Christy Kallevig: Welcome to Vital connections On Air, a podcast brought to you by University of Minnesota Extension Center for Community Vitality that explores the trends and topics important to communities and leaders throughout Minnesota. My name is Christy Kallevig, and I am an educator with University of Minnesota Extension Center for Community Vitality. We are back from our break and I have a very special episode for you today. Actually two episodes. Do you remember when Laura Kalambokidis, Minnesota State economist and Extension economist said this about exploring Minnesota workforce issues?

Laura Kalambokidis: Makes me excited to see what 10 years from now will look like, and hopefully what we've done is we've created more flexible jobs, and we've got people living in different places than they might have otherwise. And we've got people who might not have been in the workforce or were fully engaged in the workforce and we've created those pathways and those connections between employers and organizations and the government and the community. And we've built those and that stayed as part of our economic assets for the State of Minnesota. Imagine if Minnesota is the state that thrives in this interesting, new diverse environment that will be an exciting place to study and work in.

Christy Kallevig: This thought inspired us at the Center for Community Vitality. We had been exploring the topic of workforce for well over a year when I met with Laura, and she shared this in her podcast. But after a few more of us heard her dream, it ignited a conversation that we then took to the entire University of Minnesota and we invited a large group of researchers to come together to talk about workforce to think about what we can do better, to understand the issue and how we can create change.

Those in the room were given the responsibility to think like a scholar, but care like a concerned citizen by Kent Olson, the Associate Dean of the Center for Community Vitality.

Out of this day, relationships were developed, new research ideas were explored, and connections into communities were created. The next two podcasts are a wrap-up from the symposium. In this episode, you will hear a variety of topics that we'll weave together in a way that will help us to consider the human side of our workforce challenges, how will we share information, how will we prepare people for entering the workforce or even for possible displacement. How do we involve untapped pockets of potential workers to help us solve our workforce problems? We hope that this sampling will make you curious and because of that, we have made the slides and all of the audio from the day available to you at z.umn.edu/workforcesymposium. You will also get to hear some flashbacks to previous guests who shared their insights during past workforce episodes. In episode eight of our podcast, I was able to visit with Bob Kill from Enterprise Minnesota. As we talked about the future of our workforce, he brought up the impact of automation, both today and in the future.

Bob Kill: Automation is to bring safety and career growth to the industry. One of my pet peeves is that people think automation is to replace people. It's not. It's to enhance the position and to bring safety and career growth to the people who are there because you just can't just keep doing it the way you used to.

Christy Kallevig: Mats Heimdahl, professor and head of Computer Science and Engineering at the University of Minnesota joined the symposium. Here he discussed with us the future of work and he encouraged us not to just accept automation, but think about how we're going to respond to it.

Mats Heimdahl: I work in software engineering and software development and of course we have a lot of faculty working in various areas of computer science, and you read the literature, you listen to the news, and you know that the future of work is going to be intimately tied together with artificial intelligence or augmented intelligence. There's a lot about autonomy, a lot about automation, a lot about intelligence, about this and that — smart, everything — and so on and so forth, but this is really what you hear a lot about and what we're hearing now is that this kind of automation, this kind of technology is going to drive out not the typical blue collar, manual labor, but we're looking at replacing doctors and pharmacists and drivers and all kinds of other things and automating things that just weren't automatable before. And that gets people freaked out. Right? So to keep this short and get us back on time — artificial intelligence, the future of work. We're all screwed.

We don't beat around the bush here. So where is this leading us? Right? That's really what we're talking about, massive unemployment. That's what I mean. Clearly. I'm going to talk a little more about what this AI, [what] all this stuff really is. So people have an understanding of why this is not going to happen. There's going to be massive displacement of people. There's no question about that. There are whole categories of jobs that are just going to go away like they always have, right? We've survived that, we're going to survive this too, it's just going to be some fundamental differences this time. Not that was going to happen to the labor force, right? There's going to be displacement, but how we deal with it. Because the training aspects of this are not as simple as they used to be, I believe. So, hopefully, we're not going to go in that way. So back to AI. What is artificial intelligence really or all this or read about and that is a sort of a catch-all phrase for anything automation, right?

