



Alexandra Webb – Talking About Teaching in Covid

The ANU [Centre for Learning and Teaching](#) (CLT) presents “*In Conversation With...*” a video series which seeks to pair two academics from different parts of the ANU campus and different stages of their careers. View the videos and the [whole series here](#).



Associate Professor Alexandra Webb is from ANU Medical School, ANU College of Health & Medicine. With a background as an anatomist, A/Prof Webb is committed to enhancing medical education through the creation of effective dynamic teaching and learning environments that exploit the affordances of technologies.

View the video [here](#) Transcript below

My name is Alexandra Webb. I work in the Medical School, which is in the College of Health and Medicine at the Australian National University. And the discipline that I teach and do research in is Anatomy. And I also lead Technology Enhanced Learning and Teaching at the Medical School.

I teach a range of anatomy courses at the ANU. This includes anatomy courses that form part of the medical program delivered at the Medical School. And I also teach two undergraduate anatomy courses. One of those is a collaborative course with a colleague in the School of Art, where we do an interdisciplinary anatomy and art course as a winter intensive, which is a great fun.

So in our anatomy teaching, we have the great privilege of working with cadavers that have been donated to the university through our body donor program. And this is an incredible resource and learning opportunity for our students. But we're also always trying to investigate new ways of learning anatomy through innovations in technology. And some of the ways that we have done that is to conduct micro CT scans of anatomical models and recreate highly realistic 3D computer models that students can explore using virtual dissection on a touch screen or virtual reality and through 3D printed models as well.

And the great opportunity that this gives is that it enables students to get insight into structures that are very difficult to see on our cadavers or on the plastic models that we buy for the laboratory as well. And it also gives students an opportunity to physically interact with the models, as well as see things that are otherwise very difficult to conceptualise and understand.

My teaching philosophy is that I want students to be actively participating in the classroom. And that's where the classroom is a large group session, like a lecture or a small group teaching session, for example, in a practical or a tutorial. And where possible, I love to integrate technology where that is going to enhance the teaching and learning environment.

One of the things that I love about many of our teaching innovations is that they are an intersection between both my teaching and my research as well. For example, in the development of anatomical computer models, we use those techniques to develop not just teaching models, but we also use those techniques to interrogate our understanding of anatomy and its clinical relevance in a number of ways as well. For example, the micro CT that we do, we use the data to generate these educational models, but we also use that data to undertake research studies about particular anatomy topics, and look at a variety of health conditions and how they're treated as well. I love that in my discipline, I can combine both my passions for teaching and education, as well as my content subject interest and research in that particular area.

In the anatomy courses that I teach, we have large group sessions such as lectures, and we also run a number of practical sessions where students get an opportunity to utilise special anatomical resources, such as plastic models, bones, cadaveric specimens, computer models, and also imaging such as x-rays MRIs, CT scans. And also we encourage students to understand surface anatomy in the living body as well.

Even though our courses are fairly traditionally structured, we make sure that we encourage students to actively participate in all of those classes, whether they are large or small group classes. So the classes are always designed for students to have opportunities to interact and participate in the learning. We try and stay away from them just sitting and listening during that time.

A few years ago at the Medical School, we did an extensive evaluation about how we might introduce technology into our program. And as a result, we developed a Technology Enhanced Learning and Teaching framework, which really informs how we incorporate educational technologies into our four-year medical program. And it started off fairly slowly with early adopters, but it's been fantastic to see more and more people continue to reevaluate their teaching and look at how they can effectively incorporate technology into their teaching and learning.

So in the last few years, we've definitely seen a massive growth in the number of academics and disciplines that utilise technology for their teaching and learning. And as a result, our staff have definitely up-skilled in a number of ways, both in pedagogical knowledge and also technological knowledge as well. And that has prepared our staff and our students very well for this incredible change that we've had in education caused by the COVID crisis.

Whenever we design a new project, we always think pedagogy first, technology second. One of the ways that we try and use technology in our program is to introduce students to rudimentary information and key concepts before they come to class. So that increases the time available in the class for them to concentrate on applying and using that knowledge actively while supported by the teacher and demonstrators as well, so that in the class they can do challenging problems or look at more complex ways of using that knowledge.

