Transcript

Speaker 1: You are tuned in to 90.7 FM, k a l X. Berkeley. My name is Tesla Munson, and this is the graduates, the interview talk show where I speak with UC Berkeley graduate students about their work here on campus and around the world. Today I'm joined by design engineered design researcher Pierce Gordon. What's up? Not much. A happy I'm, I'm doing well. Thanks for coming on the show today. I'm glad to be here. And you are in the energy and resources group here at Berkeley. So what, what is that? It doesn't have the word department [00:00:30] in front of it. That is intentional. So what does that mean then

Speaker 2: for 40 years? Approximately? It's served outside the reaches of any department, School, College. Uh, but now it is currently in the college of natural resources after, uh, the, uh, operational excellence program that happened in 2009. Uh, what we do is interdisciplinarity around resource issues. And a lot of people are love to use the phrase now, but we've been doing it for a very long time. [00:01:00] Uh, one of the previous, the Meredith professor that actually just finish it, his work, uh, he founded the field of ecological economics. So, uh, we have people that, uh, work towards the water politics in La. Uh, we have people who do renewable energy systems in the economics around them, um, all over the world. And what I do is the evaluation of innovation practices for global development [00:01:30] issues. So in that all the different people are really attracted to the program. One because we are meant to combine fields that people usually don't combine. And two, because we've been doing it for so long and it gave me the freedom to, uh, get into the field that I, that really resonates with what I want to do in the future.

Speaker 1: Okay. So I think the first question is what is innovation at least in a way that you're talking about it? Yeah.

Speaker 2: Uh, this is the question that everyone loves to ask. [00:02:00] Um, because the answer depends on the person. Honestly. That's one question I ask everybody. What is your definition? When I use the phrase, I use it in a very broad sense. The idea that an innovation is an intervention, could be an object, could be a service, could be a business model, could be an experience that is new to a specific context that it, it, it aims to impact that brings value [00:02:30] to its constituents. That broad is what I mean. So, uh, most people when they use innovation, they usually mean, um, they can mean a technology, a tangible object. Uh, for some people they mean a business by itself. For some people, if something is new to a specific town but not new to another, it's not necessarily an innovation. In my idea, a, I'm actually influenced by Herbert Simon who wrote scientist of the, um, his [00:03:00] first definition of understanding design is our, I'm going to get the quote incorrect, but it is the way that us as humans move from our current state to our preferred state and any action that does so is innovation.

Speaker 2: So I studied in a very specific context. So that's my debt. Is that good enough? That is an excellent definition. Thank you. So do you focus specifically on services or products or any one subset [00:03:30] of innovation as you defined it? I focus on innovation practice, so a lot of people that do research on innovation do focus on a product, a service, basically all those things I would put into a box of outputs of innovation, which is understandable. It's very necessary. It's the thing that you see. For example, if you look at an iPhone, people love saying that the iPhone is innovative or at least it was, I don't want to get in any trouble. Um, but the iPhone does particular [00:04:00] things that weren't done before and people work on it and people have been doing it for a long period of time. I wanted to ask questions about what would it take to understand how to make that iPhone.

Speaker 2: So I don't focus on the iPhone. What I focus on is global development issue. So international development work, global poverty issues. In that, in those fields there are many different entities that create these services. These interventions. [00:04:30] Famous examples are infamous, the play pump and the one laptop per child program where the LifeStraw in a energy and in information communication technologies and in water and sanitation. Uh, some very famous successful projects are uh, what d REV design revolution. A startup in San Francisco was working on the low energy jaundice lamp. They've done it, they're selling it to many different individuals or the embrace warmer, [00:05:00] which is a low cost infant warmer, uh, that is disseminated to many different entities. People create these things and while they do so, they engage in activities to make sure that they understand the end consumer and the market or the community and to understand potentially the politics and the history, hopefully a behind why a place has its problems.

Speaker 2: And then they create these new [00:05:30] interventions. They come up with new ideas, they try and prototype those ideas. Somehow they figure out how it fails and then they make it again over and over and over again. They go through that process and we want to make sure that that process actually create something that people really want to use. Many people can use that process. The question is, is the process being engaged in the way it should? So when engaging in evaluation [00:06:00] for that, it's about when people innovate, are they doing what they say they should? Um, and I study that with a couple of my projects.