You're going to automate your taxes. Do you use Turbo Tax? It provides suggestions. Maybe you should try this deduction? Maybe you should look at this? That's AI, right? You have self-driving cars. That's AI. You have all kinds of things that are AI, but what AI really is, its traditional automation, factory automation — control systems [but] we've done that since the beginning of time really — automated and certain kinds of tasks. That falls under AI. Now AI is very good at searches. You're searching for an answer, something like you're searching for, like a good chess move. If you can just search far enough, you can always find the best chess move. The problem is we can only search so far on that. Well, we actually can in chess, but we could search that complex system to see what's going to be the best outcome. Somewhere we have to start guessing a little bit, using heuristics or some statistical model to pick what's the next thing we're going to do.

That's essentially what AI is doing. It's looking for patterns. It's very good at that. It's trying to find good solutions. Nothing has changed really fundamentally as far as I can tell the last 30 years. It's just that you have vastly more data and far more computational power than we use to have in the past, so now we're just really way the heck better at it. Right? But we're still just building statistical models and planning and looking into the future. That's what it's doing. So we're really good at finding patterns, automating menial tasks. Classifying things like the images for example, but even that goes horribly wrong quite frequently, so this is not going to do a lot of things that we think it can do and it's quite as far as I'm concerned, it's far away from intelligence.

These systems, they do what they're taught to do and sometimes that is horrific because they learned from data that is collected from a sexist, racist, severely biased past and now we have racist, sexist, severely biased AI systems making decisions for us, but since they're made by a computer, they've got to be good! We'll think about what these things and that's a part of the problem here in a second, but this is I think AI and all of this, that's sort of at the peak height right now. It's not going to pan out as well as we think it is. Right? So self-driving cars are not going to be here next year. They're going to keep running people over and it's going to take the legal system a decade to sort it out.

I'm quite sure that they're going to be safer than a human driver, but the legal system is going to take decades to sort out the legal aspects of it. So it's going to take a while. Right? So we've hit that. So I think the future's really bright. I think a lot of this is going to be very good for society. It's going to be good for all of us. A lot of menial tasks or other things that we didn't think were menial. We thought they were white collar, but they're kind of boring, it's going to go away. So I think that is a good, good thing. The key, though, of course education, right? I'm in computer science. We train computer scientists. They get hired like gangbusters. Our programs have doubled in size just the last five, eight years.

We have credit hours coming out of our ears. It's terrible, really it's good but terrible. But missing these things:

1) There really is a need to educate people with their bachelor's, master's and PhD's — there is a huge need for that category of people.

2) We need to train people. That's already in the industry through master's degrees, for example, but it also turns out that most of the people in the industry that need some education are not computer scientists. They may not be able to join a CS program. They need enough training to do their job better. Right, but a little more advanced training beyond what you typically get from sort of "coding for us" kind of a training outfit, so they need something between education and training. Now I can see this happening on a massive scale, these new AI systems that are coming up, all the automation, it's going to be far more advanced than using a power hammer or using a CNC machine or other kinds of things.

In fact, in automation, these people are going to need to be retrained, but they're going to need both education so they can understand why these systems do what they're doing, help interpret what they're doing to take advantage of what they're doing, not just be trained in how to use

them. And I think that's going to be a fundamental change and how we deal with things. People are going to know more than what they did in the past. And that's something that's going to affect us from K-12 through university education and we at the U, of course, can't solve this problem. We have K-12, we got MnSCU, we [have] our community colleges and we've got all kinds of other places. We need to figure out the game plan here. How are we going to be able to deal with this massive displacement and cater to all of these needs that's necessary and we in computer science we can cause some of these problems, but we're certainly not going to be able to fix them, and that's where I think we're going to need a lot of help in making this happen.

So I think we'll be fine, but I added this because it's another thing if anybody wants to talk about it afterward, but that need computing is leading to. It's not just AI automation and autonomy, it's also this notion of connecting work with the workforce through things like Uber, right? That work model is not really related to what we're doing, but that work model is going to lead to massive problems with the going into the future, I believe, and that's enabled by this kind of technology. But that's a societal policy issue that you're going to have to deal with separately. Thank you very much.

Christy Kallevig: Preparing people to not only respond, but also utilize technology and artificial intelligence is a challenge that Laura Kalambokidis identified during our visit on Minnesota's workforce.

Laura Kalambokidis: If we add technology right now to improve the productivity of the workers we have, what are those jobs going to look like five years from now? Because those people, the students who are coming out of high school and deciding on secondary education. They want to know what those jobs are going to be five years from now, and so what should they be training in? And that is a hard thing to do because it's hard for firms to forecast what they're going to need and it's hard for the educational institutions to retool to provide those skills. But I think that is currently a challenge.

