2017 WEPAN Change Leader Forum

TECAID (Part 2) Team Representatives: Panel Presentation

This is a transcript of a panel presentation, led by Tom Perry (original ASME co-PI), provided by representatives from the original TECAID Teams at the 2017 Women in Engineering ProActive Network (WEPAN) Change Leader Forum. *[Note: This Panel Presentation (Part 2) and separate Part 2: Q & A video/transcript, follows the workshop, TECAID Overview and Outcomes (Part 1), in a separate video/transcript.]*

[00:00:07]

Tom Perry: Good afternoon. Welcome to our discussion on Transforming Engineering Culture for the Advancement of Diversity and Inclusion. The – my name is Tom Perry and as Director of Engineering Education at ASME, I was one of the initial co-PIs on the project. That role has now turned over to my friend and colleague, Aisha Lawrey at ASME Engineering Education and the – let me take a minute and introduce our panelist to you.

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Nancy Barr. Nancy's the Director of the Engineering Communications Program at the Department of Mechanical Engineering and Engineering Mechanics of Michigan Tech. She serves as the Chair of the department's Ad Hoc Diversity and Inclusion Committee; she's the department liaison to the university Diversity council; and she also facilitates the Virtual Learning Community hosted by ASME that's connected with the TECAID project. Her current focus is on faculty development in learning and teaching inclusive classroom and office practices.

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Rob Stone, again, further to my left, Oregon State University at the beginning of this project and a key contributor to the proposal process and coming into the project. Rob was the head of the School of Mechanical, Industrial and Manufacturing Engineering at Oregon State. He worked with the Oregon State TECAID team to create the undergraduate and graduate Humanitarian Engineering studies minors that will aid in attracting more women and underrepresented groups to the school's three undergraduate engineering programs. Rob, welcome.

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Next, I'd like to introduce Zahed Siddique, University of Oklahoma. Zahed is the associate director of the School of Aerospace and Mechanical Engineering at the university. He is part of the – as a TECAID team member, he organized – and this is to me, personally, pretty interesting – the cognitive empathy student training group as part of a design course to approve student collaborative skills. He's also trying to change culture of student competition teams to be more inclusive.

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Klod Kokini. Klod is professor of Mechanical Engineering at Purdue and Associate Dean for Academic affairs in the College of Engineering. He's one of the principal investigators in the NSF TECAID project and among numerous other achievements, he was a recipient of the ASME Johnson & Johnson consumer company's medal for unwavering commitment to diversity. And as if that wasn't enough, as many of you know, he recently received, in fact very recently received, the WEPAN Advocates and Allies award. And as many of you know and as you hear in the discussions here for why there was s team approached to this within the Mechanical Engineering departments, it is impossible to overestimate the role of advocates and allies in long term change of culture.

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I'd like to quote Jane Silber. Jane is CEO of Canonical Ltd. which is a software company in the UK. She talks about the difference between diversity and inclusion. Now think about this. Now, diversity as she says is inviting someone to your house. Inclusion is allowing them to rearrange the furniture. So when the transformation of mechanical engineering departments and other engineering and in fact, the colleges of engineering, were looking at the long term of rearranging the furniture and who gets to rearrange the furniture and the inputs that come from that and the research and practice base best models for doing it over time.

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We'll also be looking at in particular what is that intersection between passion and persistence and how do we get that to happen, how does it happen, how is it happening now at institutions. I'd like to proceed with that to a series of questions. So the – this will be followed by a broader discussion. We'll take a little break set up in a bit. The series of questions will be followed by a

broader discussion from our colleagues in the audience but that's going to come a bit later.

[00:5:07]
Tom Perry: To start things off, let me begin with Rob. Why did your team submit a proposal for the TECAID project?

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Rob Stone: Okay. We – when we saw the announcement, we were impressed by sort of the ability to not only make a change in our population of women students in the mechanical engineering program but also the fact that it offered up a chance for us to get some training where we would learn to become better change agents not just with the team but then be able to sort of expand that out to the rest of our unit. So that was sort of intriguing and interesting to us.