Speaker 1: Okay. And before we get into the details of your projects here at Berkeley, you come from what someone consider a hard science background, right?

Speaker 2: Love these words. Yes. I do come from two fields that are hard science. You want to hear about them? Yes, please. Okay. So applied physics and aerospace engineering and now I'm doing none of that. I went [00:06:30] to a dual degree program where I went to Morehouse college and the University of Michigan got two different degrees from the two schools. I was halfway through the program and in propulsion class actually. And it, I

don't even know if I was coming out of the class, but there was some point and I was like, this sucks. I didn't, I didn't want to do it anymore. Um, it's great for everyone that was in the program and I have a lot of friends that are working at Boeing and in graduate programs right now. But for me, it, I realized it didn't [00:07:00] fit. It didn't have that moral dimension that I needed for a profession that I would engage in for the rest of my life.

Speaker 2: So I searched heavy for other programs because I was on the way to be in a doctoral program somewhere somehow. And I was actually watching the daily show. This is the episode with Jon Stewart. They were talking about the Haiti earthquake. That's what it was. It was nine months after the Haiti earthquake happened [00:07:30] and they found out that one point $2 billion of the $2 billion that were given in many different ways to many organizations were completely on counted. And people were like, Huh, well, what's going on? Where'd the money go? Um, what's being done with the money? How do we make sure we have the outputs that we need? I found that and it was the fire. And that happens in international development. People see something and they're like, yes, I need to work on this project. So I got involved in a service learning project that was focused [00:08:00] around the community of a friend who was Haitian. I got involved in, once we came up with an output, I was like, this feels good. It was work. It was necessary, but it went somewhere. And then I started learning myself more about international development, more about the fields I was interested in, and I came into a graduate program that gave me more of an opportunity to be free to find out what I was really [00:08:30] interested in.

Speaker 1: So did you find that the transition from, you know, aerospace, what was it again? [inaudible] space engineering, aerospace, aerospace engineering to your newer passion of understanding innovation and, and these practices was, was that all you had to do is just to learn a little bit more about it? I mean, how do you, how do you switch so dramatically?

Speaker 2: You switch, you do it. I just heard this from a friend who is applying for jobs. She said, don't apply for a job [00:09:00] that you are, don't take a job that you are qualified for. That's what she said. Whether or not you agree or not, it's that reality is something that people have to deal with every single day. Uh, I wanted to stretch myself and when I came into Berkeley that wasn't what I was, I thought I was interested in. I was going to study renewable energy issues for Subsaharan Africa. Um, somewhere somehow. Um, and what I leaned on was my previous research experience, [00:09:30] my, um, ability to engage in difficult research activities. My peers had not my high grades, my ability to go in a lot of different places and do extracurriculars, but I had no idea what I was doing. And it's interesting because, uh, many, I think more than a lot of other disciplines, international development leans on a specific type of experience.

Speaker 2: How many times have you been in a conversation with somebody who does [00:10:00] global poverty work and they say, oh, it was great. I went to x place for y amount of time

doing z project. That seems to be pretty common. Exactly. And then that narrative they carry into the work that they engage in. I didn't have that narrative and I knew I didn't. So I had to do some real deep work to figure out a project that wasn't what people were thinking about. And I did it. The reality is I found design thinking [00:10:30] as a cross cutting field that a lot of people are interested in and learning more about. A lot of people don't know about. But the types of research I would do would potentially be applicable to whoever is thinking about innovation regardless of if you're thinking about gender or water or behavioral economics or you're thinking about creating something new and you can learn something from the stuff I'm trying to do.

Speaker 2:   Um, so yeah, that's, that's what happened. So it's not impossible. You can actually change fields. Oh, absolutely. [00:11:00] I, there's a, an interesting conversation, uh, in aerospace professor who did a presentation at the University of Michigan, I remember he was a graduate student in [inaudible] music. I think he was past his quals. He decided to change the aerospace music to aerospace and now he was giving a presentation. I think it was on UAVs. I don't want to get it completely wrong, but it is, it is very possible. And if it's something [00:11:30] that you have the capacity to do, given your resources, then you have to go forward. You live one life. So why not?