Christy Kallevig: Part of that challenge is also making sure that the right information is reaching individuals when they're making difficult decisions about college — the labor force, technical schools. Aaron Sojourner, Labor Economist with Carlson School of Management, discussed the challenges of transitions for getting people into the workforce pipeline and making sure it's the right fit.

Aaron Sojourner: What I want to talk to you about today is that Minnesota families and work and people in businesses are making expensive mistakes at high consequence. A transition points between systems between the K-12 system, the higher ed system, the workforce, as people move between these systems. And we have. We're kind of in a golden age right now. We have a lot of new possibilities ahead of us that we haven't had, you know, even 10 years ago to help people make better decisions.

I think a lot of those will come down to harnessing the available information in new ways and delivering decision support to people making hard choices about their lives and their resources. I think it's a kind of a systems design perspective and like an individual decision-making perspective. The questions I think we can ask nowadays that we couldn't really ask and answer

before is how do we share information in a way that's very useful, very cheap, very scalable, and who has information that's valuable? How do we get it to the right person at the right time? And in what form? So, in general, if you think about making decisions and making good decisions or bad decisions. So a U.S. Department of Education a few years ago created this whole system called the college scorecard that's meant to force accountability onto institutes of higher education by having them do a lot of reporting.

My colleagues here from institutional research probably shake their fist at this maybe, but they do the hard work of reporting stuff to the feds and now all of the colleges in the university, the countries that take federal aid have to do that and it's all processed and now it's kicked back out. So you can see if you're in Duluth and you're trying to choose if you want to go to Duluth Business University or Lake Superior College, [you] can see the costs, [you] can see the graduation rates, [you] can see the salaries, [you] can see the debt burdens, how much students are making, paying down debt two years after graduation. Okay. That's the Office of Higher Ed in Minnesota is building tools, DEED is building tools. SLEDS is building tools that they are knitting together, different administrative data systems on education, K-12, higher ed, workforce. The reality is that only about 70 percent of high school grads in Minnesota are going to college. So 30 percent are not — that's from SLEDS [Minnesota Statewide Longitudinal Education Data System]. You can find it online. Even among those who go to college and start, you know, only 70 percent are either graduated or persisting in college a few years later, four years later. So another 30 percent are dropping out. We have this ethos of college for all and we don't want to limit people's opportunities, but it's not serving a lot of people well. A lot of people are not being served well by the system and helping them get better information, a better view of what happens if I go down this path or that path.

I think [it] will help them make better decisions. It's not trying to force people down certain paths, but just to give them feedback like I get when I go to a restaurant to see if this is going to be a good fit for me? What are my chances and what have other people like me in the past done who went down this path? Also a systems perspective on encouraging tighter connections between these different systems. High schools know a lot about kids that employers wish they knew. Like what are they good at? Who is dependable? And if we can strengthen those connections, it would help everyone. So that's another area, just helping information flow in an intentional way, so [to] the right people at the right time. There's a lot of new possibilities, but there's tons of scope for improvement, user design, like all kinds of a better use of these tools.

Christy Kallevig: Aaron's comments reflect the frustration that is felt by many who are working to bring people into skill jobs. As we heard from Bob Kill during his interview.

Bob Kill: We have to quit saying that a two-year technical degree is a consolation prize.

Christy Kallevig: Education is more than something we provide to our youth, according to Laura Kalambokidis. We need to consider it as an investment in our children and our future workforce.

Laura Kalambokidis: Every community has a vested interest in making sure that the kids are well educated and can be productive, fabulous members of the community as well as being able

to work in the future. And so investing in high quality early childhood education is in everybody's interest. Whether you're a parent of one of those kids or not.

Christy Kallevig: Geoffrey Maruyama, Professor and Chair for the Department of Educational Psychology discussed with attendees the value of exploring and better understanding the causes for success as well as ways to increase educational engagement early in life.

Geoffrey Maruyama: So what I'm going to really focus on is the changing workplace that we have and the challenges that we face. Just as a college professor, I feel like we're an inline user. That is we get products that have been produced over 13 years and they contrast with certain attributes. We have some time with them depending on what part of post-secondary education they're in, and that they cut off into the workforce. One of the other things we realized is in today's information age, college-ready is the same as career-ready.

So even the students who choose not to go to college, they better come out of high school ready to go to college and have the choice of whether or not they want to go to college. College being broadly defined as including technical and vocational school, much less than the standard vocational tool as a four-year liberal arts school.

