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Innovation at the Intersection of Technology and Teaching

September 11, 2018

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Welcome to today’s Industry and Campus webinar: Innovation at the Intersection of Technology and Teaching. This is Adam La Faci, Online Event Producer with EDUCAUSE and I’ll be your moderator for today. EDUCAUSE is pleased to welcome today’s speakers: Leif Nelson & Phoenix Harvey. I will introduce them in just a moment, but first let me give a brief orientation on our session’s learning environment. Our virtual room or learning space is subdivided into several windows. Our presenter’s slides are now showing in the presentation window, which is the largest on the screen. The tall window on the left is the chat window, serving as the public chat space for all of us. You can use the chat to make comments, share resources, or to pose questions to our presenters. We will hold Q&A until the end of the presentation; but we encourage you to type your questions into the chat throughout the webinar. If you have any audio issues, click on the link in the lower left-hand corner. And, at any time you can direct a private message to Technical Help? by clicking in the top-right corner of the Chat Pod. A drop-down menu will appear where you can select Start Chat With and Hosts. The session recording and slides will be archived later today on the EDUCAUSE website. And now, let’s turn to today’s presentation. Innovation is such a popular topic it is almost cliché as it is applied in education and other fields. Higher education institutions are expected to innovate with their educational technology solutions, yet a common theoretical and practical understanding of innovation is often elusive and ill-defined for those who are expected to manage it. In this presentation, Leif Nelson will share some of the frameworks and models that have been successfully used at Boise State to manage change, create buy-in, and, of course, to innovate with educational technologies at his institution. Leif will share examples of initiatives at Boise State where theory and practice converged to promote innovative teaching and learning with technology. We are delighted to be joined by Leif Nelson, Director of Learning Technology Solutions within the Office of Information Technology at Boise State University. Prior to his current role, he was the Coordinator of Instructional and Assessment Platforms in Academic Technologies. Before working at Boise, Leif was the Manager of Learning Technologies at the University of Wisconsin- Green Bay, where he also taught Information Science. Leif has been providing expertise and leadership in learning technology support and management for over a decade. Leif has a Bachelor's Degree in English and a Master's Degree in Educational Technology. He is currently completing his Doctorate in Educational Technology from Boise State University. His areas of expertise and research interests are effective pedagogy, online education, critical theory, and institutional theory. We are also joined today by Phoenix Harvey, Director of Marketing at Macmillan Learning. Bringing more than a decade of experience in higher education technology, Phoenix manages a marketing team that uses data and insight to lead market research, branding and product messaging efforts for Macmillan's institutional solutions. Guided by a heartfelt belief in the power of education to improve people's lives, Phoenix is currently completing doctoral studies at the University of Florida in Educational Technology, focusing on how digital learning solutions can improve retention and success of underrepresented populations in STEM studies. And with that, let’s begin today’s Industry and Campus webinar: Innovation at the Intersection of Technology and Teachin Leif, over to you   
  
