

Panel 2: Education Needs

[1: 56:31]

SB: So next we have a panel on education, learning, and training, and they are: Dr. Suzie Allard, associate professor and associate director at the University of Tennessee, and Nabil Kashyap who is a student at the school of information at university of Michigan and Dr. Elaine Martin who is the director of library services and director of the Lamar Sauder Library and the University of Massachusetts Medical School. They'll have ten minutes and then we'll have time for questions. And as you can see that the questions they were asked to address are "What do you see as the educational needs of librarians, LIS students, and other graduate students regarding data curation needs in learning and training?" and "Besides general needs, what are specific concerns regarding how to engage and immerse "students" in data curation?" and "How have you seen, or how do you see, the Data Curation Profiles Toolkit applying in this area?"

So Suzie, take it away.

SA: I'm setting my timer here. Just a little bit about myself, obviously I have administrative duties to students in in the university, in the program, and those revolve primarily around students and curriculum. So you know this is very dear to my heart what we're talking about today. And I also assist with strategic planning and these are the kind of programs that we really need to be thinking about and educating librarians of the future about, so it's very important that these all fit together. At least once a year, I teach a course that's usually on e-science in some aspect and I'm also PI on several grants related to e-science education and e-science data. So just a little about myself.

We were asked to focus, as you saw on the bright light behind us, specifically on the education of librarians, LIS students, and other grad students. I want you to also think in a little broader perspective as well, because I think DCPs also have a place in, in a sense, when we conduct the interviews, there's a Socratic educational component going on. We heard it in the first panel. As people were talking they're saying, "Oh you know, I hadn't thought about that." And so we're leading people through a discovery process as well, so it's not just graduate students, it's practicing scientists or practicing humanists as well. It's also an institutional and disciplinary education tool. Because these give you a place to start that discussion. So I think that's another way to be thinking about it. And it's an intervention point for reaching the next generation of researchers and faculty in these fields. So I think those are all really important educational parts.

Very quickly, what are the basic data curation needs? What are the main things we need to be thinking about? Well, I think when we're educating future librarians and information specialists, we need to be thinking about the of course of the underlying foundations of librarianship because as Chuck mentioned early on, we've been doing this for a long time. We have archives that have been saving data for 40, 50 years. This isn't new to us, but there are aspects of bringing it to the larger community that are new and in that way and we heard this in a session just before this, we do have to think about that vocabulary, so

I think that's an important part to be in our training of students is to give them the vocabulary that's pretty clear across the whole domain of librarianship. What we mean by these different terms and that also means that if they're conducting a DCP, you have the definition at your fingertips when you need it. Um, of course metadata understanding is huge and technology skills, when you have these people that you're talking to, you want to be able to understand instantly what they're talking about and not need to be educated about everything, because they'll regard you as less favorably if they think you don't know the technology, and not that you have to be a programmer, but you need to be able to talk in a lingo of the people that you are interviewing.

And finally, the definition of research data services, which is a term that's been used in a lot of academic libraries and we need to be knowing what those services are so that our students can relate that to the whole data curation process. Um, earlier, in Chuck's comments, he mentioned that we need to identify the profession and professionals that will bridge the gap between the project and the institutional level of stewardship roles. And I personally and of course I'm biased, think it's us! And you know I think, but we may not be called librarians in these new roles. And that kind of brings me to specific concerns about engaging or immersing students. There are too few people serving as data curation or as data stewards at this time to really have a great opportunity for mentoring and for putting students in places where it's going on. So that really raises a difficulty, on top of that, a lot of the folks, at least in science, who are doing this are not coming from an IS background, they're coming from a scientific background and as such there's a lot of limitations in what they know, and so when you're going in and you're sending students like Chris, into NCAR, for example, there's an immediate cultural gap of knowledge between what the scientists already know and what the librarian students are coming in with. So you know that's, something that we have to help mediate in terms of the educational process. Also, as Katie mentioned in the earlier um session, Maybe it's all about "us" people who are already involved, self-identifying, be willing to serve as mentors, and I think that is one of the strengths of the whole DCP is that it's building a sense of community immediately, and offering, there's a lot of positive offers, offers to education from this community. Excuse my voice I'm fighting a cold.

