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Alexa: And that's really where we think that change can be not only sustained but make a real difference. In this case engaging women in that technician setting and helping them to feel like they can advance and then retain them in that industry.

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Mike: From the Center for Occupational Research and Development, welcome to Preparing Technicians for the Future of Work. I am your host Mike Lesiecki. In each podcast we'll reach out to people who are actually on the frontline of the future of work and hear what they have to say. That means interviews with industry leaders, working technicians, and forward thinkers in the field. And in every episode, we will suggest action that you can take. We want to inspire you to take that action. This podcast is brought to you by the Center for Occupational Research and Development, known as COD, with financial support by a grant from the National Science Foundation's Advanced Technological Education program. Opinions expressed in the podcast do not necessarily represent those of the National Science Foundation. You could find out more about our project and our approach at "preparingtechnicians"—all one word—dot "org." Today, in our fourth episode, we're talking about a struggle on the education side in encouraging women to participate in the STEM and technology programs at two-year technical and community colleges. Our program enrollments seldom have more than 20% women. On the industry side high tech also faces challenges in gender equity. This is a critical issue for both sides as we face the future of work. Let's explore a solution to this struggle and turn to the firm known as Deloitte. Many of you know that Deloitte is one of the world's largest management consulting firms and they've been very active and forward thinkers, providing insights to the future of work discussions. Very recently in their Insights series, Deloitte published "Designing Equality," with a subtitle of "How design thinking can help tackle gender bias in the workplace." We'll link to that study in the Show Notes. We wondered if some of the strategies and lessons learned from that work on designing equality in the workplace would translate to the classroom environment. We thought we would ask them. Joining us today is Alexa Frank. She's based in Washington DC, and she's a strategy consultant with Deloitte and the

Program Lead for Deloitte's Women's Initiative. Alexa, what sort of clients do you work with?

Alexa: Hi! Yeah, so I work in our Strategy and Analytics Practice. And primarily there we work with government clients across the federal, state, local, and public sectors. For the work with the Women's Initiative, we call that WIN at Deloitte, and that's a group that's been around since about 1993. One of the first women's Business Resource Groups, or BRG's as they call them, focused on internally figuring out how to better advance and support women at Deloitte. And since 1993, it's really evolved into more of an initiative that focuses both internally and externally on promoting our thinking around women's leadership, improving gender equality in the workplace, and supporting women in their career experiences.

Mike: Well thanks, Alexa. And thanks for joining us today. I also want to welcome Rachael Munkacsi, who is also a consultant with Deloitte Consulting. Rachael, your efforts are more on the policy side, is that right?

Rachael: Yeah, that's correct, Mike. Prior to joining Deloitte, my background has really been in women-centered policy, both healthcare and legislation. I have worked with organizations like Women in Government, kind of supporting bipartisan efforts and solutions for Women in State Legislatures, have done some consulting for the National Women's Law Center around the Affordable Care Act, and most recently just led a pro bono project with Deloitte, really helping us to improve women's leadership retention across the military, which is one of our answers to this "Designing Equality" paper that we're really excited to talk about today.

Mike: Cool! Thanks, Rachael. Thank you for joining. And, as a special guest on today's podcast, we've invited Hope Cotner, President and CEO of CORD. We'd like her to join in our discussion. Hope, broadly speaking, CORD works all over the country and internationally to provide innovative programs that help individuals prepare for careers in their higher education, right?

Hope: That's right, Mike. And we're excited about our involvement in the Preparing Technicians for the Future of Work project, and to engage in a discussion today with our colleagues from Deloitte.

Mike: Thank you, too, Hope, for joining. Back to Alexa. Alexa, you were one of the lead authors on the "Designing Equality" project. Will you tell us more about that, and this concept of "design thinking?"

Alexa: Yeah, of course! So, last year we published this piece on using design thinking to tackle gender bias in the workplace, something that seeks to better prepare organizations and industries to understand the experiences of the women in their organization, and use that insight to drive more inclusive and diverse workplaces that really benefit from that diversity. And while we focus on gender in the paper, we also make the argument that this type of approach can really extend to other different groups and identities when thinking about inclusion. So, the paper addresses this question of, "What are organizations really struggling with, when it comes to diversity and inclusion?" with that particular lens to women and gender. And so, when we think about the elements of that question, we thought about it as twofold. One, across many sectors of work women remain underrepresented in leadership positions, and often report levels of disempowerment in their work, and report less confidence in their ability to advance, compared to their male colleagues. And secondly, merely placing women in leadership positions isn't really enough to drive change in the culture from the top down, which is really what organizations are seeking when they're trying to address these questions about better having a representation of women, engaging them, retaining, and advancing that group. And so, what's really needed to drive that change in this arena are intersectional experiences and voices that drive how the problem within organizations, cultures, and policy are identified and defined. So, how are you defining the problem? Are you engaging the people who might be experiencing that to define that problem? As well as, are you engaging them to create solutions? Test and implement those solutions? And evaluate them? So, it's really about using the "user," in this case women, and using their experiences to guide problem definition and solution creation from the bottom up. It sounds like a lot, but for true sustainable change to really happen to culture, it all really needs to be driven by the key people and the users who are experiencing that. And so, that was really the base of the paper, and the problem we were trying to help organizations address.