So when I want to talk about then this is what do we need to think about as not only our workforce grows, but it changes, it becomes more diverse, increases, including increasing numbers of people who come from backgrounds that have not historically been successful in post-secondary education and to produce people more in the lower-income occupations than those we don't really think about as clearing living wages that will allow you to buy a house and raise a family. And you may be that as we think about an advantage of an increasingly diverse workforce is that workforce may allow us to perceive things in ways that others don't. I may run out of time here by giving this example, but at the turn of the 1900s, there was a man named Stonequist who talked about the "marginal man"—people torn between cultures. Later on, there is a concept by a woman named *Claire Mayo*, a psychologist, called positive marginality. As if I live in two cultures, I can translate across them and things that make sense for one culture, I can take to the other culture in the ways that they don't think about.

So the challenge here that I want to talk about as far as workforce, one of the things, one of the other parts of this challenges, if you look at this, this is not new data and things haven't changed. You'll see that about three-quarters of college students at the top 146 colleges come from families in the top income quartile. That is we're not getting students from the bottom and middle-income quartiles up into the most selective institutions and that's a challenge that we wanted to bring to the workforce. We're going to have to bring more people on these into greater educational success. We think about the barriers to educational access. We think about school readiness, talk about early childhood. It's not just daycare, its early childhood education that gets students ready for school, secondary school course taking.

There's still some counselors will tell students, take an easy class, but get a good grade, it will be good for getting into college. It's not. Take a hard class to challenge you, that's college level and build your skills and get you ready to succeed in college. School achievement—students who don't do well get discouraged, they drop out. College readiness, as I said earlier — college

readiness, career readiness. We need to have a goal of all students to be college and career-ready and [ready for] college success. In order to be successful in the workforce, we're going to have more students coming out of college and colleges of all types. Ready for 21st-century information age careers. There's a lot of agreement across the educational communities on what some of the critical benchmarks are. These are from the Strive Together Network, which started in Cincinnati, but Generation Next, if you're familiar with the programming, there is the strive program.

The benchmarks are kindergarten readiness — that is start kindergarten ready to learn, reading at grade level by the third grade. Build social-emotional skills through the middle school ages — this is a new one. Take algebra in eighth grade. I don't know if you know it that the legislature mandates algebra in eighth grade, and some take algebra in ninth grade because they aren't really ready. We have to balance individual differences in how students develop with these kinds of general prescriptions onto high school graduation, college and career ready, and then post-secondary success. And you'll see places like Northside Achievement Zone. You'll see virtually all places have some variance of these. Let me skip ahead to Dilbert. Boss says, someone sent me another anonymous email with a link to an article about the roles for responses. Again, one of these emails, every time I later came, did you think I wouldn't notice a correlation? And then Wally around the corner says "correlation does not imply causation."

So the point here is, I go back to the benchmarks, that we know these are predictive of success. We don't necessarily know that these are the causes of success, so it's not likely to get all students taking algebra in eighth grade and they all end up out of high school, college ready. Part of the challenge of us as researchers and you as practitioners is how many figure out what the causal elements are among all of the things that are predictive of success. We use these as proxy variables, right. A proxy for graduating from colleges, starting kindergarten ready. Students who start ready are more likely to graduate from college. Students who can read at grade level are more likely to graduate. Not going to go through them all, but we don't know which are causes and which aren't.

Christy Kallevig: In order for communities to have the strong education system that meet benchmarks like Geoffrey discussed, as well as to support the growth of a healthy workforce, they must have residents. As we look at the in-migration of people to communities, Dave Krueger from the Meeker County Development Corp discussed the importance of understanding newcomers while he participated in episode three of Vital Connections on Air, Make it Litchfield:

Dave Krueger: And so if you want to recruit and to retain, and you want those people to stay in the school district and create families, we need to understand them better and their wants and needs and for the community.

Christy Kallevig: Recruiting and retaining new individuals is vital to communities, and Ryan Allen, Associate Professor at the Humphrey School of Public Affairs and past podcast guest, presented at the symposium and discussed the value of understanding migration of both U.S. and foreign-born citizens and workers.

Ryan Allen: It's well known now that we are facing some moderating population growth in the future. So this is data that is going to be discussed that come from the Minnesota state demographer. You can see the map with Minnesota there that includes all the counties and you can see the projected population growth rates between 2015 and 2045. So overall the state demographer tells us that we'll grow about 14 percent during this time period, our population. Well, in comparison to the U.S., which will grow about 21 percent. So we're certainly lagging in terms of the nation overall. And you can see this growth is going to be uneven. So there are some regions in the state that are going to grow little, if at all. In fact, some of them may lose population over this time period is what the projections tell us.