Speaker 1:   So if you're just tuning in, you're listening to the graduates here on Calex today I'm speaking with design researcher, Pierce Gordon from the energy and resources group here on campus telling us about his work on innovation and design research. So were you interested in this because you wanted to feel like you could really make a difference, that you could do something applicable that would have an impact.

Speaker 2:   [00:12:00] When you say, I'm interested in this, do you mean my research or just larger international development work?

Speaker 1:   I mean, coming to the, the graduate program and doing research itself?

Speaker 2:   Yes, absolutely. Urgh likes to make scholar advocates because a lot of the problems programs that people, uh, try to, uh, get involved in, in the problems they tried to address require applied research that require someone that thinks in a rigorous manner about issues [00:12:30] that a lot of people are interested in regardless of the discipline and create some output. Um, and a lot of people do international development work. It's the interest was about this idea, very deep understanding and many people try to deal with it, um, in many different ways. But there is a deep problem with the fact that so many have so much, so few have so much in so many have so little. And [00:13:00] from my engineering background, I knew that I would want to use the understanding that engineering affords you. If you have a problem, a technical problem, then you can make a solution and people should be able to make a solution.

Speaker 2:   But understanding design brings in all of the other aspects that would make that intervention successful. So not just the technical but the social, the political, the

institutional, the people, the places, the time. And the reality is, is [00:13:30] a lot of people are getting involved in design thinking work. Um, the United Nations High Council on Refugees has a program in it. The World Bank, the Gates Foundation, uh, there's a very big company that, uh, a good amount of people know about called ideo.com. That is a design consultancy. They've worked with many, many different companies and people are getting involved and saying, hey, let's use this for service learning. Let's use this for teaching our students. Let's use this for helping government be [00:14:00] more impactful. But a lot of people aren't necessarily researching about whether or not it's effective. Um, so it was an in,

Speaker 1:   yeah. And uh, getting into more of the Nitty Gritty details about your dissertation work here. You mentioned earlier that you were originally interested in focusing on sub Saharan Africa. Do you have a glow, like a geographic focus now or is just global?

Speaker 2:   I do buy serendipity.

Speaker 1:   Okay. How's that work? I

Speaker 2:   do. [00:14:30] I wanted my project to my work to be, like I said before, to be widely applicable. Um, and a lot of people when they do design work focused in a place focused in an individual place. And I was thinking, well if I didn't focus in a place, what type of solid learnings, what type of solid pieces of information I come up with if I didn't focus. So there are too big, they're too big projects that did not require a geographical focus in a third that did. The [00:15:00] first one was a human centered design analysis of the open innovation platform called open ideo. So open ideo is like Facebook for designers. You go onto a website, anybody can go on, you can check it out right now and they have different social impact issues that they tried to address and people go on, they collect research and they suggest ideas that are picked out by open ideo and by the people who suggested the project in the first [00:15:30] place, the Grameen Bank, Gates Foundation, other entities.

Speaker 2:   And they back those projects that they like. And while they do that, they have content that they wrote up about why a project is important and how they engaged in addressing this problem. And it's an interesting ecosystem. The question is, because ideo was so big in design thinking, are the people that are on open ideo, just regular participatory designers engaging in the activities that [00:16:00] one would think you should if you're doing design will. So asking them, are they integrating with end users? What type, what parts of the culture are they using? Are they thinking about the life cycle of their interventions? Whole bunch of other questions that contributed to a content analysis that's currently published in the ASM e. American Society of Mechanical Engineers, International Mechanical Engineering Conference and exposition. Whew. In 2013, it's published as the point. The second project is this idea, [00:16:30] uh, I learned from the first project that there was an intrinsic reality of something called remote design.

Speaker 2: It's been written up before by a paper called in Krista Donaldson wrote the paper. Uh, the idea that the people who have the knowledge, capacity, resources to design are usually widely separate from the places in which they are designing, I. E. All of those people that have done design work or international development work and they say, hey, I go to [00:17:00] MIT or Stanford or what have you, and I did work in a Butan or in India, Botswana, South Africa for six weeks doing x, y, z. They're disconnected in design thinking. That's a particular issue because one of the principles is to be connected with the user when you create your interventions. So my second project is a, with furthering that question and other issues, we also don't know what designers are doing while they're engaging in this work because it's very [00:17:30] disparate. It's very hard to get information about what everyone is doing.