>> Thank you, very much, Adam. Hi, everyone. Glad you could join us for the webinar or if you're watching later, that's fine too. Hope everybody enjoys. So I live in Boise, Idaho right now, but I'm originally from Wisconsin as Adam mentioned in the brief bio there. This is a picture on this opening slide of where the Mississippi and Wisconsin rivers converge. And I feel like is a good picture to represent the topic of innovation and education, maybe because innovation deals with change over time, like the flow of a river, perhaps, but I also like the analogy that different disciplines come together like innovation and education. And this is an industry partnership presentation, maybe there's a public/private theme here too. Anyway, I'm going to talk about innovation in somewhat academic terms so, bear with me. And then we will get into good practical examples from Boise state. And I'll end with hopefully some deep, thought-provoking stuff about what is the purpose of higher edge? What do we do as a public good? Especially with the 21st century with technology being so pervasive in our world. A little bit about me, I am the director of learning technology solutions at Boise state. Been here for about five year, but I did work for the University of Wisconsin system prior to coming to Boise. My focus has always been teaching with learning technology. I'm in the process of finishing a dissertation where I'm looking at, I guess idea roll behind learning analytics and how they're represented in public and private sector discourses. And it looks like I play the air key board. That's a side job I didn't know I. A little bit about Boise state. We reached our goal of becoming classified as a doctoral research university which is a big achievement for us. We started decades ago as a small community college here in Boise. And then we rose through the ranks and now we're one of those top-tier doctoral research universities. Another fun fact, we're always gold designated by the league of American cyclists. We're one of the most bike-friendly campuses. We have been recognized by the apl for our retention and graduation rates. And if you watched our football games on TV, you probably thought that your color was messed up. That is not your color settings. We are the only school that has blue turf. We have a patent on the blue turf. And enrollment goes up a little each year with current fall enrollment numbers around 25,000. so that's a little bit about me in a nutshell. But what about innovation? So I have an instructional design background. So like a good instructional designer, I have to give you goals. You will be able to describe foundational theories and models of innovation and apply tools and processes that promote innovation in education and contemplate the as it relates to innovation. If you are similar with the popular Ted talk, you should start with the why. We're going to do that in reverse. We're going the talk about the what of innovation. We will talk about definitions, example, theory, models, because that's where I think there's a gap in terms of what many of us take for granted. We need to innovate and it's popular and important, but we don't drill down what that means to us, especially in higher ed. Let's start by asking you all, what do you think innovation is?   
  
>> You will see that we launched a poll here on the screen so feel free to type your answer there. Oh, great, we see a few coming in now. Seeing creativity and change pop up a few times here.   
  
>> Okay, we will go ahead and close polling. We see a lot of change, creativity, evolution, the word "\new\you in "comes up a lot, new ideas. -- the word "new" comes up a lot, new ideas. A lot of you are on the mark there. The modern form of innovation, what we think of when we say the word innovation, this was coined a few hundred years ago. I guess the late 1500s as a term that represents new and experimental change or things like that. And actually, was usually applied as an insult from between the 1500s to the 1800s. It was name calling for people who were trying to incite social or political kind of, you know, Rousing. So then, around the 19th century, some thinkers, economists started to apply a different definition. Where it represented more trends and how people adopt new behaviors or practices and innovations. This is on the heels of the industrial revelation. So the 19th century French archaeologist Antwon Quincy and a German economist probably well-known names that talk about the early applications of innovation. And they compare invention with innovation. Which we will talk about in a second. But Quincy said that invention is actually the superior activity as it creates new things while innovation is merely change for change's sake. And the second says they're totally different saying that innovation is possible without anything we should identify as invention and invention does not necessarily induce in\Moe\know vague. But today, innovation, usually academically often applies to some kind of technology. But looking more at the occurrences of invention verses innovation, if you have done this Google ngram comparison of different terms, it's pretty slick, it shows the popularity over time. Let's look to 2008. Somewhere in the middle of the 20th century, invention starts to decline and innovation takes off. What happened around this time? We can speculate. World War II happened, we had the sort of arms race, the techno logical society, so more scholarship and innovation from economic and social logical theorist increased the use of innovation in the popular lexicon. Everett Rogers. In fact, let's talk more about Rogers. He created what most of you are probably familiar with, but this is the original graph that kind of separates out the different populations of people who adopt technologies. In fact, Rogers, he was a sociologist, researching farmers back in the 1950s and started to observe different characteristics that lead farmers to adopt different techniques, different seeds or novel ways of, you know, planting or harvesting crop, things like that. So that led him to become one of the most well-known names in innovation. He wrote a book which some of you have probably read or heard of. He theorized were different types of adopts. Probably heard of this, right? A few decades later, a guy name Jeffrey Moore. Coming from more of a sales and marketing background took Roger's theory and add what had he called a Cassism. And according to Moore, the adoption little to do with the quality of a product or how much it was market, Moore instead said it aligned somewhat with Roger's attributes but focused on this sales and marketing strategies that a company might employee. Let's compare the two. Actually before we do that, any questions so far? Want to make sure --   
  
>> Chat, yeah. Yeah, I think you can go ahead for now.   
  