Also, of specific concerns, is that students are really unsure of what the future is because there isn't a very definite smattering or um—it's difficult to identify what exactly these jobs are. So, what that does for us is as we're looking for library students who are interested in this, the bad news is that recruiting students to the field is difficult because there's no preconceived notion of what this is. It's not as simple as saying I'm in reference services at a library or something of that nature. The good news is that they have no preconceived ideas, so this is our opportunity to shape that I think that the DCP program really helps educators think about how to shape that because looking at the data life cycle, and Chuck showed us two versions of a data life cycle, he showed us from a researcher point of view, he showed us from an institutional point of view. I often use the data lifecycle that's from the data point of view, because the data point of view is it has to go through all these steps regardless of who's shepherding it at the points and as Chuck mentioned, the researcher only hits a couple of the points on the [motions a circle with hand]. You know, and the institution only hits a couple of points, but I need to see that full picture, and I need to introduce our students to the full picture even if they're only stewarding it along in different components. By not having preconceived ideas, it means we have a fresh slate and people won't come

in with, "Well this is the way it should be done." It's an opportunity to say here's the way different people have been doing it and that led to the question that I asked the panel before, you know how you see this helping across institutions and across disciplines and the answers were stellar. We can see how this this helps because this is a field that although we have to build standards and things that are across we also have to be cognizant of all the differences. So um, using the profiles in education, it provides a means to explain how people interact with data, so it's clearer for students, who will be the professionals to know what they need to know in terms of people in technical skills, so it helps us build their tool kit. It helps illustrate the points where we as information scientists, information professionals, can get in there and really help. It introduces a wide range of students to digital curation even those who may not be headed there, but as we all know with current kinds of information teams, you are often working side by side with the specialists in another field so that you're addressing the needs of your community and you need to know enough about what the other people's specialty is to be able to interact um really in a good way. Used in conjunction with the data lifecycle, it's a powerful way to organize material in your course work to introduce students to the whole range of of things they need to know as librarians.

Using it in a classroom, we have not used it as an assignment yet, I know that Dr. \_\_\_(?) does and I think that's a brilliant way to use it because it increases skill in interviewing, it increases skills in thinking, it introduces the concept of metadata by the very structure of the report itself, it introduces metadata in terms of talking to the people that they're talking to. If they're not using metadata, or they are creating metadata in their own lab, I know from our research you know 60% of the folks who use metadata, it's their own lab's metadata as opposed to the standard. It is important in all these ways; it allows us to touch on so many important foundations of librarianship. In addition, I used to teach collection development all the time and I think that Chuck pointed out that this is collections and it is something I had in my notes, so I was excited to see him say that, you know we don't think twice about talking collection development, that you need to do a needs assessment of your user community. This is filling that role in the same way. It gives us a tool to do a needs assessment of our community, it gives us a process to do it at our own institution, but even better than most collection development needs analysis is that aren't shared across institutions, it gives us an opportunity to see what's going on elsewhere that could help us with our own, in terms of thinking about places we might want to do something different in our own institution, so I think it's a great way to introduce students to that as well. It also is an excellent way to introduce students to diverse range of information environments because we may be seeing more in different environments in terms of academic or data centers or other kinds of ways and of course the environment of the users themselves, we heard people talking about going to the field stations to the labs, you know there's all these different ranges. So I think that's a huge value. And finally, [computer timer beeps] uh, that tells me I'm up, I'm almost there! It's the potential to leverage, we also have the potential to leverage this reach of the data curation profiles by teaching it in the schools, sort of doing the train the trainers of us educators to help students since we can't continue to do workshops everywhere in terms of funding, I think that's another value. So so I had one more, but I'll stop there for my ten minutes.

NK: Hello, again I'm coming from the receiving end, my name is Nabil Kashyap, I'm a graduate student currently at the School of information, University of Michigan and a little bit about how I came to the DCP, I um, actually you know, it was implemented in a class I took—digital preservation. We were all required to do one of these profiles, and it was an important piece for this digital preservation, you know, in trying to envision the entire lifecycle was actually incredibly pivotal in how I sort of envision this entire field. And later on, and this is actually part of a bigger piece which was a sort of a long running IMLS grant in digital preservation. So in addition to these classes, several of us were placed in internships and mine was at the national archives, trying to help them with their flow and their digital preservation laboratory, which involved high quality reproduction of artifacts and documents.