Speaker 2: So a systematic literature review that a tries to ask questions about what people are doing, B, just how large and how old the field is, see who's doing it. And then all of those pieces about that remote design issue of how disconnected the designers are either by practice or by geography from the communities that they aim to help as [00:18:00] project two. Project three is in a place I got involved in, uh, trying to figure out a project that would fit a with evaluation in design thinking. Uh, for the past two years I've been talking with the International Development Innovation Network, uh, which our program at Berkeley here, uh, the development impact lab is funded by USAID and this program is also funded by USA. They run designed summits where they go, [00:18:30] they bring people from all around the country, all around the world to design four, three, six, some amount of weeks, um, contextual design interventions.

Speaker 2: So I was into cod for four weeks, uh, working towards understanding, designed to create a deep sand wheelchair. It's in the middle of the Kalahari desert, has got some great folks over there. And in that the project was an in to try in [00:19:00] a kind of a Trojan horse to give us the opportunity to learn more about the activities, the innovation activities that the local community engages in, and to figure out a way to best evaluate whether or not their activities have the outputs that they want. So all the other previous questions, all the ideas that was about evaluating the design practice on a platform or of the researchers. And here it's about evaluating [00:19:30] in, sit to, um, in the place, uh, what people are doing or whether or not it's having an impact and to create a evaluation framework that helps them the most because at the end of the day, they're going to be engaging in the work and they need something that can help them continue it as much as they can.

Speaker 2: So we're co-creating that together. And the project is, it's, it's going, [00:20:00] it's working. So you mentioned at one point extensive literature review, but what, what are some of the other methods that you use to research these sorts of things? Is there like talking to people or how does that work? So the third project is an ethnographic study. It is a, is the under the understanding that when people have tried to evaluate innovation, they've used a collection of stakeholders that are usually very disconnected from the

problems that they aim to solve. Usually the stakeholders. And in terms of evaluation, [00:20:30] this is one of the things people usually focus on. Um, they ask what the funders want, they ask what the organizations want. Um, they asked what the, the larger organizations like USAID or what have you. And in this particular, the third project I talked about there is very little understanding about when people engage in these, uh, smaller summits, uh, these innovation activities, what people want, what people are trying to do, what people care about.

Speaker 2:   [00:21:00] Um, and not just it at another level past that it's not just what people want, but how would a community that comes in and tries to design like Idon does and many other entities, how would you create a methodology? How would you create a way of thinking about evaluation work that empowers that? It uses resources, [00:21:30] uh, that you can bring to the table. They can bring to the table to better understand how to evaluate the work that they're engaging in. And they're the main beneficiaries of the work. The people into car, they're, they're part of the song community and Assan for many, many years have been discriminated against, um, in many different ways. So how do you make something that everyone can, can profit from? It's particularly the people [00:22:00] that are doing the activities while doing that work. The main point is, is no one knows what's happening right now and there might be a lot of different influences.

Speaker 2:   The innovation ecosystem, other people that do innovation work in Botswana, what has happened in the cart before, the different organizations that currently work there and what people want to do, uh, all the different conflicts or interesting influences in that, that requires ethnographic work. Coming in, interviewing [00:22:30] people, interacting with individuals, engaging in design work. That's what I did as introductory research for the past summer. I was being a part of the design summit and I was a participant. The project that I was with, it was the deep sand wheelchair project. I'm so engaging in that activity. Gave me more information about what people care about and how one might create a evaluation [00:23:00] framework that fits with their needs. That was a long answer.