We find that that gives a way of scaffolding students learning. And again, really freeing up their time in the classroom for them to participate in activities with their peers and while supported by a content expert as well. I think though that one of the challenges of revising a curriculum or a course and structuring it in this way is to make sure that you're not creating an extra burden on students' time and making sure that the expectations that you have for them to do learning outside the classroom don't double their workload.

So it really does need a careful interrogation in terms of the time that you're expecting students to participate in activities and making sure that the time that they're allocated and the deadlines that they have to do that are reasonable. Because otherwise when they come to classroom, if they haven't prepared, then they really miss out on a fantastic learning opportunity.

When using technology, there are always limitations, and some of these are unexpected. We do always recommend extensive testing before you implement any technology, but there will be surprises along the way. So it's important to be aware of those. So for example, for the online haematology practicals during COVID, there was extensive use around the world. And we had a brief glitch where the system went down during a practical session. Luckily it was fixed very quickly, but this is one of the issues that we're faced with, particularly during this time of COVID disruption.

Another thing is that technology doesn't always provide all the answers and sometimes you need to seek other solutions as well. For example, in the case-based learning, we want students to collaborate and share their answers between groups. And the platform that we use doesn't enable that. So we have to get students to copy and paste their answers out to another platform to enable that collaboration and sharing.

So always think when you're using technology, that things will go wrong sometimes, and sometimes they're out of your control and there are always limitations in technology. They don't provide all the answers, and sometimes you need to get creative and look for other solutions as well.

I recommend for those who are wanting to try something new in their teaching and learning to talk to a colleague or alternatively seek advice from a learning designer who might sit in your college or in the Center for Learning and Teaching.

One of the memorable events in my teaching is in the assignment that we give students in the undergraduate anatomy course, and in small groups, they need to create a video about a particular anatomy topic. It's definitely one of the highlights of the academic year, having the opportunity to review those videos and mark them at the end of the course. And I have just learnt so much from the students about their creativity and their insight to understanding a particular topic through these videos. And one of the great things is that we get to continue to use these videos in future courses so that their peers can learn from their wonderful creative educational insights into anatomy.

One thing that I find very satisfying about having a role as an educator at the university is that it's a very stimulating environment. And as an educator, you're not only blessed with the opportunity to educate others, but it's also a great chance for you to be learning all the time as well. So I would say that every day at university, I am learning

something new from my colleagues and also from my students as well. And that makes teaching such a joy.

One of the things that I find challenging as an educator is that I'm very passionate about my teaching and learning and spend a lot of time thinking about what I teach students and how I teach students. And there's also a lot of time involved in preparing and creating new resources and trying new things as well. And sometimes it can be quite deflating when you've invested so much time and energy to developing a teaching session for students only to be told that they didn't enjoy it as much as you thought they would. And yeah, that can just be a bit deflating. But usually there are so many other positives that outweighs those times when that happens.

When I started my career as an academic, I think that students would have found me quite strict. I remember being portrayed in a review as the terminator, coming out armed with coloured pencils and firing off information about anatomy to the students. And I think over time, I've definitely softened as an educator, and I now hope that my students see me as trying to create learning environments that are fun for them so they develop a lifelong love of learning in their own careers. So I hope they find me fun to learn and study with.

I think also now I hope that students find me very approachable and someone that they can come to and talk to. Certainly, I think the one thing I've learned is that as an educator, we don't know everything, and it's great to be able to liaise with students and discuss questions that they have with them. But not always have the answer, and be able to admit that we don't always know the answer, or at least have the opportunity to have a discussion and theorise with them about what the answer might be.

For me, student engagement means that they are participating in the class and perhaps not sitting on Facebook or Twitter. They're actually present not just in bodily form, but also with their brain as well.

The COVID experience has given us a unique opportunity to up-skill in a number of areas that perhaps we wouldn't entertain previously because of lack of time or motivation. So I think that there are great opportunities in the future that we can leverage from those new skills that we have developed. And it can be quite scary to try new things. And that's where I think talking to our peers and our colleagues and working with them together can help us to overcome any hesitations that we might have about trying new things.