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Tom Perry: Klod, in your perspective?

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Klod Kokini: So can I first give a little introduction in terms of my role here? So I'm, as Tom mentioned, I'm a co-PI on this project and I'm the Associate Dean so I play a role there. I'm also a mechanical engineering faculty but we had a different Purdue team that participated in this so I kind of got some of their perspectives and I'll try to represent both, you know, in being here. And so basically, what my colleagues told me was that, you know, from their point of view, they felt that because of the large number of international students that there was great diversity. And then when they started looking more closely to the, you know, gender and ethnic diversity of student population, faculty etcetera, they felt that it wasn't quite meeting the goals. And even though there was a lot of discussion for a long time, pretty much nobody was doing much about it. And so when they had this opportunity to apply and participate in TECAID, they were very interested in becoming part of it.

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Tom Perry: Thank you. A little taste of why and why us. Going forward, what do you think is the most valuable takeaways, the most valuable aspects of the TECAID process? Zahed, what did it mean for Oklahoma?

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Zahed Siddique: So I think in the process, there are many things that we learned through it especially as we were trying to go through the change. But in the take-it

process, one of the most valuable things that we taught was some of the things that we know but were not explicitly, you know, you explicitly don't think about, you know, you need small things make the change, you need to celebrate whatever you do. And when you're trying to make change, there will be a lot of issues and challenges that come along. Don't get depressed about it or anything like that. So that was one, and the second most valuable thing was, there were five institutions and when we met together and when we had the VLC [Virtual Learning Community] every month, knowing that other institutions were going through the same thing that we are going, you know, always helped and, you know, kept us moving forward.

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Tom Perry: Thank you. Nancy, we've talked about this a little bit. You had Michigan Tech at two aspects that were principal and why and the impact of TECAID in the department.

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Nancy Barr: Well, there's two things that immediately come to mind. The first is, just being able to engage faculty on these issues. Having explicit open discussions, not everybody was going to agree but at least we could bring some things out into the open. I ended up, after our faculty staff retreat last year having a conversation on the side with a female faculty member who I'd never really engaged with on this level before and she told me a story that I found very disturbing but it was something that it really demonstrated that, okay, we really do have an issue here and this is something we need to address and it's something that we can address.

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                 And I would say another aspect that I find very valuable is, there's a lot of creative energy once you start getting some momentum and even though we're just a small team in the department, we are a large department. And Zahed mentioned, you know, celebrating those small successes, we've had some small successes and there is momentum building and lots of idea generation as we go forward.

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Tom Perry: Any resonance? Are you sounding anything, are you hearing anything familiar there, the other panelists?

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Rob Stone: I would sort of echo those comments about "celebrate the small successes" and then just, you know, build on that. It sneaks up on you in ways you don't expect where you see faculty who you're not sure where they stand but they've heard you and they've seen sort of the impact that you're having on students and sort of the climate and they feel empowered to sort of jump in and joined you. And so, that's one thing I would add.

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Tom Perry: Zahed, was there any impact of creating an identifiable group, a TECAID cohort project team within the department? What did that mean, if anything?

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Zahed Siddique: So when we look at the whole faculty members, when we were trying to develop our team so the director – associate director, we picked faculty members who were valid in the department and we didn't – we picked people who were willing to participate, not who are going to disrupt as the core team and then we also added staff to the team. So we were four faculty members and a staff team with an understanding that the staff team will have the same say as everybody else. And for us, that worked out pretty well. One of the concerns that we had from the beginning was, all the faculty members were male and only the staff member was a female but we thought if we needed input, we had other colleagues in the department and in the college that can obviously help us with it. And once we had the core team later on, we expanded and had more allies join and, you know, keep on growing that.

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Tom Perry: Did you all start with a group of people that you were – that you presumed to be allies? Tell me more about that.

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Zahed Siddique: So for us, yes, we had that in there when we did our group.