>> Thanks, Adam. So we're going to move beyond the what a little bit. And we will get into the how. Okay. So we've defined innovation, talked about a couple models here. How does it work? How do things catch on? I would argue that it's a combination of the products themselves, characteristics of people, and organizations, collections of people, and then what kinds of like bigger social forces or cycles might be at play. So product, people, and processes. Okay, so like I said, let's look at Rogers compared to Moore here. And these are the attributes of successful products according to them. And again, I think range of motioners was more of a people-centered approach, more talking more about sales and marketing kind of things. But you can see there's probably some common ground between the two where Rogers would say that things needed to be trialable. Right? You need to be able to pilot experiment. Moore said, yeah, we need tacker marketing. The next bullet, compatibility with current beliefs is important for something to catch on. If it doesn't resonate with something you're already familiar with, you're probably not going to sign on for a new process or system or technology. Similarly, Moore says that you need to find the consumers, who are the target audience for this thing? And again, you know, we look at things like relative advantage, what's in it for me? Complexity, Roger thinks its simple things are more likely to catch on. And you need to prove, show me that it work, right? And then Moore thinking more about an economic term how do we beat the competition and how do we use the right combination of channels for communication? Now both of them really emphasize the people. What do people want? How will they benefit from this? What's in it for them? How do we prove it, right? And I think this is probably similar to the technology acceptance model, if you're all familiar with. There are actually some survey instruments based on this model that we use for a lot of our own needs analysis or pilots that we do at Boise state. There’re survey questions based on the technology acceptance model that gets at that, what's the perceived value, how do I know? What's my attitude? And the there's presteps where people are oh, I don't know, I don't really want to change before the actual system use before the terminal behavior. So there are also decision-making processes according to Rogers and then southern oses a few decades later wrote this article to talk the about what are the forces at play? What are the broader structures that might influence people to decide to change or adopt new innovations. If you look at the three level, Rogers says that people decide to use some new innovation, either optional, collective, or there's an authority. And I think this map is pretty titled over who say that from an institutional standpoint, change happens either by means you're imitating, something else did, you're feeling compelled because your industry is changing and you have no choice, or coercive. Like the three, on the first level, another good way, the level of freedom or agency that people have many in making decisions. But the one with the highest level of freedom is that you choose based on evidence. Worked for someone else, we can prove and it therefore we're going to try it ourself. The other level is more moderate level freedom, structural pressures and forces and like this, like doing the wave at a football stadium, yeah, might as well, everyone else is doing it, right? And lastly with the least amount of individual or collective decision-making is that some authority or someone in power says you must do it this way. Those are the three levels of how decision making occurs according to some of these scholars. Types of innovation, here we've got Christiansen with his favorite disruptive innovation which is almost ironically derivative of theorists who came before him. Robertson, Thomas I think his name is came up with continuous verses discontinuous innovation. And then going back as early as 1903 we have the first s-curve model that takes about change and how new technologies might disrupt incumbent product. So disruption is still in vogue, the theory of disruptive innovation but as people try to disrupt, we need to have a good understanding that change, and especially constant change, isn't always well received. So we just have a short video to the kind of punctuate that point.   
  