Rachael: Absolutely. And Alexa, to add to that, something like that's really kind of increasingly complicated about this question is that, we all know, women are not a monolithic group. We're not all the same. Being a woman is not one type of experience. And so, more and more we see an increasingly diverse workforce with these kind of evolving elements, to your point about the future of work, and how people work, what they do, who does it, you know, all these themes. We have to acknowledge that people have really different identities that intersect with gender identity— even things like political identity, sexual orientation, religion, racial identity, ethnic background. All of these things really shape people's experiences in an environment as well, and of course, shape the biases that they might bring into it, which really impacts the ways that women are able to move through their careers within different organizations, especially in the STEM area, making it really complex, and just adding another layer of trickiness to designing inclusive environments that encourage people to kind of engage, and perform in advance all the things we want to see organizations do to optimally perform.

Mike: Well, thank you, both. Alexa, can you tell us more about this concept of "design thinking," and how it works?

Alexa: Yeah, of course. And that's the question we hear a lot, because it's a very trendy word in the space. And a lot of times it's difficult to figure out, "What does that really mean? How is that supposed to change the way I, as a organizational leader, think?" And so "design thinking" is really the crux of this approach that we described in "Designing Equality." And it simply just encourages people to, instead of problem solving from the top down, based on surface level data or observations, it rather encourages one to dig deep into the employee experience, understand that perspective and that experience, and then think about changes to the design of the environment that an employee exists in, that's really grounded in empathy and understanding. So, it relies on research that has found that small tweaks in language, policies, processes, programs, all organizational elements—small tweaks to those can be really major drivers of change. And that's what we mean when we think about design thinking: making small changes to design that can really yield larger scale and change in impact. And it's really leveraging that human experience as the North Star, and answering tough questions, such as what we're talking about here today,

which is, "How to engage and retain more women in an industry?" So, for example, rather than simply relying on a business resource group or a leadership initiative to support women, you might rather ask questions like, "What is one experiencing when they read a job application?" Or, "...when they walk into a work environment?" Or "...they participate in an interview?" "What cues are being given and received?" "What processes and policies may allow people to rely more on a bias, than on an objective plan for decision making?" "Where is bias seeping in—that we don't want it to?" "Where along the journey might women be having a different experience than men (or others) that limits their ability or opportunity to engage or advance?" And so, a classic example that we've referenced in the paper was for orchestra auditions, actually a few decades ago. And they essentially added a curtain to make them "blind auditions." And then they covered the hardwood floors with a rug on the stage to sort of erase the sound of woman's foot wear (heels). And once they did those two small design changes, there was a noticeable increase in the number of women that were chosen for positions. And now we see that women in orchestras are actually much more "equal" than they were a few decades ago. And this is a really fascinating example of what we mean when we say, "design thinking"—thinking about changing the design in the environment to generate change.

Rachael: Yeah, Alexa, I love that orchestra example, and I use that a lot in my conversations with clients, as well. And this is exactly what we mean when we say, you know, thinking through changes to design based on the user experience and the human lens of what's really happening here, what the impacts are to these very tiny—sometimes invisible—elements of our environment. And, for example, in this context, for women in STEM, bringing in the key user, in this case women and other key stakeholders in a specific technical environment, like the classroom or on-the-job training, to learn more about their experiences and what really impacts them to define the problem and work with them to co-create solutions, test and evaluate those solutions, and then build the changes together. That's really what's gonna bring about the most change in increasing the representation of women in this space. And we argue that really relying on empathy and better understanding one's experience will be a major key differentiator in creating change around inclusion and

