N1G 1Y4

Jennifer Reniers: One good way to use this time would be to have students do dry runs to describe in detail how they would conduct the technique or procedure, so that when they do come to campus for the face-to-face component of the lab, they've already kind of run through it and you can correct any mistakes before they're here in person. So, we wanted to get you to take a few moments now to think about your lab or some component of a course that you teach and think about one of the learning outcomes for that lab. So, what outcome do you currently deliver face-to-face, that you might be delivering remotely in the fall? So, I'll give you a moment to either jot that down or type it in a document. And, when you have finished, if you can give me a thumbs up, just using your thumbs up reaction and -

Dale Lackeyram: We will be enabling the chat feature for you at this point in time and you can go to the chat area, Shehroze is doing that at this point in time. You'll be able to, I think, it's more of a hands up than a thumbs up, so that you can communicate back with our panelists at this point in time. So, there we go, we have people putting their hands up.

Jennifer Reniers: So maybe now in the chat feature if you could type in what you see is the biggest challenge with remote delivery for this outcome.

Joanne Hewson: So, I think I nodded when I saw Elise's comment because certainly that is a big concern and I guess my thoughts on that, at this point at least, would be to try and focus on the parts that you feel you will transition to the remote or alternate delivery. We recognize there are going to be parts that need to remain face-to-face, so let's drill down on the parts that can be plucked out and given remotely and tackle those parts here, not the parts that are necessarily having to be in person. Hopefully that helps clarify how to move forward with this particular section that we're doing right now.

Jennifer Reniers: Yeah, so definitely we totally acknowledge that there is some lab activity that cannot and should not be performed at home, you know, for safety reasons, for ethical - for many reasons, so yes for those activities that you do see as being able to be delivered remotely, what do you think of us the biggest challenge? And, sorry I'm not seeing where our chats are coming up.

Joanne Hewson: We have a few here, we have -

the biggest challenge being losing the hands-on microscope work, seeing and believing that there are bacteria in the urine is a big mental leap. And, also trying to get timely feedback to a large group of students. Lack of access to animals, oh, the urine is back again, physical interaction with tissue specimens, so for those parts that move to virtual alternate delivery, there'll be a layer of the tactile learning that is lost as they move to images instead.

Jennifer Reniers: Yeah

Joanne Hewson: Do you want me to continue to read out or do you want to tell -

Jennifer Hewson: I think I'll tackle with you, those, just in the interest of time, I want to make sure we've got some time for the Q&A at the end. So yeah, I think around the feedback, getting timely feedback, I think that's really, of course, an understandable concern, I think that doing those larger common problems feedback could be a good way to do that. Also, there is literature that shows that different modes of feedback are just as effective; so audio feedback and video feedback are shown to be just as effective as written feedback, so that can sometimes be another way to do it. If you just want to record a voice memo on your phone and upload it, that can be a way to do that. In terms of you losing that psychomotor practice and those things that they really do need to see in person, yeah, that's tricky, I think the key is going to be deciding what those things are and really prioritizing carefully what do they need to see in person, so that when you have that face-to-face lab time, all the pre-lab talk, all those prelab skills, are firmly in place so that students come to the lab ready to get that hands-on experience, whether it is practicing with the microscope, whether it is seeing that scene or you know, doing that hands-on skill in person. If they've done a dry run already, if they've done simulations, they can be working more efficiently in the labs.

So, we wanted you to think too about the mode of delivery you plan to use and then think carefully about whether you need to modify the learning outcome. And so, it's probably not going to be a full modification of the outcome, but it might just be a tweaking of the outcome like we showed previously. So, the outcome may no longer be practicing the procedure, but it may be identifying - like a different more cognitive or emotional outcome rather than the psychomotor.

Joanne Hewson: So, Jenn, there were some additional comments in the chat, but I think that they are sort of outside of the revision of a learning outcome, but they're very important questions that maybe we'll get Dale to track, that we can circle back to at the Q&A part-

Dale Lackeyram: Definitely, that's why I plugged back onto the video. Thanks very much everyone for the feedback to this. I know many of you are not necessarily seeing all that's being posted, so what we'll be doing is feeding some of those back to Joanna and Jenn and if I'm capable, I'll also weigh in on some of those, then just so that we reiterate that there are a couple questions that you've posted in the question-and-answer area, and we will be getting to those shortly as well.

UNIVERSITY of GUELPH

OFFICE of TEACHING AND LEARNING

otl.uoguelph.ca
otl@uoguelph.ca
Day Hall, 99 Trent Ln, Guelph, ON N1G 1Y4

Jennifer Reniers: Thank you for joining Dale. So, we're in our last section here, so some recommendations for remote assessments. So, we did ask the DVM students about their experience during the winter 2020 remote exams and phase one students felt that the exam schedule and format allowed them to demonstrate their learning. About 80% of students agreed so there weren't too many concerns there, and phases two and three, on average, 64% of the students agreed that the exam schedule and format allowed them to demonstrate their learning. Now it's important to point out we never ask them this question in the past, so it could be that number isn't too far off from what it would have been in other years, and it's also hard to tell why phase one specifically was sort of more happier with the exam experience in the spring. So, we don't want to read too much into this but here's some of the feedback from the survey, from the students. So, students - they actually did - some students did use the word formative assessment. So, they like those small assessments throughout the semester to keep them on track. Now there is a balance here, because they also can get overwhelmed with too much testing, so when we think about assessments here, it's to think of it more as learning activities. So, these can even be those mastery quizzes that aren't worth any grades but it's something that they need to do in order to release the next portion of the course, something that will keep them on track.

Joanne Hewson: Building those self-assessments and getting things ready to go and having it be available to them right from the beginning of the course in the fall is a good way for them to choose when they engage with doing that particular task that's part of the course requirements, so that they have some agency over when they feel they're ready and they can get it off their list. Some people like to get stuff done early, others like to leave it to the last minute, but you're giving them some choice by having it ready to go right from the beginning of the September courses. And, try not to start any of that over the summer, because we can't count it for credit at this point.

otl.uoguelph.ca
otl@uoguelph.ca
Day Hall, 99 Trent Ln, Guelph, ON N1G 1Y4

UNIVERSITY of GUELPH

OFFICE of TEACHING AND LEARNING