There are others largely around urban areas and in other metro areas, micropolitan areas that are going to have more robust growth, but it's not true that every part of the state is going to be growing leaps and bounds, and perhaps looking really quite different than we have in the past. Biographers like to think about population growth, just to simplify this a little bit as two streams, right? So, on one hand, we have what demographers called natural change. That's births minus deaths, right? Then we have net migration. That is how many people are moving or are leaving an area. And so what I've done with this graph, which the state demographer's don't describe, is to decompose these two parts of population change in a projected fashion, right? So there's a sobering thing. The blue line that you see here, it's going down the downward slope.

That's a natural change, right? We're going to have more and more deaths and fewer, fewer births until around 2040 when we get to the zero point right? And after that, it's going to be a slight negative natural change in the state. Luckily, we have a positive net migration to our state overall and you see that increasing over time and leveling off there in the 2050s or so when I'll be a distant memory to most of you. So this is an important issue and I raised this because natural change is hard to modify, right? We think about policies that are going to have an effect on that, but it's like turning the Titanic, right? On the other hand, migration is more malleable. It's more responsive to the political environment, it's more responsive to economic opportunities. And so that's where I want to put our attention now.

I want to decompose that further into thinking about net migrants that are born in the United States, and those that are born abroad. And so what this chart shows you is that through the 1990s, we had positive net migration for both people born in the United States and people born abroad to the State of Minnesota. After that the situation changed dramatically. We have negative net migration for domestic foreign folks [but] we have positive net migration, continued positive net migration for international immigrants, right? This trend may have changed the most recent data that are not included here show positive net migration for both, right? But I'm skeptical. I'm an academic; I'm skeptical. So I want to see more data before I'm willing to acknowledge a shift in the trend. But if this is the trend, what does that mean for our labor force?

Well, let's talk about some labor force growth numbers. In the 1990's, in the 70's, 80's, we had pretty robust workforce growth on an annual average, right? It looks pretty strong, it tailed off considerably, and it's projected to go even lower in the future, right under half a percent per year on average growth. Why is this important? Labor economists tell us that this is a vital factor for, for explaining economic growth. In fact, the literature suggests that explains it as much as 25% of the economic growth we've experienced as a nation recently is due to changes in our labor

force, and that's an important issue. So let me wrap up with how I'm thinking about this, what this means for changes in policy practice. If we want to have a more robust, resilient economy, we want to have a more robust, resilient workforce what do we have to do?

Alright, well, I think we need to attract more migrants, right? And if history is any guide, those migrants are disproportionately going to be foreign-born, right? Why do they come? Why would they want to come in any greater numbers? We first have to think about economic fundamentals in our state. What are the economic opportunities that are here? But also, what kind of disparities exist? We have some very well understood and publicized disparities in higher education and home ownership in wages and earnings. Those things we need to be very attentive to. But I also think we need to be attentive to the social environment that we have here. We have to be attentive to the political environment. We have to think about how newcomers, writ large, but certainly immigrants in particular, integrate into our communities.

How do they become part of social networks? How did they become part of the fabric of our communities? I think we're falling behind frankly, as I say on that. I also think at a time when we should be attracting more immigrants to the United States, the policy language has been quite the opposite direction. I find that troubling from an economic perspective, let alone a political perspective. That's a different conversation. But again, at the time when [there] should be a robust, in my opinion, number of immigrants, the best proposals that are coming out of Congress and certainly out of the president's administration we're talking about halving a historically recent district. So let me conclude on that cheery note. I think that I think that there is hope for the future. I think that people are recognizing this as an issue that has to be grappled with. We're recognizing it on multiple levels, political, economic and social, and that's exactly where we want to be. This is the conversation to be having.

Christy Kallevig: Ryan is correct. This is the conversation to be having in order to keep our communities flourishing as well as our economy. Bill Blazer discussed the impact that an available workforce has on keeping a business in a community.

Bill Blazer: Frankly, if there's an employer who's trying to grow and the immigrant population, allows that growth, that's even better, because one of the things we've discovered over the years is that when an employer or a business has the opportunity to grow and then can't get the workers that they need to have that growth, they're pretty quick to start looking for a new location for the business.

Christy Kallevig: In addition to recruiting migrants, another way of boosting our workforce is reaching into untapped pockets of workers and Bill Blazer discussed the importance of only immigrants in the workforce when he visited our podcast, but also other underrepresented populations.