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Klod Kokini: So I think the Purdue team formed pretty much in the same way too, you know. It is, you know, we had – as the PI team, we had just about required that the department head or chair be part of the team and in some ways lead the team, but the rest of the team was very much selected by looking at their, in some way, you know, record of accomplishments and engagement in diversity-related activities. And since then, the Purdue team has increased to about nine, what they consider to be nine core faculty and staff, and all of

these people are very much engaged. They still meet regularly to talk about the projects, they still pursue the projects and they're trying to expand the influence of this core team on the rest of the department.

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Tom Perry: Nancy, department heads as allies. What did that particularly mean in the Michigan Tech sense?

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Nancy Barr: That was vital to our team. Our department chair has long been an advocate both on campus and I think in the National Mechanical Engineering Community-- Bill Predebon. And his leadership has been vital, his knowledge in this area has been vital but I would say about the other thing about Bill's leadership is, he knew when to lead and when to get out of the way when there were ideas being presented so that ideas could be generated without us constantly having to look to him as, okay, is this okay? Are we, you know, is this not going to work? He just said, "You come up with something and I will support what you come up with." That was really valuable.

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Tom Perry: So you've got a group of people, principally allies, and you're going to work together with the support of TECAID resources, TECAID's expertise and so on to make some kind of difference both on the projects that you're working on but also gradually in the culture of what conversations take place within the department. Okay, Rob, unmask it, where are the speed bumps? What challenges did you hit?

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Rob Stone: Speed bumps include, you know, everything from sort of unexpected changes and leadership as you go through there which gets back to sort of Nancy's point. If you've got leaders that, you know, are committed, it makes this a whole lot easier to go through. You've got sort of folks who have your back and who also help you find resources. And so, when those conditions change, it adds a little bit of speed bumps. Other – sort of other things that were sort of an interesting speed bump at Oregon State was, our faculty senate sort of approved an update to our promotion and tenure guidelines where they specifically called out that there was an expectation of diversity and inclusion activities being in your dossier when you go for promotion and tenure. And so, that was a good thing but then, sort of the bump that came along with that was that there was not a whole lot of clarification on what that meant and we

had some initial discussions where we were headed down a path to sort of specify that for out unit and some of the leadership changes led that to be stalled at that point. And so, that's – leadership is key. I mean, support from the leadership is one of the key things.

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Tom Perry: Klod, same question. Speed bumps.

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Klod Kokini: So, you know, resistance just like many of the other teams has been a challenge but I think that, you know, through some of the discussions and some of the tools and the encouragement, I think, of the TECAID, you know, larger team if I can say, you know, some of those things have been not quite solved but at least helped, you know? And then of course, in terms of the project themselves, you know, we observe that, you know, there were some challenges. And you know, in the case of the Purdue team, they decided to focus on the number of African-American students in the undergraduate program in Mechanical. And, you know, when they started looking into this in more detail, what they found out is that, you know, pretty much nobody was paying attention to their retention of these students and how they felt and how welcoming they felt, etcetera. And so, you know, these are some of the challenges that they will need to keep working on.

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Tom Perry: Nobody's mentioned yet time.

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Klod Kokini: Right. Resources.

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Tom Perry: Resources.

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Klod Kokini: Time being one of those.

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Tom Perry: Zahed, can you speak to a little bit about time and resources and priority setting? And I'm going to ask Rob and Nancy to speak the same.

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Zahed Siddique: So for us, we were a little bit fortunate because by the time when we started, the college and the whole university was more open to, you know, supporting diversity inclusion and those activities. So from a leadership point, it was much easier. Now, time is always a big challenge so what we did, and especially with four faculty members, what we did was, we divided up the task from the get-go and said, "We'll cross each other in what you do and we'll support each other but let's do multiple small projects" and that's how we started. So you could do things in your own time and then we would have bi-weekly meetings and then update each other and ask for help. Or else, if we tried to do everything together, we thought one person might be overwhelmed. So that's how we addressed our time and resource issue.