I've particularly found it fantastic to work with colleagues who share a similar vision, and we know that we can rely on each other and work together and stimulate each other with lots of ideas and conversations. So I think surrounding yourself with colleagues or peers who share your vision for enhancing your teaching and learning is a great thing to do. But also listening to our students as well, because they also have fantastic ideas and skills of their own as well. So seeking opportunities for co-creation of resources and new ways of teaching and learning with our students is great for us, but also a wonderful experience for our students as well.

At the Medical School, students were a really important voice in determining how we respond to the COVID crisis. And students had lots of fantastic ideas that they brought to the table. And this was particularly important when our third and fourth year

students were unable to attend their clinical placements for a few weeks. And the students developed a number of initiatives, which included the generation of online modules on particular clinical topics and skills that would enable students to return to their clinical placements prepared for this changed health situation ahead.

When we had to transition to remote learning for one of my classes, it was a very sudden transition. We had 24 hours to translate what was normally a face-to-face practical anatomy session in the laboratory into an online session. On one hand, it was relatively easy because we had invested in developing a number of online resources over a number of years. So we had a number of resources that we could quickly draw upon to recreate that practical experience online.

We also have a great team of demonstrators who are medical students in the higher years of the program. And they were fantastic and enthusiastic in helping us to recreate this online practical experience. And they did this by creating some miniature demonstration videos that we incorporated into the online practical.

And the teaching philosophy really is to promote active learning. So in transitioning to an online format, we tried to retain that as much as possible, and the breakout room facility in Zoom enabled us to do that quite well and recreate the small group demonstrate a late experience that we have in the laboratory in this new online environment.

So that was how we dealt with some rapid, immediate changes to the lockdown that we experienced on campus and the inability to come and attend the laboratory on campus. And over time, we've been able to refine and enhance those experiences as much as possible. So for example, as we have translated, I'll stick with practicals as an example, because they are one of the more challenging ones where we design a teaching experience so that those hands-on laboratories are really a key component of where students actively participate and have hands-on experience. Trying to replicate that online is very challenging.

And I think that we were, once we had a bit more time, able to develop some new ways of doing that. So for example, by giving students virtual 3D models that they could interact with on the computer was a proxy for the 3D models that they would usually be able to touch and interact with in the laboratory. It's not quite the same, removing that tactile element, but very important in a discipline like anatomy, which is three dimensional, to be able to look at different views of a structure. So incorporating virtual 3D models that are freely available online, enabled us to do that rather than relying on static two dimensional images.

So I think our experience in utilising technology to develop resources prepared us very well, but there are some teaching and learning situations and some resources that at the moment technology can't fully recreate that face-to-face experience or that tactile experience. And so we had to find other ways to get around that.

I think in the transition to delivering a lecture face-to-face and then doing it online, it was important to really retain that teaching philosophy of wanting students to be actively participating in the session. And for some activities that was very easy to do. For example, when you use Poll Everywhere in a lecture theatre to get students to participate and answer a question and then lead to some discussion, that was very easy

to replicate in the online environment. But some of the interactive face-to-face activities that you might do in a lecture theatre, such as a think-pair-share, or a one minute paper, they were a little bit harder to replicate in the online environment and needed a few more creative solutions in order to provide those.

One of the lessons that I've learned from this experience of lockdown has been to distinguish between what has been an emergency transition to online learning compared to what is online learning, which takes months to develop and design compared to our experience of rapidly transitioning our teaching and learning activities into an online environment. I guess, as educators, we need to be agile and to be able to adapt into both those areas and to have plans and strategies in place if such disruptions occur again in the future.

One thing that we are very passionate about is sharing the resources that we have developed. And I think that the situation of COVID has shown how important that is, not just within an institution, but nationally and internationally as well. And through the response to COVID, there has been a lot more collaboration between academics at different universities to share their resources that they have developed. That's something that we're very passionate about at the Medical School, is about making the resources that we've developed available to others to use as open educational resources so that people have immediate access to resources that might benefit their educational environments.

I'd like to encourage people to share their educational resources and make them publicly available and collate data on the impact that that has on others. I think there's something that we often neglect as educators, is our scholarship of teaching and learning and demonstrating that. And that's an important part of that educational practice.