>> So people are creatures of habit, right? Oh, I think I we want too far. Let's stay right here. Oh, yeah, this is it. People are creatures of habit. The tendency is to fortify what is familiar to us. And it's kind of obvious when we talk about, oh, yeah, people are just resistant to change because of change itself, right? But what we can draw fields as diverse as family therapy with the change management mod et or the well-known market research Gartner group has the hype cycle. There's an initial optimism surrounding new things or change but usually there's a process of acceptance where you have to kind of dip down into the chaos stage according to the change management or the trough of disillusion. And I think the important thing here is that people will need to rethink whatever they're familiar with, whatever sort of intricate tunnels they have carved for themselves. And then the pace of adjusting or adapting to change will be different for different people or different organizations and it depends on what the new product or process is that's being introduced. So we've covered a lot of theoretical ground. How does this apply to education? And perhaps more specifically, public higher education if that's the kind of environment that you work in. So we've got this samr model, this is Ruben Puentedura who came up with the different levels of change going from substitution, augmentation, modification, and redefinition and I have added the column on the right where you might want to think about this in terms, some change or technologies might sustain or continue existing practices while others if you're in the higher level, that's more transformative and could be considered more of these discontinuous or disruptive innovations. One way to think about it. So let's look at some examples. First example from Boise State, we replaced all of our hardware appliances for both lecture capture and video conferencing with purely software-based solutions. Specifically zoom, a little product placement here. But if we look at techsmith for the replacement of the lecture capture as it's mapped to the disruptive innovation and some of the characteristics that we lays out, previously we had appliance-based solutions. The benefits were really instructor-centered. Right? They had automatically scheduled recording, multiple video play backs in the player, and these elaborate work flows to syndicate the content. There was a lot of overhead to check on the recorders, troubleshoot when things went wrong, there was a lot of storage on our end with the server environments and things like that. And the problem was maybe too little friction on the part of the faculty members. Because it almost became something that they took for granted or was an--thought. So we saw the viewership of very expensive videos was extremely low. No one was watching them. And with the software solution, it's convenient. It introduces just a little bit of friction, I would say it's still very, very simple, but just enough action that an instructor to take that they were encouraged to be more thoughtful about what they were recording. It's an affordable solution. It aloud us to put it in every I.T. supported space on our campus and. The entire suite of products allows for a lot of flexibility. If you wanted to do more advanced, sophisticated complex things you can. Or if you just want to use the basic screen recorder, if there's a picture in picture, we have web cams in every classroom so it's really simple to get started with. And compromising performance for some of the early adopters, I think again those faculty really like certain features like the automatic recording or the robust player and things like that. We found we attracted a lot of new customers with the product on campus. And we saw more people using it in the offices, recording shorter videos, a lot more student project, student group work, student-produced video. And I think that's a good trend, right? So instructional map. Here's maybe another way that we can think about it. And you probably think that lecture capture is like so five years ago, right? Or enabling bad instruction. The lecture is passé, we should do active learning all the time. I want to be careful to throw lecture under the bus. I think there's a lot of good examples of lecture and a lot of value in good lectures. I think that the flexible software-based solution that we introduced for lecture capture actually presents new affordens. Looking at samr as a framework, basic lecture capture. That is the substitution level, right? Trying to record some in-class experience simply by recording a lecture that you would do otherwise. But let's say that an instructor now wants to augment that experience, add short quizzes, look at viewership statistics, take advantage of features and. Let's suppose even further that this data tells them that students might be misunderstanding some muddy concept or not watching the entire video. Now a savvy instructor might start to pay attention and make shorter videos around specific topics that are the students are struggling with. Maybe they start dabbling in the flipped classroom model where some content is viewed outside of class. But if they want to be truly transformative and let students take care of the learning experience, so to speak, many software-based video applications, besides this, do allow students to create, produce, or curate video consent the. They can do this individually, in groups. And that would be this transformative student-led model. So you can see how with the single product, there's a whole range of possibilities but it started with us just introducing this to faculty and getting it into the hands of the faculty. I see this the chat there's a question about did the we have a faculty committee? How did we get buy? I'll talk more about it later, but we do have a group that includes faculty. We had a core team and then an extended group of people who are familiar with video or that had used some of the previous hardware-based appliances. And we actually spoke to everybody, and this is something we try to do as often as possible, anybody that's going to be affected by, if you're a faculty member, they are part of the interview process so we are gathering feedback so the criteria is totally faculty-led and faculty-driven and we are interpreting that and communicating back what would be most beneficial for all involved. But we also include the student voice. What are students interested? What are the benefits and potential value that's