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Rob Stone: And to time, you know, at the time when I was head, it was just easier at that point to sort of specify out, you know, some of these as service activities to write it in as part of the diversity and inclusion sort of activities that one would include in a dossier or a CV at that point. So those were good sort of levers to be able to pull as a head and another reason to have good buy-in from your leadership, I guess. But the time was – time is always an issue. We're always pulling, you know, being pulled from many different angles. But for us, I guess the key to overcoming that was just, we started with our group of five team members who we knew were really committed to this and this was something they were passionate about and we did our best to sort of handle it, you know, internally on the sort of description of duties but then, you know, I think we all put in a little bit above and beyond just because this was something we cared about.

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Nancy Barr: Yes, we ran into the time issue but also staffing issues with our team. So in the formation of our team, we started off with five people, one of whom was sort of assigned to the project based on his role within the department. He's kept engaged but then he got a major grant so he's had to pull back a little bit. Also, the first person – our first team included somebody who could never – who could make the workshops and then we added – had a second person come in, that person could also not make the workshops, and we finally, I think, by the time of our third workshop, we had somebody who could actually attend the workshops and partake in the project but now, he is on Sabbatical. We've had another team member leave for a different university. So there's been that change-over but what I would say is, we knew that this

year was going to be a challenge because this was also our ABET year of record. So we had all of that going on and a lot of the people involved with the TECAID project were also – played key roles in that aspect as well. However, by my involvement with the Virtual Learning Community, that VLC you've heard a couple of people refer to, that helped me keep Michigan Tech's foot in with things and just helped us keep moving forward. Even if it was just baby steps, we still kept moving forward with that. So finding a way to stay engaged somehow.

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Rob Stone: And if I may add to that, some of Nancy's comments makes me think, you know, part of the time issue comes down to who you select for your initial team, right? So we made sure to have at that point on the faculty side, sort of tenured faculty that, so they have that, you know, luxury to sort of do more what they want and not face sort of that level of judgment and we also included staffing who – we had our director of our women and minorities and engineering program who just fell squarely within sort of her line of duties and so she was happy to sort of – to add that to it or sort of included in there. So I think team selection is really critical when you do this because you can sort of select the team that can afford to have that time available.

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Klod Kokini: So we use the term VLC which stands for Virtual Learning Community and this was monthly phone calls of many team members. I mean, all teams and sometimes more than one member meeting during the entire project and then the same groups would meet when we had the workshops separately in person. And I want to give an attagirl to Nancy. Even though the project technically is over, Nancy still makes sure that we have the opportunity, and many times, we have one or more members of the teams from all universities participate in some of these calls. And so, even though we're talking about lack of time as a challenge, the passion and the interest make up for that. So I just wanted to make sure we record that.

[00:23:02]
Tom Perry: Thank you. And that virtual community is a community that is a core group now that we do hope will expand. And using that word "hope" a year ago, Donnie Perkins, our good friend Donnie Perkins who is Chief Diversity Officer at Ohio State said to me in a hallway conversation, "What are you doing that will give me hope?" So I put the word to the panel and I'll start

with Klod. What's happening that will give us hope that will aid in persistence? We know – we all know what's a long-term effort –

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Klod Kokini: Right.

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Tom Perry: What's in it?

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Klod Kokini: So I'd like to think that we had impacted – maybe impacted is too strong a word but maybe we have initiated the transformation process for change regarding the culture in this department and other departments and we have – you know, we're bringing forward – as you heard from the previous session, we're putting forward TECAID's model and some, you know, case studies that will be helpful to many other organizations. But within the actual Purdue Mechanical Engineering department, there is truly a core faculty who by now are really dedicated, are looking for other resources, are still investing and are continuing the work even though technically, the project is over, you know, in many of its dimensions. So that gives me tremendous hope that it's real.

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Zahed Siddique: So I'll answer it in a little bit different way. So for me, when I looked at all the five teams, we started with all different projects with the same thing in mind and I think pretty much at the end of two years, we saw that there were changes going on. So it really doesn't matter where you start from, change happens. It's slow. Not all will change but the majority does. So that gives me quite a bit of hope that it is very doable in engineering, you know, even in mechanical.