diversity that's practical and sustainable, right? Because, if you're involving the users and the people who are involved in the solution, they feel ownership and accountability around really carrying those solutions out and holding one another accountable to making the change happen. And one more point here. We really think and have seen how the market is calling for this type of differentiation, and how they approach inclusion, and how our government clients certainly approach inclusion. You guys might have heard that Deloitte typically annually publishes a report called the "Global Human Capital Trends." This is where we conduct a broad-brush, and qualitative and quantitative, research in our client's space—partially through surveying. And just really learn about what's going on, what kind of trends and pain points our clients are experiencing with their workforces today. So, in the 2018 report, we actually found that 65 percent of CEOs rated "inclusive growth" as a top-three strategic concern, and more than three times greater than the proportion citing shareholder value, right? So, inclusion is more important to CEOs right now than shareholder value! That's a huge powerful statement right there. Another thing we learned is that there's kind of a broader theme around the importance of social enterprise for organizations. Really meaning that investing first in an organization's own employees and their experiences is a tremendous priority for many of our clients, and something that they're really hoping to see, and have addressed specifically through this design thinking approach, that starts with the problem and engaging the users.

Alexa: So, one thing I'll add on to that quickly, Rachael, is a great point you made, that, not only are we talking about relying on the human experience to drive the research and the problem definition, but also the solution creation. So, when we talk about investing in the employee experience, bringing them along to say, "You've helped us to find the problem, based on your experience. But let's co-create what solutions could look like. Let's work together to pick what solutions to test. And let's look at data, to see if those solutions actually work in achieving the goal we want." And so, it's really bringing their experience along the entire way. So, it's not only design thinking, but then also using that user experience and, in this case, women, to drive co-creation of solutions, testing, and evaluation. And that's

where we argue that sustainability of change will come from.

Rachael: That's so important, because it's surprising how frequently that gets left out of the solutioning process, how frequently we see our clients encountering issues over and over again because they're not necessarily including users at the center of the problem-solving experience. And we see solutions be generated but they're not necessarily sticky enough because the buy-in and the input from the user experience isn't necessarily there. So, that's what this approach really does.

Hope: Great points, Rachael. This is Hope, and I just wanted to comment that, in thinking about the way you're looking at user-driven solutions, wondering what we can do from an education perspective? We struggle so often in our classrooms and in the larger educational systems to encourage women to participate and, when they do participate, to persist in technology programs. So, I'm wondering what both of you might think about how we can learn from the work that you've done in your study, and your work on design thinking in the broader context, and how we can apply that to the work that we're doing in preparing technicians?

Rachael: Yep, Hope, this is Rachael. I can hop in there. Those are all really great questions. And we know that the struggle on the education side is definitely with encouraging women to, two-fold, participate in the STEM and technology programs at all, and then, really getting them to stick with it, to your point. And we've seen a number recently, I think, program enrollments seldom have more than 20% women in these fields. So, classroom or on-the-job training functions are, in many ways, no different than organizational environments, and can really benefit from this design thinking. It's really about creating an environment or a process that mitigates bias and encourages inclusive engagement and authenticity. The "designing equality" work really discusses how organizations like this space, can use design thinking, and these types of techniques, to really help mitigate gender bias using these, really kind of small tweaks that Alexa mentioned earlier. The best part about this approach is that it's entirely customizable and really agile to a specific environment. So, the whole STEM field is not one entity and its problems, and its people, and its resources, or capabilities for addressing solutions are really all about

channeling the human centered lens and really focusing in on what the user experience is, and what impact it's having.

Alexa: Hi, Rachael. This is Alexa. I think it would be helpful to have an example here. So, in the paper we walk through a few hypothetical examples of how one might approach the problem of women recruitment, retention, and advancement. So, you know three hypothetical phases: how they might approach those issues differently when they use the human-centered design versus a traditional approach, or what one might usually do in an organizational environment. So, for example, let's think about recruitment or enrollment for a technical program, like you all mentioned. So, traditionally people might think: Our problem is that we need to enroll more women. So, let's have special events targeted at recruiting women, and some special advertising that targets women to consider applying or joining this program. Conventionally, this is the way people would think about engaging more women in something: specifically using these kinds of specially targeted events and programs and applications and things like that. So, well, what if the issue really isn't that women aren't interested in applying? That these solutions kind of assume what the problem is. Maybe through some interviews, process mapping of what the process looks like, journey mapping (what is the experience of a woman as she comes through this process), and different focus groups, and other sort of ethnographic research methods, really focused on that human centered lens. You probably find out something else. For example, maybe part of the issue is the questions that are being asked in interviews or early discussions. Maybe they're gendered, or they're biased-based on someone's perspective or opinions. Or they give off messages that women aren't welcome—maybe unintentionally. Maybe data shows that the language or word choice being used to advertise opportunities or trainings discourages women from applying. Or maybe those words or language engage men more than women. There's a lot of research on how language, and job descriptions, or opportunity description, can be really gendered. Maybe an open-house event or some training event only has men from organizations in attendance, and that makes women feel like they may not be able to succeed there. Or it may be the actual physical environment only has pictures or references to men, or maybe have some way of making women feel uncomfortable or less likely that