And so what do I feel I need? I guess [laughs], I think I um, I found myself agreeing with a lot of what you were saying [motions to Suzie], I think that the key word that I kept coming up against was context, sort of what is this part of? And I think that a problem or an opportunity in the field is that that context is establishing itself, it's sort of figuring out a set of terms, figuring out a set of job title descriptions, figuring out sort of how these jobs fit within the broader institutions. And what might this look like? Specifically, I'm interested in seeing more opportunities to get hands on with the tools. I feel like there's really wonderful literature out there. There's a lot of interesting conversations in different parts of digital curation. But I, you know, these sort of constrained educational curricula may not be as helpful, in fact I'm thinking about what would be most helpful for me right now is a lab in which they could play with Dspace along with some of the visualization tools of the scientists that I've been working with, um alongside, you know, being able to more freely work on different kinds of programming languages, actually get those technical skills in a way that's not so prescribed by um sort of normal university systems of creating classrooms and classes.

I'm also interested in some of the intellectual contexts, which I felt I've had this sort of pieced together in terms of sort of the qualitative, sorry, the history of qualitative studies and social sciences, how that has kind of merged with information science. I feel like one of the problems that I've encountered is just trying to tease out those threads. You know, where did this come from? How does it come to be? And I think that is an interesting—there's room for that basically. And as I said, I think it's really important because I felt like the DCP was probably the core part of my digital preservation class, I'm not sure if that was what the intention was, but it ended up being so. And I suddenly see the sort of ethnographic side of data curation as being, as just, just absolutely core piece of information science education from here on. And you know, as things progress, you know I can seriously see this being part of um, you know, we just launched an information bachelor's program, I don't think this is limited anymore to graduate students, PhD students, and professionals, I think that being able to conduct something like this, having sort of some kind of understanding of how people use data is going to become a core part of a liberal arts study at least.

In terms of, so going back to specific concerns, I mentioned you know, kind of playing around with educational models, so the DCP has been really great, I've, it's opened a lot of doors, and it's opened my eyes for sure. But I am definitely interested in sort of, you know, getting, drilling deeper, so we ask a lot of questions, but there's not a lot of place that we can actually see what that looks like, play with the tools themselves. So I'm interested in what that might look like in an educational setting. I'm also

concerned in terms of the field, as you know, April's coming soon and I'm going to be on the market, I'm concerned about this idea of identity that you [motions toward Suzie] kind of alluded to in terms of what are the skill sets, what are the job titles, that, you know, the constellation of skills and ideas that constitute data curation, how will that shake out in the end? And that is of course a real concern.

And then I finally in terms of how does the DCP play a part in all this? I mean, I think it plays a pivotal part in it allows us to enter into this sort of ethnographic study of data use, which is, I feel like a really critical way of engaging with data producers and as I said, it's been implemented in my particular class and I think it was incredibly successful. I think that I've had the, it will be really helpful in this project that I'm about to embark on, I have some ties with the nonprofit in Alaska, which is an interdisciplinary program dedicated to environmental education. They host a number of scientists from a bunch of different universities, but once they come to Alaska, does this place, they're outside of their institution, so that there's actually no real way for glaciologists and wildlife biologists, environmental anthropologists to speak to each other in terms of what are they creating?, what are their products?, what do they have to do with this particular place?, they come to do their research and then they go back to where they're from. And we're really interested in bringing them together and bringing their data products together, and somehow creating a collaboration and I see this DCP in being pivotal in being able to bridge those conversation, bridge those different fields outside of the institution where there's maybe more support, there's a repository already established, so I think that's an interesting part that's worth exploring too. Overall I think that, I feel really excited about the conversations that I hear, so coming from someone entering the field, I feel really excited about some of the questions that are being developed, a lot of the context that's growing around the DCP and um I feel positive and glad to be part of, that this is part of my education, I feel much more equipped to deal the new world of information science than I would have been otherwise.

[2:15:41]

EM: Hello, I'm Elaine Martin, as mentioned I'm director of the Lamar Soutter Library at the University of Massachusetts Medical School. I also serve as the principle investigator of the contract funded by the National Library of Medicine to serve as the director of a regional library within New England. This is called the National Network of Librarians of Medicine in the New England region. There are 8 regional medical libraries in the country, we're one. Our mission is to provide quality health information to those who don't have access to health information and that's one important mission that we serve. And we also have another mission we serve which is to help librarians learn about trends within librarianship and in my case, health science librarianship and biomedical librarianship.