important to students? So we try to be very inclusive with as many different voices as possible. And I would argue too that it's easy to say, well, you know, we're just going to interpret what people are asking for and give them what they want. That's not what disruptive innovation would argue. Sometimes you're introducing new features that maybe people didn't consider. The power users that wanted the sophisticated automated capture in order to give more people access and then we have a bigger pool to get feedback from to try to make improvements on later on. Hopefully that kind of answers that question. so let's look at student response systems. Are these considered innovations? I don't know if they're necessarily innovative because if we think about novel or new, maybe not necessarily. But what I'm trying to paint the picture of here is technologies that might be several years old and we think of as kind of old hat or, you know, that have already been played out, they can introduce opportunities, especially when the ways these technologies are delivered, because the theme here is hardware to software, right? Talking about hardware-based solutions that move into software, web-based environments and that opens up all kinds of new features and possibilities that themselves can lead to innovation behaviors but it's complicated, I guess. So let's look at student response systems. With our evaluation, and this gets at the question too about what -- how our processes might be considered inclusive or we manage innovation, so folks have a voice in the process. So we did a bake-off a few years ago between several systems. Iclicker tries to allow the attendance tool. We have check out kits if they want to do an activity before they commit to having students buy including clickers. and clickers align with people's beliefs. Think about the substitution level, clickers are this replacement for raise your hand, right? But it gets interesting when instructors use student response results, look at the data and start to think about what changes they can make in their curriculum or delivery of instruction or if they start to introduce active learning activities like think, pair, share, using the clickers and apps. We have what we call a mobile first strategy. So we're promoting the use of the app over the physical hardware clickers. And I think this taps into the fact that the students, first of all, they have some type of app-capability device and it threatens the attitude that a lot of faculty have about the no device policies they may have. As we've discussed, change can be uncomfortable. But so far we have been supportive of both types of faculty. If you have a policy that we don't allow devices in the classroom. While nudging people towards the use of the &. And I think some people who have previously had the no phone policies in class, they have since adopted the iclicker mobile app. And it's due in part to the decision-making forces that we looked at earlier, there was evidence of success, first of all, that even in large enrollment classes, your devices can be managed through classroom management. And this kind of normative pressure from their peers and colleagues. So let's just -- oer, if you're familiar with open educational resources. I think this could be considered another example of disruptive innovation by some stretch. And it could also be mapped to the samr model. For those who may not know much about oer, stands for open educational resources and typically refers to some kind of digital content that lives on the web, making it accessible to widespread distribution and in terms of ADA compliance. Many repositories or services will ensure that type of accessibility as well as a look at copyright compliance and things like that. The concept of open in oer has this conceptual sort of meaning where it's free and proponents of like the copy left movement, they like to talk about free from a couple different viewpoints. There's free as in beer which is to the cost or free as in free speech which refers to the concept of, this shouldn't be restricted or withheld from people. So again, open, it's supersedes actual copyright. It allows for the share, redistribution and even many some cases alterations of content. And this opens up all kinds of new policies for teaching and learning. But some of the criticisms, of course, are about quality or even the form factor, the digital format of oer. We know that publishers like Pierson or Macmill land invest heavily and this helps guarantee that. Some research shows that there's really no difference between student performances in courses that use the textbooks verses oer but there's something to be said about really good textbook. I have a lot of textbooks that I keep from my undergrad years, maybe you do too. Maybe you're not a nerd like I am. But there are really good quality textbooks and there's something compelling about that form. I think the challenge is to the try to replicate, maybe not traditional textbooks, but also the level of rigor and care that goes into the publishing of some of those texts. So maybe a good transition, the substitution level, I think most people gravitate towards trying to replicate or, whether they're finding one in a repository or building one themselves, this traditional textbook many a digital format. Building on that, let's say they start to think about a more piece mail approach and they want to use diverse sources, now a chapter from this source, a learning object from over here and piece together their own curriculum and tailor it towards their interest and their class. Many services have analytics that might perform what content to admit or em pa sighs. Where students might get hung up. And to allow others to remix, reuse, redistribute, et cetera. A transom at this approach to curriculum and instruction -- a transformative approach to curriculum and instruction, having students create or curate the content themselves. And I want to provide a quick shout out. There was a logo earlier. But we worked with the cosponsor of this presentation. We don't actually license their product but they have been gracious in letting us have access to some of their sand box environments, give them really good product feedback that they're going to use for their development. And I think that's another example of how public and private partnerships can be beneficial for higher ed as a whole and I'll talk more about that in the next section. Questions so far? Looks like the chat has some more activity.   
  