they're going to be able to succeed. So, all of these are really interesting possibilities that can come out through design thinking: research focused on the experience of the user. And they wouldn't necessarily be addressed by simply having an event focused on engaging women to apply, right? So, anyway based on the research with the key people, you can really home in on what things are driving the problem, which automatically sets you up for more success. And then you bring in those same people to help brainstorm solutions that would work for them and their experiences and make them feel like they can engage and succeed. Because then they'll stay. Then they'll engage. And then they'll be there. And then you pilot those small tests of change to see if they're encouraging more women to apply and enroll. And so, by using this cycle of data and feedback to see what's working and what doesn't, you can constantly refine your solutions to see what really works. And exactly like Rachael says, this approach is wonderfully customizable and agile to any environment, organization, or experience you're looking to better. And so, in this case why are women not engaging with technical careers from the educational or job training phases? And we think design thinking is an approach that can really get people there.

Hope: Those are great suggestions. And I'm thinking, so, let's say we've been very intentional about carefully selecting our strategies that we're using to recruit women. We've made some of those small intentional tweaks, like you described. And we've been successful in recruiting more women to participate in our programs. Now they're in our classrooms. Now what do we do from an instructional standpoint, from an environmental design standpoint to support them, and to make sure that they feel comfortable and engaged, and will be able to persist in those programs?

Alexa: Oh, great question! And so, my answer is going to be very similar. What about the physical classroom setting? What about the teacher and how they teach? What about the work in the way it's given, or the way it's assigned? Are their teamwork environments? There's so many little pieces of the classroom and educational settings that can also be directly applied here. Like Rachael says, it's no different than any other organizational environment that you analyze. So, in that case, once women are in that setting, taking them aside and saying, "What is your experience like in this? How are you feeling? Is it motivating you to advance? What parts of the testing process? Or job training and

things like that? There's so many different elements. And really uncovering, "What about their experience is important and is influencing their engagement and their retention?" And then, looking at the data as well. And, not only looking at it versus men and women, but looking at different age groups, other demographics, like Rachael mentions, other identities and characteristics that might be influencing different types of experiences. So, really segment your data, talk with the user, in this case women and other stakeholders, to learn what's happening in this environment and what are the tweaks here where we can mitigate bias a little bit, remove room for bias to seep in: in the way we teach, the way we test, the way we advance students, and really look at the problem through that way.

Hope: And what would you suggest to faculty members, let's say, who are very engaged in the comments that you've shared and the ideas and strategies, but it still seems like a monumental task in front of them? Where might you suggest they start the process? And would this be a journey that they would undertake on their own, or in partnership or collaboration with other faculty within their department?

Rachael: This is Rachael. That's a great question, Hope. I think the first thing we would encourage classrooms and instructors to do is really start small. And that's one of the major components of design thinking is start by just taking the first step of engaging stakeholders—users, students, faculty—in a safe way, maybe through one-on-one interviews, maybe through focus groups, to really start gathering insights to learn more about their journeys moving through the experience of being in this educational STEM space. And start to just identify and document some of the unique barriers that people are facing—women in particular are facing—as they're moving through these environments. And starting to really map out: what are some of the initial tweaks that we could be making? Your version of putting up a screen, or trying to use that orchestra analogy, to identify some small tweaks that could be made in this space to start improving the inclusion environment for women. Of course, the other thing we'd encourage all of your listeners to do is go read the paper, which I believe is in the Show Notes, and really think that this will be kind of a great platform for you to get started on making some initial steps towards implementing design thinking in your own STEM educational space.