So I come from a specialized background and I'm going to talk to you about what we're doing to enhance the skills of practicing librarians in the sciences and in the health sciences so that's the scope. We did about two assessments of our network members, we have about 400 network members, these tend to be hospital librarians, biomedical librarians, health sciences librarians, and academic libraries, as well as those who work in pharmaceutical companies and community-based organizations. The first assessment was part of a symposium that we held in 2009 when we introduced the concept of e-science and CTSA, just to our group of librarian users and as a part of that symposium, we held a half-day

afternoon breakout session where we engaged our members in the conversation about what do you think you would need to offer services in that area. That data served as the basis of a follow up Survey Monkey tool that was distributed to our network members in 2011. It went out to about 141 sciences and health-sciences librarians as well as directors of major academic sciences and health-sciences and sciences libraries. We received about a 47% response rate. And so what I thought I would tell you is a little bit about the competences that they said they needed and then some of the strategies that we're introducing in our region to address those competencies. There were both technical and nontechnical and science competencies that our users said they needed. And the technical competencies were those that we have talked about data management, data curation, data preservation, data archiving, metadata, many of the terms you've heard today. The non-technical skills—and I think this is where the DCP is really helpful—was how do I engage my researchers in the conversation about data. Um, how do I convince them that they they really need help with their data and how do I convince them that librarians have a role to play in helping them with managing their data. And then they were science competencies. Since I'm working with librarians who are already practicing in the field, there's been a gap maybe in the time that they've gone back—learned science, and of course science has changed. So people wanted primers or information on developing areas, such as RNAI, genetics, nanotechnology, robotics and also, a refresher on the basic sciences, like chemistry, physics, astronomy, since they haven't studied those fields in a while. And this was so that they could talk to the researchers and feel more confident in what they were talking about when they did start the data interview. And I'd like to talk about a competency that didn't come up in our research at this original time, but has come of now because we are now engaged in a funded proposal and we're embedding a librarian into a research team, we've been awarded a grant from the National Library of Medicine with six other institutions to actually take a librarian and have them serve as the data manager for a research team within an existing grant. And what's of interest there is how do I become a member of a research team? and what does it mean to be a research team?, and what skills need, do I need to have to be part of that team?, as well as what structure of the team needs to be in place to accept me as part of that team? In response to these competences, we've initiated a 3-pronged approach for addressing the needs that have been expressed by our practicing librarians. And the prongs are one, continuing education, two, development of resources and tools that people can use to help them in their job, and then three, dissemination of information. Briefly I'll tell you what these three prongs include and go from there.

In terms of continuing education, we offer there um major programs, one is a symposium, it's held every year in, it's the first Wednesday in April and it is a typical workshop or meeting where we invite keynote speakers to speak on a variety of topics that would be of interest to our librarians. We've added poster sessions where librarians can talk about the projects that they're working on and a lot of networking opportunity.

The second is a professional day. This is a one-day program and it has a major theme, so for example, one of our professional days was on stem cell research. We actually went to a stem cell lab, we saw stem cells, we heard about the ethics of stem cells, the different kinds of stem cells, um and then we also had a professional day on metadata, we've had a professional day on data management, Jenn Quinn taught her class. So those are some examples.

And then finally we offer something called science boot camp. Science boot camp is a two and half day immersion into the different aspects of science. We combine researchers in our institutions as well to talk about the theory as well as the practice of a scientific topic. Some of the topics have been robotics, the latest in autism, nanotechnology, etc.

In the second area the development of resources and tools, we've developed two products that we think are useful. And the DCP has been used in helping to develop these products and they also point to the DCP. One is called the E-Science Portal for E-Science Librarians and librarians and this again was an outgrowth of the assessment where our librarians wanted one place they could go to find primers on science, information on data management, information on how to do the data interview, and so we've created this website, which is a one stop shopping to find information you would like to learn about whether it be on the library side or on the science side to assist in this arena and of course we point to the DCP. The second tool, that's partially completed and hopefully will be completed within the next year, is a data management course. This course is designed to have lesson plans and point librarians working with faculty to teach undergraduate and graduate students in the sciences, health sciences, and engineering how to manage data. It's a seven module course. Right now the lesson plans are online and we are working with Tufts, Northeastern, UMass-Amherst, and MBLWHOI and ourselves to go the next step and actually develop the lectures for these classes and they will be available online for free and you can modify them however you wish. This is called the frameworks for data management. Again it's online through the portal on its own website. What's unique about this opportunity is that it's case-based, we have developed cases around which the lesson evolve. And the conversation this morning, that perhaps the DCP profiles could be turned into cases that we could use in teaching data management. Right now we've developed four cases based on our own work, but I'd love to talk to Jake and others about how we could take the profiles and create a database of cases and that's one of goals in our management of course is to try to develop a database of cases and to frame the entire course around a case-based discussion with these seven modules.