Speaker 1:   No, nothing wrong with long answers. Yeah. Okay. You have to excuse, I have to excuse my extreme geographic ignorance, but I've been to Africa twice in the last year and I, I still don't know where the car is. Can you take off? There's duck car. Okay. Which is in Senegal. Okay. Right. This is not that. Okay. Where's, this is Botswana is the country above South Africa. [inaudible]

Speaker 2:   God is so small that it's, some people [00:23:30] in Botswana have never heard of it themselves. Some folks, um, it's a very small town. I think about a thousand ish individuals that live there. It's about eight hours driving from the, from [inaudible], which is the south by South East. Um, you just go a little bit northwest and

Speaker 1:   you got there. Okay. So it is Subsaharan Africa. Just a hair still in there. Okay. You still, [00:24:00] you in it. So you didn't stray too far from your original interests. [inaudible] is oh, interest, sorry. Yeah. I'm not supposed to say that or no, no, no, it's you,

Speaker 2:   you're right about that point that I didn't stray necessarily. I mean, it's been a focus in understanding just African data Sporn issues writ large, just being a black graduate student on campus, uh, for as long as I have. And it's a situation where [00:24:30] there are a lot of issues. We are all in the same boat and marginalization occurs in very specific ways that we can relate to each other. But the reality is that the work that I'm doing could have been done in any one of the other iden sites. And it could, it could have been honestly a just dependent on whether or not I got invited to one of the places versus the others. But, uh, I had a ecosystem in Botswana. I had different communities that I can go to for assistance [00:25:00] and help. I got friends there and there was a lot of pieces that just fit together to make, we'll just want to make sense. And then it made more sense while I was there, I found out that the innovation ecosystem is relatively new. Um, understanding more about, uh, the different main actors from the Botswana innovation hub to the local Eidon actor to the University of Botswana and many others. Um, understanding what they're doing and how they think about evaluation is also an interesting topic [00:25:30] I'm trying to engage in. So it's, it happened to be that way and now I got family over there. They're there. They, I think of them as family, so they're cool. It just happen.

Speaker 1:   Nice. Well man, so we're, we're actually like almost out of time. Clearly a half an hour program is not enough. Not enough talk to you peers, but uh, what be back. Definitely my be back. Uh, so, but I definitely want to take a moment to ask you if there's anything [00:26:00] about your research or your field that you feel like the public doesn't understand or doesn't know anything about. And you can take a couple moments here to just, you know, make your case be on my soapbox. Let's be my soapbox step. You're stepping on. Let's do it. Everybody

Speaker 2:   is a designer. Everyone has the ability to create something new in this world that we create and many of the things that exist today, they do exist because someone created them. They are not stagnant. They do not have to be [00:26:30] stagnant and that deals with also the problems that we're trying to address. It's a very freeing experience. I realized when I started design thinking work and I started engaging in activities or even teaching them to other people, um, it's a very freeing experience to teach or realize that one you can tease out from here's a place Berkeley, Oakland, decode, [00:27:00] what have you. You can take understanding of what a place is like and figure out what problems are. That's just an ability that everyone has and you then you can take that understanding and try to create something that will help address those problems. It's very freeing to realize that you can do that and design thinking if done in the best way is a matter of agency. So everyone should have the ability to do so to help better [00:27:30] our world. It is a unfinished process. And if we were to finish, then who

knows what would happen. That's, I don't want to say that's a world. I don't want to see where people don't try and make the world better. So

Speaker 1: no, no, that's, that's pretty excellent. So I'll ask you if there are any last words, but those ones were pretty good, but if you've got any last words,

Speaker 2: if you want to catch me or you want to hear any information about research, about consultation, about teaching, different design thinking work [00:28:00] or just to talk about graduate school overall, my uh, everything online has peer scored in one on it. So peer score in one.com facebook.com/peer score in one linkedin.com/in/peer score in one Twitter Pierce Gordon one. So I'm here, I'm ready to have a conversation. Uh, and let's, let's keep making this world a better place however we can.

Speaker 1: Thank you very much, pierce. [00:28:30] Thank you. Yeah. You've been tuned into the graduates here on KLX Berkeley 90.7 FM. My name is Tesla Munson. Today, I've been joined by design researcher, Pierce Gordon from the energy and resources group here at UC Berkeley telling us about his work in innovation. And, uh, it's, it's actually quite different from most of the interviews we've had on the show. So I really appreciated hearing your perspective and the different kinds of work that people do here and how impactful that it can be. I'm not normal. Hey, there's no who wants to be normal, [00:29:00] who wants to be normal? I don't. Yeah. You know, I think, uh, I think there's nothing wrong with that at all. You should embrace it. Uh, so thank you again to pierce and the graduates will be back in two weeks with another episode. Until then, stay tuned. You're listening to KLX Berkeley.