>> Yeah, we have received a few here as you were going along. Why don't we just tackle a few of the earlier ones and then when you feel like it's time to move on, we will do. That Kim Arnold wondered, does innovation have to be disrupt sympathy.   
  
>> Does innovation have to be disruptive? I don't think it does. Like I said, there are different models. If you look at someone like a Robertson or even Christiansen talks about some types of disruption being continuous or incremental. Disrupt SUV one way to think about how something we have been doing previously, some tradition we're holding on to, some habit or process that's really engrained could be really shaken up by a new way of thinking about it. A new approach. I think that's, again, these are just models and ways we might orient our thinking about innovation and change. But certainly it doesn't have to be disruptive, no.   
  
>> Great, thank you. Elizabeth was wondering what kind of training was involved and offered for using the software you described earlier.   
  
>> Okay, I'm not sure which software that refers to? But any time we're doing a change or a launch of some new technology, certainly training is something that we really emphasize. And it goes beyond just workshops. We will sit down individually with faculty members and want to make sure -- I mean, those are our champions. Those are early adopters, right? So as long as they have a really good sense of familiarity and they're prepared to be successful with whatever technology we're rolling out, then that just guarantees that any expansion beyond that is more likely to be successful. And in fact, we like doing the these pilot stages and we will drag on pilots for a longtime because we want to make sure we're working out any kinks and before things are more publicly rolled out to the broader population or the broader campus, we want to the make sure that we have a good understanding of what kinds of issues might come up, and that there's a pretty good training protocol.   
  
>> Great, thank you. And Elizabeth added that she was referring to tech Smith specifically and especially for faculty and added, wondering if you could dive more into what it means to prepare to be successful.   
  
>> Sure, sure, yeah. So I'll admit, we could probably do a reboot for tech Smith. There was a lot of training and communication and workshops and documentation around the time we were transitioning away from -- we actually prior imply mennation of media. It was the new product for all of campus, there was a lot of to-do about that. What does it mean to be successful? This is where we have several units that try to meet families cull sovereignty where they're at and make sure whatever technology we're providing for them aligns with their instructional goals. If somebody wants to capture the entire lecture from start to finish, put that online for student, sure, we will talk about chunking and some concepts like that or how they might want to the add quizzes. If that's too advanced them or not ready for it or a solid case for why traditional, record the entire lecture really aligns with what their goals are for that class, we make sure we support that. We have design consultants in a sister department here on campus that will have some of those discussions to make sure that -- I mean, it's a dialogue., it's a dialogue between technical support staff, design consultants and faculty themselves to make sure we're in alignment. Are you using this in a way you're comfortable with and meets your goals? That's what we mean by suck is International Space Station. And that's what we do for the training as well. -- by success. And that's what we do for the training as well. Hopefully that answers that.   
  
>> Thank you. And if you can shed more like on who the we is that sits down with faculty and who are the resources? Where do they live at BSU?   
  
>> I think we could have a follow-up session just untangling our work chart. I am in the office of information technology. And we have a team that do a lot of the managing of environments, software administration, we will do a lot of the more advanced technical how-to help. We are managing pilots and things like that. And we work closely with instructional designers in both our center for teaching and learning, there's a department called the instructional design that's under academic affairs. And also, we have the ecampus center and extended studies with folks who are focused on online education primarily. So they're working with faculty member, usually as part of a program where they're putting entire courses or majors online or helping faculty members with individual online courses. And so I think as long as these units are, you know, communicating and kind of marching in the same direction, then things go well. But that's the collective we.   
  
>> Okay, thank you. And Kristen was laughing in the chart, maybe the work chart should be part of the slide resources. I'm guessing this is a common group.   
  
>> I don't think the screen's big enough. But we could try.   
  
>> All right. Well, I think we will hold the other questions until the end of the session here. I'll turn it back over to you to move through the content.   
  