And then finally the dissemination piece which is uh, we have a journal we have launched which is an online journal, called the Journal of E-Science Librarianship. Our second issue is almost out and our intent there is to disseminate information about what you're doing in the field related to data management practices. We've had articles on competencies, the article that we did. We've done a survey of library schools and that will be coming out in the next issue. We have an article coming out from another institution on, University of Minnesota, on how they teach data management. An article on Cornell is coming out on their interviews with researchers. So we welcome articles and hope that you will submit your work to our journal. It is peer reviewed and it is available full text online for free. And finally we do have a blog, we have created a community in new England of librarians who are interested in this topic and in trying to create this community, it's not just about bringing people together in person, but also online and so we use this community as—we have our blog is opportunity for creating discussion and interaction amongst librarians about what they think they would need.

We were asked to address the challenges about what we see in training and, in my case, skilled librarians and right now I think the challenge is this whole notion of identity and what does it mean to be a researcher—a librarian in a research team, where is my professional identity?, is it with the

research team? Or is it with the library?, and how do I expand my role from beyond just consulting to being embedded into, to an embedded librarian into the research team? So I think I'll stop there, I've probably used my minutes and more and so thank you.

[2:26:07]

SB: Ok now we want to be able to open up for some questions and I'd like to start off with one. So I heard mention of lots of different parts of librarianship, collections and needs assessment, digital preservation, instruction, and not so much on archives and archival science. And I wonder if any of you can comment on that, and if we only had you know like president of SAA in the audience—oh maybe she'll comment later, okay. Any thoughts on that?

SA: I was at the SAA conference earlier this sum, well at the end of this summer or earlier this fall, however you want to say it, and we did talk at great length about how digital curation, particularly regarding data, fits into that community. And I spoke with, not the current president, but the president over many several years in the past and he said he feels the communities are coming together. He didn't really—he said um, six or eight years ago it really wasn't on their radar and it is on their radar now. On terms of do I think it's important to have that view? Of course. You know, I kind of think, in my case I left it out because it's such an obvious, that that's what data curation is about, it's the archiving, and I was talking about the areas that get more neglected when we're thinking about it. But I think it's really essential.

NK: I'm not sure I have a ton to add to that. As someone coming out of graduate school, I think that you're encouraged to kind of identify yourself with archives or library, even though often times the archives ... and we won't talk about that. I was also at SAA and I kind of feel like this is of a piece, it blends perfectly with my records and management specialization, it really seems a great fit basically. But there are some aspects that are not emphasized in my particular institution's archiving program which is sort of the bigger picture in terms of you know management, funding, the bigger lifecycle of managing a collection of digital materials over a long period of time. So those things I have to go to the librarians basically.

E: I really don't have too much to add to that except when we, we're dividing up the areas of the modules amongst our collaborators as to which areas people would like to take in developing this course that we're planning that was the one area that none of the collaborators felt they could do at this time. I think it tells us something; for some reason we're not comfortable in this particular aspect of the data.

SB: Anyone else...?

[2:29:11]

KD: I have a question for Elaine, I'm interested a lot in how to build librarians skills and comfort levels and actually working with data and being embedded in teams and things like that, and I was wondering if you could comment on whether you feel that librarians in hospitals and medical research

environments whether working with data for them is less of a leap from what they've been traditionally doing because my perception is that medical librarians have a longer history in being embedded in research teams than we do in academia and I was wondering if medical librarians have anything to teach those of us who are more traditional subject librarians about um working more closely with teams to manage their data.

