Stories of Assessment Episode Two
Melinda Shimizu, Geography Department
Interviewers: Jolie Roat and Ryan Vooris

We want to welcome you to our stories of assessment podcast series. Thank you for joining us. Our goal is for faculty to learn from other faculty about specific strategies for assessment they tried. Especially in light of the fact that many of us have had to change our strategies due to the shift to online hybrid learning environments. Welcome.

(Music)

RV: Hello and welcome to our second episode of the assessment podcast series. I'm Ryan Vooris, a professor here in the Sport Management Department.

JR: And I'm Jolie Roat from the Mathematics Department. Today we will be joined by Melinda Shimizu who will be talking with us about her assessment strategy. Welcome, Melinda.

MS: Thank you.

JR: Could you please introduce yourself, maybe give us some background about what you teach here at Cortland?

MS: Yes, of course. So hello, I'm Melinda Shimizu and I'm an assistant professor in the geography department here. I'm a physical geographer with a background in geology, but the main focus of my teaching is actually GIS. GIS is like Google Maps plus Excel and it's a ton of fun.

RV: What was your motivation for choosing the assessment strategy that you want to talk to us today about? Did you have any specific issues that you were addressing?

MS: I did. So I don't actually have a background in education and I feel like I'm still learning a lot about the vocabulary and strategies around assessment. I kind of fell into assessment because I am a scientist and as a scientist, I was naturally curious about what my students are actually learning from my teaching and I wanted to know how to better design my assignments and exams to not only teach my students what I hope they're learning, but also to actually measure their learning of those things. I really wanted meaningful data. And so today I wanted to talk about my strategy for exams in a remote learning pandemic world. And, I was trying to address a couple of issues. First I want meaningful data about what my students are learning. Second, I did not want to add to their stress. And third, I wanted to make sure that the exam strategy I chose was accessible and equitable. I was seeing a lot of information about lock-down browsers and camera use during exams being stressful and some of the software being racist or ableist and I was just frankly not interested in those options.

JR: Awesome. Could you maybe describe your exam strategies in a little more detail?

MS: Yes. So I ended up going with a totally open book, take home exam strategy and I did this for all of my classes in the fall term and I'm actually repeating the approach for this current, spring term. And I had never done this before. A take home exam. And I was a little worried about, you know, how do you make sure students are doing their own work? How do you make sure that you are measuring their learning and not their ability to Google and answer or phone a friend? And so my solution to that was to make the exam questions really more application style and then to include a personal reflection piece. That way, even if they are Googling the basic information, they still have to apply that information to solve the scenario or problem that I present them in

the exam. And then the personal reflection piece requires students to really think about what that solution means to them.

So, to be specific, in my intro GIS class, we talk a lot about map projections. This comes up in the third week of the term and then we continue to think about this idea for the rest of the semester as we produce different maps. Fundamentally, a map projection is this process of taking a round thing, like the Earth, and making it into a flat thing, like a map. But this process always always causes maps to be distorted in some way. And so you have to be thoughtful about which projection you use and how it will distort your final map and we look at examples in class and then, traditionally, on the exam I would ask students to identify which projection was being used to make a few different maps and what distortion each one had. It's something that could be pretty easily Googled so not great for a take home exam. So, for this take home exam, I actually went the opposite way. Instead of students identifying maps already projected, I had students complete a project where they had to take a flat, printed globe template, color it, cut it out, and then assemble it back into a globe. So they're still thinking about map projections and they're seeing the distortion play out, but now it's in the reverse. So they color and cut and assemble this globe, take a picture of themselves with their globe and then write a short reflection on what they learned in the process and how it relates back to map projections and distortions we've talked about in class. And something magical happened. I read the student's reflections and I learned so much more about what they were and were not learning. And not just about map projections. They wrote about how surprised they were about how much ocean there actually is covering the surface of the Earth. Like they knew intellectually that the Earth's surface was seventy percent ocean, but they hadn't really appreciated it before in any meaningful way. But when they had to sharpen their blue colored pencil five times and the green one never, they started to notice the disparity. Or they realized they didn't know the shapes and locations of continents as well as they thought. And then of course they were able to, sorry, and then of course they were able to articulate relevant information about map projections and distortions and why they're important. And those other pieces about the oceans and the shapes of continents were something I wasn't looking for, but to me seemed just as important. We talk about our map biases and how map projections give us false ideas about how big things are, or how far apart they are, and this exam activity really helps students develop awareness of their own map biases while further exploring and explaining the ideas around map projections.

RV: That, that's really interesting, Melinda. I think we've all struggled with the take home. I'm sure Jolie would have the same stories for math. I teach sport analytics and I've really, it's been a, it's like you said, it's almost a fun challenge to try and challenge yourself of how do I give this quiz, how do I give this test when they are at home and Google is available? If anything, it's not, I was going to say, it makes us a better teacher. I wish it was a different circumstances that made us better teachers, but at the end of the day, maybe it does.

MS: Mm-hmm

RV: How has that strategy of re-conceptualizing open book take home tests, how has that strategy impacted, or enhanced, the student learning in your course?

MS: So, my impression is that this strategy enhanced student learning by giving them another opportunity to dive into the concept of map projections with a very hands-on approach. And this assignment is something that I normally wouldn't have done because it's so tedious. It does take a bit of time to do the coloring and the cutting and the assembling of the globe and so normally I don't feel like we have enough time in the semester to do it, but it felt okay when it was part of a

take home exam.

JR: Has this strategy impacted your teaching at all?

MS: Yes. I would say it has me rethinking how I approach all of the exams in all of my courses, whether they're going to be in person or remote. With the traditional exam, I would see which students were able to correctly identify various map projections and then answer some pretty basic questions about the distortions. Which was helpful. But with this new approach, I'm actually getting a much more nuanced insight into student thinking and their understanding of the concept and the surrounding ideas. So I'm actually getting more meaningful data this way.

RV: What would you suggest to a colleague that wants to attempt something along these lines?

MS: I would say to be really thoughtful about what it is that you are trying to use the exam for. Like what are you hoping the students will demonstrate with the exam or exam question? And then from there you can just be really creative in designing questions that give students the opportunity to do that. I am like hesitant, if you have a lot of students, this approach may not work as well, because I'm not sure how to do it in a way that doesn't generate a lot of reading that you have to go through.

JR: Yeah, I think that's, that's a very good point. You know, depending on the math course that I'm teaching, a lot of the traditional questions are computational and when you are doing take home exams, computational is not always the best choice because there are lots of calculators out there that can compute for students.

MS: Definitely.

JR: What sort of SLO strategy or are there certain student learning outcomes that you keep in mind as you're adjusting your exams to this online format?

MS: I do. I put the SLOs in my syllabus and I put them at the top of the schedule so that I can always refer back as I'm planning activities and exams to try to remind myself what I'm focusing on. Because I have noticed, I have a tendency to, you know, enjoy my topic and perhaps stray a little far field. So, the two SLOs for this course that I felt like I was focused on for the first part, and especially with this exam were "students will demonstrate an ability to analyze and evaluate information" and then "students will gain knowledge of fields and principles of GIS and cartography". So the gaining knowledge is clearly just knowing of projections and map distortions, but I felt that by actually constructing the globe, identifying the process they went through, describing their thoughts about it, they were starting to analyze and evaluate the whole process and relate it back to what we had talked about in class.

RV: Thank you very much, Melinda. That is going to conclude our assessment podcast. Happy SLO writing and assessment everyone.

MS: Thank you.

JR: Thank you.

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