>> Thanks, Adam. Let's move on to the why. The good stuff here, right? So let's start by asking you all, what are the barriers to innovation in higher education? I'll give you a minute to answer that. Okay, I'm seeing a lot of good answers related to funding, resource, buy-in, yeah, I mean, there's a theme here. Let's go ahead and close the polling. And I'll admit, I was doing a bait and switch here. I think I would like to reframe the question actually. Because we're talking about the why, I think before we want to address some of the issues related to funding and resources and things like that, I would ask, why should we in\Moe\know evacuate in higher education? And we can -- innovate in higher education? And sometimes we can argue, efficiency is always good, we need to do things faster and cheaper and better. But it's good to ask, what are we auto mating? Reducing activities that could be inherently valuable or meaningful? So faster and cheaper isn't always inherently good. And we need to re -- inherently good. Or as the educational philosopher poses, what is good education in an age where we preoccupied by measurement and what he calls learnification or this individual concept of learning. So penny in 1998 developed a good framework that talks about higher education as a public good. And in the framework, she emphasizes that higher education should be a social public good verses an economic public good. So what is a public good do? She provides examples here. We see reduced crime, community and civic engagement, ability to adapt to and use technology, inclusivity and diversity, things like that. So if these are the broader goals of public higher education, how are our innovations being aligned with that? And that's where I think there's sometimes a disconnect. And beyond that further, we can look at we're in this increasingly globalized world and higher, how it's affecting all of us and we need to provide value to the world and things like that. In what sense? So we can look at U.N. has this list of global issues or other lists of these big global problems that we face. And again, if this is the mission of higher education, why do most of the technology narratives, especially around innovation, focus on individual learning efficiencies? I think we need this counterbalance that considers how these things complement each other or be more intentional about thinking about the big picture as to why higher education exists in the first place. And I warned you I was going to get deep with this stuff, right? So bringing it back to a local level, I know there's some discussion about decision-making processes, but we try to embrace these values of being inclusive and bringing in anybody that might be affected, right? So they have some sense of agency or a voice in the process. Thing is super important not just for ensuring success but it's the right thing to do. We were deliberate in identifying all affected stakeholders, users, decision makers and tried to be as transparent as possible to make sure that they had a say in the solutions that we arrived at. But even as we went through the process, we tried to be totally open and transparent if people question or concerns about our methods of evaluation. So innovation for the public good. I guess I really like diagrams. I think that it really lives at the intersection of process and purpose. So as long as your processes are aligned with some aims or goal, then you will have these values baked into what you're doing like inclusivity and having dialogue, community, having empathy. You don't want to be the authority telling everybody that things have changed and get used to it. Be respectful and show them that it works. Yeah, I'm a softy. So I guess attributes that support the public good, we've seen examples of how these can be leveraged in some of the earlier models that we looked at. Everybody talks about the ability to try things out for themselves, be able to experiment or get used to or familiar with things. Compatibility with existing beliefs, that requires you to understand what are the values and beliefs that different groups might old dear before you try to introduce change. Decision-making should be collective. There should be some sense of if not consensus at least a majority opinion that you're striving towards. And then thinking about the utility of something. What are the perceived and actual usefulness or these things? Or will people perceive things as being change for change's sake? Right? Okay, so that's all I have. I think we do still have a few minutes for some questions if people have them. But Adam and Phoenix, I'll let you chime in if you have other closing thoughts.   
  
>> Yeah, that's great. We have about 10 minutes here, a little less for some questions. Earlier on, there was a question that was asked, if you can identify or individuals would like to see how you can identify stakeholders that you should work to get involved with initiatives for pilots.   
  
>> Yeah, good. Yeah, many cases, we will have a list of folks who may be using a technology that we're either considering changing or trying something new. There's always that kind of go-to list of your power users. I think many people in roles like mine have at the ready this list of five or six people that you always think of because they're always the first to volunteer so say, hey, if you have anything new, let me try it. Those are tin know evacuator or early adopters and those people are really important in being able to just, you know, vet these early ideas. But we do try to use as many, if we have analytics for our lms, we can get a lens of what whose using what tool, we do an annual survey. We do a lot of looking at survey data. We try to interview petroleum as much as possible. -- interview people as much as possible. The short answer is, it depends on what we're trying to roll out and try to be thoughtful about identifying stakeholders. But if a cam us and staff and administration standpoint, there's a list of people that will engage if we think they're going to be affected by something that we're doing. And there's also some shared -- actually a lot of groups on campus but one is a technology for learning and teaching round table that has folks from the library and extended studies and academic affairs and the majority, the intention of this group, it's a majority faculty committee and we have recently added student representation so it's a really good cross section of campus. And that group is charged with reviewing any kind of proposal we have to launch a new initiative or pilot or new technology. That's the first level of gate keeping, this cross-section of campus constituents that had will say, yes, you know, continue to pilot and evaluate this or, they might say it's not a priority or doesn't fit with your institutional values some that's how we try to address that.   
  