E: I think that we have a history of working with the teams on the clinical side of the house and in some cases there's clinical research data in working on in clinical teams. Traditionally, we've been part of the healthcare system where when there was a question about a patient care treatment a librarian did rounds and could answer questions. So we're used to being involved in multidisciplinary uh teams on the patient care or clinical side of the house. And there was a type of librarian called the clinical librarian for example, that did a lot of that. Another term that's being used in health science librarianship today is called the informationist and it's taking that profession one step further. Instead of maybe just attending, not just, but going to rounds and answering questions, it's more of embedding the librarian as part of that team. And actually being there on site more, maybe having an office where the research team or the clinical research team is available, having a mentor assigned to them from the team. So this term informationist has now come up as a way of taking the librarian out of the library and giving it an academic home or a research home. And some of us use the term informationist and some of us are using the term embedded librarian. So yes, there is a history of librarians getting, medical librarians getting out of the library and either working with clinical teams or research teams, but I think what's the new aspect is the data management. Maybe as part of a research team or clinical team we have the traditional role of finding information to support the work of the team. And now the work is actually from the beginning helping as part of that team think about the data that comes from that team, whether it be clinical data or basic science research data. So I think there is some history there in working that way, but what is new is perhaps the data pieces and the embeddedness and that's where the questions of how can I be part of that team and still be part of the library, or am I part of the library anymore. All those questions come up.

SA: I'd like to add, I think what we're seeing is a move that's mimicking the move in society in general. Everything's becoming more distributed. In terms of library scientists researchers used to come to the library and work with the librarian there, but now with all the kinds of electronic communication, everybody's working in teams away, and they're sort of just grabbing whatever information they get, half the time not even realizing the library's making it available to them because it's just coming on their laptop by magic. Um but you know so that's why as librarianship, it's important to move them in. So you know the grant that Chris is involved in, digital curation and research centers is saying, and because I'm involved primarily in science, but I could see this for humanists as well, we want them to be concentrating on their specialty and not be having to worry about all the details that go into having well-formed, well-proctored, well-stewarded data. And so it's a natural progression and you're right, it really isn't something we've done a lot of, but, um we're a very very, agile bunch, and we see the need and now's the time to take it.

HT: Look it, a short microphone, just for me. [Laughs] Um, so I have to respond right? As um part of my um, presidential address at SAA which was a year ago in August of 2011, I stressed the need for

archivists to become more technically and digitally adept than they are. It's interesting that today in my data management and curation class, that I'm missing today, and my doctoral assistant is teaching in an hour, the topic is, one of the topics today is the uh what archives has to hold for digital curation and for data management. So we have several readings on that, and when you look at the uh intro to archives class that Kelly and I teach at UNC, we've turned it around 180 degrees from, or maybe 360 I don't know [laughs] I guess it's 180, from ten years ago when we talked about paper based tools at that point. As the norm, and then we spent a couple of days talking about the digital stuff and now the assumption is in those classes that everything archivists are going to look at and need to know about is the digital and then we talk about paper as kind of the exception. And lo-and-behold, the principles, maybe not exactly the practices, but the principles hold entirely. So authenticity and provenance lo-and-behold are still important and in some cases maybe even more important and now more important to a wider audience. So that's good. So no I don't think, I really kind of chastise the SAA audience or gave them a challenge to go out and do something to improve their digital schools in the next year. But that at doesn't mean just because the archival fraction as not come up to that challenge because continuing education is hard to come by, doesn't mean that they shouldn't be the locus of a lot of that. And when we're talking about data, we're talking about content that is not published in the same way as books and traditional library sources about it's very similar to what has always been in archives. So the archival principles have to be there. And I was going to say one more thing, oh, so we have at UNC for our master's and any master's students on campus, not just SILs students, they can take a course uh digital curation certificate sitting on top of their, could be any graduate students, could be a doctoral student. We've just started watching that in the last year, so we haven't had anyone from the outside coming in yet. They would have to take 5 courses, or the students could overlap two of those courses with their own so it's just one more semester. And then in January, maybe in, I think it's going to roll in the summer of next year, we're going to roll out a 30 credit CAS, certificate of advanced studies, it's a real honest to god degree, which means something at least in the university and graduate school lingo, and requirements, uh 30 credit CAS in digital curation. I think Simmons has maybe a 15 credit one, so a shorter one, but there's also varieties of that out on the landscape now. And this will be both in person and online. You can take all of the stuff in person. You could take most of the stuff online. You'd have to come to campus for at least a summer session if you're online. We haven't quite got the PR out on that right now.

SB: Put out right now! Would you please join me in thanking our panel?

[2:38:46]