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Rob Stone: Yeah. For us in Oregon State, you know, our main project was sort of this Humanitarian Engineering Studies Program and so we got that off the ground through all of the academic hoops and it's established as minors at the undergrad and grad level. And we've – what we've seen so far is that, it's appealing to sets of students that we haven't automatically have been getting in mechanical in the past and I think that's in largely because it shows that there's lots of ways to use a mechanical engineering or for us, even industrial or manufacturing engineering degree to do good that don't look like sort of the historical nuts and bolts and gears and sprockets and things like that in

mechanical engineering. So, I'm happy to see sort of that impact happen and our student body starting to looking more diverse. The sort of other thing that gives me hope is that as we've had conversations with our industry partners, we – and sort of a side note – we developed a diversity and inclusion module for our freshmen sort of introduction to Mechanical, Industrial and Manufacturing Engineering class. And so, the team sort of put this together and sort of ran it two years now. And this last year, we brought in the Chief Diversity Officer from Daimler Trucks which is located up in Portland and they came down and one, they've got a Chief Diversity Officer which is great, and two, they sort of came in and sort of made the case to our students why this is important to them on a business level. So they, they're doing this because it makes them more money and – so that was really good and I think sort of that, sort of outside voice is having an impact on our students where they see the value and sort of learning and appreciating these views. And so, all of this together gives me hope from, you know, there's outside forces that are pushing it and our students are responding to it well.

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Tom Perry: Nancy, give us hope.

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Nancy Barr: Here's a couple of things that give me great hope. So number one is that, our – many of our undergraduate-oriented faculty – so I'm going to say these are primarily lecturers and professors of practice have expressed great interest in what we're doing and they've already done some of their own research on what it means to run an inclusive classroom. These are folks who are winning teaching awards on campus now, getting very high student evaluations because of what they are implementing in the classroom which helps all students--not just women, not just those of color, but all students succeed regardless of their background.

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Nancy Barr: The second thing that gives me hope is, I mentioned creative energy. And there's a lot of creative energy in our department and on campus right now looking to effect change. And people have their own groups that they're interested in working with, some are really focused on bringing in more African-American students from Detroit, Saginaw, Grand Rapids areas. We are in the very, very tip of Michigan at the top and then everybody else in the state is like toward the bottom of the state, so we have an issue with being such a rural campus. There were also people who were very focused on

bringing in more female engineers to campus. I am interested in bringing more Native Americans and getting them more engaged because we have a Native American reservation about thirty miles from us which we have not historically done a great job of engaging with but there's all these initiatives. The ball is rolling now and I think there's enough momentum there where regardless of what's happening in Washington, there's the momentum there to affect change in a great way that's meaningful.

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Tom Perry: While you have the mic, any advice you want to convey to our colleagues in the audience?

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Nancy Barr: Don't be afraid when people disagree with you or disagree with the mission. One thing I have found and a valuable tool I learned from the TECAID workshop process was how to have dialogue. So for example, there's a faculty member in a different department that I ended up getting into a heated discussion with about a topic that really wasn't related to diversity but then I used the tools that I learned in TECAID to change it from a heated discussion into a dialogue where we can actually learn from each other and that takes a little bit of practice and a lot of patience. But don't write off the people who disagree with you. They have a perspective that can help you understand how to reach them. For example, if someone says, "I think this is a waste of time", "Everything's fine", "There's too much attention paid to this", try to get at why they feel that way and understand their perspective and start a dialogue there.

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Tom Perry: Rob, advice from your experience.

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Rob Stone: Let's see, so Nancy just rattled off a wonderful list there, so I won't repeat that but I would say, don't be afraid to sort of jump in and start with small things even if you don't have a large project in mind. Just sort of jumping in in what you have control over whether it's a course or advising students or whatever but, you know, you can do simple things like just make sure your class examples are those that come from sort of a more diverse and inclusive sort of standpoint, you know, so that – the examples I see working out engineering problems show the greater world as it exists, to then sort of sharing that with your colleagues and getting them to sort of to build on that.