>> Great, thank you. And in your opinion, what are the best sources to find the latest tech tools for campus environments? Do you recommend online magazines or websites?   
  
>> Well, of course, Educause is a great source. No, I think -- boy, that's a good question. I think there are a lot of really good organizations that curate these lists of new technologies. Educause being one obviously. Things like Ed surge or campus technology, things like that. And they have both online and physical print-based publications. So that's good. I think, you know, establish a network, get out there and you know, try to communicate with people, connect with people on social media, if that's your thing. Attending conferences, that's a really good -- and by network, it's both people in roles like yours and maybe adjacent fields, like go out to different spaces or talk to people in different fields and see what's trending there and then new ideas might emerge from that.   
  
>> Several have noted that they've gotten feedback from colleagues that they don't want to try something new in class end up looking like an idiot in front of hundreds of students if it fails. Do you have advice on either alleviating those fears or avoiding those issues.   
  
>> Yeah, again, that's where I said that working with faculty and meeting where they are can help mitigate that. So from -- on the back end, from an infrastructure standpoint, we try to guarantee that things are as fail-safe as possible. Now we know that, you know, nothing is ever perfectly unproblematic. There's always going to be something that goes wrong at some point. But that's why we go through pilots and try to really vet the technologies that we officially support. And we have this kind of list of these are the core technologies that I.T. supports and that can kind of ensure that it's got the seal of approval from us. So that the things -- not that they're less likely to go wrong, but we also, - going to be a support infrastructure in place with the help desk and we know how to troubleshoot a lot of the problems and we have documentation. And from a faculty member standpoint, that's all well good. But if you're unconfident or unfamiliar with something, they may not be successful. First of all, I would probably have a petty Ernest conversation and say, if you have reservations about this, let's maybe try one activity here and there, maybe low-stake, month credit kind of thing. Be honest with your students, tell them you're trying something new. Because if you're going to be em bar a reserve listed, we don't want them to do it. Have a conversation, see what they're comfortable with. And then kind of work with them to maybe phase it up gradually or whatever's appropriate.   
  
>> We have time to squeeze in one more question here. This one might be a bit of a bear, but Kristin was noting that she's curious how you partner with third parties. What was involved with working with Macmillan and what happens if it works or doesn't work?   
  
>> What I try to look for in vendor partnerships, they are willing to engage many a collaborative way. If it's this kind of sales pitch, this kind of a standard thing, and they're just trying to get sales number, then, you know, we will be turned off right away. And those kinds of things will probably be uncovered throughout the process because there's a literal, doing like an rfp, they might say, yes, we do the features and we're accessible, et cetera kind of thing. Well, we also have processes in place the to take a deeper look and do usability testing and find out what you say this on the pack but that's not a reflection of reality. Or have some testers try a product and see if they like it or if some thicks don't work as expected and things like that. So it's been great working with Macmillan because we are open to, we want your feedback, what are users interested in, how can we accommodate those needs and balanced with what's happening at other institutions. and I like when vendors try to build that community base. So that they're being more intentional about trying to harvest feedback from their customers. And that we have a community of users ourselves so that we can share best practices and advocate for things that we want together. So those are some things I look for.   
  
>> Great. Thank you. And that brings us to the end of the scheduled time today. So we will move into the closing. I would like to say a huge thank you to you for taking the time to speak today and for Phoenix for joining and preparing the presentation as well. thank you all for joining us today for an engaging session and conversation. Before you sign off today, please click on the session evaluation link—which you will find in the bottom left corner of your screen. Your comments are very important to us. The session’s recording and presentation slides will be posted to the website later today. Please feel free to share it with your colleagues. On behalf of EDUCAUSE, this is Adam La Faci, thanks for joining us today.

**End of Webinar**