Alexa: This is Alexa. I'll add on to that, too, Rachael. So, in addition to the big plug for reading the paper, it's really practical, and has really great examples of where one might diverge from traditional thinking to apply design thinking. So, there's a lot of great ideas and tips in there. So, definitely reiterating the plug to read the paper. A few other things I would add though. One, collect gender disaggregated data. If you have data on students in the classroom, and maybe how they're testing, or maybe do a small anonymous survey in the classroom. Start there. Ask questions about how people feel about the classroom environment, or the teaching, or the instructional tone, or the content, or their classmates, or teamwork environments, or things like that. And ask how they're feeling about their abilities to succeed in the class, or if they're likely to continue in this direction, or move forward with advancing in this type of career or move on to certain types of job training. You can really look at: are people experiencing this differently? So, collect that gender desegregated data. And that's where Rachael's suggestion about ultimately starting to work with others, so you're working more "at scale," starting small is important, but by bringing together other faculty members and a larger group of people bring in more diverse perspectives. And then really think about how are things happening across, and how can we use an economy of scale to make some changes to see if they're working. And so, the second point I would make relevant to that is: engage diverse perspectives from the start. And, I think, that's probably one of the most important things after reading the paper and after starting small is: make sure from the beginning, when you're looking to problem solve, you're really digging into what the user, or the person of interest, or the experience of interest, on how they're feeling and what they're experiencing. Because once you start there, you can engage that perspective in every part of the problem definition and solutioning process. And that's really where we think that change can be, not only sustained but, make a real difference. In this case, engaging women in that technician setting and helping them to feel like they can advance and then retain them in that industry.

Mike: Alexa, it's Mike. Thank you for your comments, Rachael; and comments from Hope. It's just been a fascinating discussion. I wanted to point out one thing that I learned from reading your paper. That, in addition to starting

small, and collecting data, and things that you've talked about today, one of the points you make is being transparent with your results and communicating change. I think that really is an important aspect of this, as well. Don't you think so, Alexa?

Alexa: Oh, 100%! So, I think something that Rachael mentioned earlier is that a lot of leaders, in this case faculty or teachers, they want to be better at inclusion and improving diversity. Intention is there. And so, when you're looking to make changes to that and really improve, there's nothing better we would recommend than being transparent about what you're doing, why you're doing it, and communicating what you're finding. Transparency is so important to get people bought into a topic, and a problem, and a solution. So, when you're spreading awareness about this idea of "We're looking to better figure out how to engage you. We're looking to eliminate bias from this environment." And that helps everyone play a role. And that helps everyone in the environment take ownership about how they can acknowledge and tackle it, and how the organization at large, or the classroom at large—what steps they're taking to address it. Transparency is so important in such a great way to also sustain change.

Hope: Thank you, Alexa and Rachael, both of you. It's been great hearing you share your work with us, what you found in your research, how you've put it into practice, and then how that translates into actionable items that, in the education world, we can apply as well. And the strategies that you shared: both the "starting small" encouragements, but also then being very transparent, collecting data—things that we know, but we might not be doing—when we're thinking about redesigning the classroom environment. And so, I think this has just been great information. And the collaborative way in which you've shared it is very encouraging to our audience, as they begin to think about additional ways they can really embrace design thinking from a classroom perspective and from an inclusion perspective. Thanks so much for your time today. We just can't thank you enough.

Mike: One of the things that really struck me in our discussion today, as we thank Rachael and Hope and Alexa for participating today, is something that Rachael said. She said, "You know, we're not actually all the same. We're not monolithic." And I'm thinking to myself I've sort of forgot that. There's not one solution that fits all! So, that was

a great point. As I reviewed their final actions in their paper, they have a number of steps. There's five steps. Start small. Make some small tweaks. You heard that today. Engage diverse perspectives from the beginning. So that's important. Number three: give people a safe way to share sensitive information. That really makes sense, doesn't it? And then, you heard us talk today about collecting and monitoring gender disaggregated data to really make sense of your results. And then finally, it's important to be transparent with those results and communicate them. So again, there's actions for us to take and that's part of our podcast. We want to suggest actions that you can take towards achieving a better gender balance in our educational programs and in our workplace environments. So, thank you again, Alexa. Appreciate it. We look forward to hearing more about your Women's Initiative studies and your future projects. So, thank you for joining, Alexa.

Alexa: Thank you for having us, and Mike, it's great to hear that was your takeaway. Absolutely! We hope everyone can take that away. That's a great point, so thanks for pointing it out.

Mike: And also, Rachael, thank you for joining, I appreciate your calling in today.

Rachael: Thank you so much. Yeah, it's great to talk.

Mike: Okay and goodbye, Hope, thanks again for joining.

Hope: Thanks much.

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Mike: That's it for today listeners: **Design Thinking for Gender Equity**. You have your action: Access the paper from the Show Notes and consider moving to a "design thinking" approach to engage and retain participants in our programs and in the workplace. Find our podcasts on preparingtechnicians.org or subscribe on Apple Podcast or Google Play. A rating and review are always appreciated. Our series is produced by John Chamberlain at CORD. Thank you, John. And thank you, our listeners, for Preparing Technicians for the Future of Work!

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