And so, you can sort of grow this grassroots effort if nothing else. But yeah, I would say just don't be afraid to jump into it, give it a try. As Nancy said, don't be afraid of sort of having conflict. It's not always a bad word, it's just sort of a –it's an opportunity to sort of understand the other person's point of view and sort of have a chance to influence them with respect to your point of view. So--

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Zahed Siddique: So kind of the same thing, you know, you just have to start somewhere. And if you're really anxious, start with something small and small things kind of keep on growing. That's one of the main things that I have to kind of tell you that it really doesn't matter. Just start and then have small successes and that builds up into something bigger. You do not have to start with faculty if that is kind of the hardest – one of the harder things to do. You can start with students and as you are starting with students and training them, you can say, well, you know, if you want to attend, you know, the student training, you know, faculty members are welcome and you'll be surprised how many will attempt. And you can start with the same thing with staff. So starting small is not a bad thing, it's just you have to be brave and just start somewhere.

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Tom Perry: Klod, for you, the Purdue team's perspective or the perspective of the dean? Your advice for our colleagues.

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Klod Kokini: So the advice is the same. So I agree with everything that everybody said. Patience, super important. Persistence, very important. So this is a, you know, this is a topic that is not a classic academic topic, you know? It's not research especially in engineering in its traditional sense, right? It's not teaching. It's not – yet, it's all of the above. And so, you – I like the word that Nancy used. Dialogue is so important, you know. Don't be afraid to talk to people about why this is important, you know, whether you make it as colleagues or whether you make it as the business case depending on who it is, I think it's important to just keep talking about it and I also don't want to underestimate the role of conflict. You know, we all, especially engineers, consider conflict to be like the worst thing. We always want to avoid it, right? We don't like it and yet, one of the things we learned very clearly in TECAID is that conflict can actually be a great thing to initiate change, to initiate conversation and to be a vehicle that leads you to, you know, new places in terms of what you're trying to achieve.

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Tom Perry: How will Purdue move forward in this effort?

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Klod Kokini: So, you know, one of the things we did as a college, building both on TECAID and some previous experience and we have a great addition to our team who's here, Amy Morris, who we just brought in a year ago from Michigan. We actually put together a proposal to the provost that was approved and it's a campus-wide initiative to do a program totally focused on faculty that would engage some education similar to TECAID, a lot of conversation and dialogue, and the associated research with it. It's a three-year project and we're super excited about it. And so, we'll report at future WEPAN meetings how we're doing. So –

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Tom Perry: Thank you. Zahed, I'm coming back to – you're mentioning working with students. Did you have negative comments from students in the process? What was that ramp up student awareness like?

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Zahed Siddique: So just to give you a background, so what – one of the projects that we did is for our senior design class, we had a two-lecture workshop done by somebody else from outside and we called it a, you know, "learning empathy" and "cognitive empathy" and how can you use it on design and then, of course like Rob said, you know, this is one of the skills that you need once you graduate because you'll have to work on a diverse environment. So during those trainings, right, most of the students really had positive experience but there were some students who really didn't like it, right? So instead of us feeling bad, we kind of turned it around and said, "Those are probably the students who needed the training the most." So kind of looking at it in a different way saying, "Yes, some of them didn't like it but it is probably because their mindset is different and at least hopefully, they will, you know, start to rethink some of the concepts."

[00:36:55]
Tom Perry: Thank you. We're now going to take – and I'm looking at the clock. We're going to take a few minutes and I would like for our colleagues in the audience because we're going to flip this around a bit. We're going to do some camera shifts and that sort of thing. If you would take a few minutes in place

and just think about what kinds of questions you have for the panel, square one, and then also, what kinds of advice you have for the panel if anyone tried to undertake such work. So we'll come to you in a few minutes.