Bill Blazer: There are other parts of our workforce that are underutilized. I'm thinking about disabled individuals or certain parts of the African American community or the American Indian community where the unemployment rates are high. Even if the immigration continues at its current rate or increases, there will still be plenty of job openings and plenty of opportunities and frankly, some urgency for Minnesota businesses to tap and to do a better job of employing folks

with disabilities, American Indians, African-Americans, veterans, older workers, and particularly older women.

Christy Kallevig: Kelly Nye Lengerman, Research Associate at the Institute on Community Integration used her time at the symposium to discuss one of those pockets of potential workers, people with disabilities.

Kelly Nye Lengerman: So one of the things when I thought about all the research and the activity that we do at our centers is what could I provide for a mixed audience? This sort of drop something in the bucket to say, "Hey, think about this." In my goal today for this session is really about getting people to see and consider people with disabilities as workforce solutions. We look and there are many, many challenges and problems and barriers — a number of things we've already talked about today, but I want to talk about a solution that we don't always think about and that doesn't always come top of mind and that of including people with disabilities in the workforce as a meaningful solution. So these are really some of the headlines that we've seen about workforce shortages in all kinds of industries, from manufacturing to healthcare to education, to technology services.

It's not isolated in one industry per se, but one of the things that we don't often think about is that there's this hidden corner of the workforce and that we really haven't tapped into. And so when we think about sort of this gap and this disconnect to say there are these challenges, these limitations, these shortages of workers is that where are we going to find them? How are we going to build capacity? And I really want to challenge people to think about people with disabilities, even significant disabilities as being this hidden, an untapped resource that we haven't figured out well how to leverage. So to share a little bit of data with you, this comes from the American community survey and this is looking at the employment rate. So this is folks ages 21 to 64 across the United States who was employed at least part-time or above in the last year.

So the employment rate for people without disabilities is around 79 percent and that's pretty consistent. So people with any disability and that can be a wide spectrum. Anything from physical and mental health is about 36 percent and people with cognitive disabilities, their employment rate is about 26 percent and I include cognitive disabilities because that also scoops up the bucket of adults with intellectual and developmental disabilities. So you can really see that that the employment rate, and if we dig deeper into things like labor force participation, there are huge discrepancies about who's in the workforce and who's not in the workforce. But what I hope this is also a clue about that there are more workers out there and there really is this untapped resource. Another number to just take a peek at our folks who are not working but are also actively looking for work.

Again, same data set from the American community survey, people with disabilities, any disability or cognitive disabilities, so those numbers don't look very huge, but at the same time, there are certainly opportunities to tap into folks who are looking for work as well. So one of the things I also want to point out and remind folks is that we really do have to think creatively about how to reach and tap into populations of job seekers who are actively looking for work or maybe are not in the same spaces that we always think that they are at. But, before I end my session today, one of the things that we do a great deal in our work is sort of public education about

disability. And in talking with and working with employers and people say, oh, people with disabilities, they're our workforce solution. There are a lot of challenges to that.

There are a lot of narratives about that person who is too disabled to work…accommodations are too expensive. I don't want to open myself up to litigation and so part of that as we have to acknowledge. I think the questions and the fears that do come along with including everybody in the workforce and that the important part of the work that we do. And although this sounds like a really simple solution, is that first and foremost, we have to challenge the stereotype and the narrative that people with disabilities don't work. People in poverty don't work. People with disabilities can and want to work. And there is a profound evidence of that. And so part of my goal here today is really trying to put that in the forefront and remind people that this is, in fact, a solution that is in front of us. The other thing to think about too is that oftentimes information and exposure can really combat those fears and some of those counter-narratives that people hear that many accommodations that employers can make or the businesses can make, or industries or educational settings can make really are low cost, no cost. Maybe one time, and really can help you retain and attract qualified employees.

And these (referring to pictures she is showing) are almost all folks from Minnesota by the way. So a couple of quick examples again on workplace accommodations. I actually don't think we have anybody from disability services here today, but from sit/stand workstations to Android apps with alarms and breaks, to colored glasses for screen reading. Again, low cost, no cost, one-time thing, help make the workplace more productive and more accessible to all kinds of employees and they don't necessarily have to be complicated and expensive and they don't necessarily have to open your organization or industry to the unnecessary litigation.

I also have a note here about job coaching in person. We have a new job coaching app that supports some workers with disabilities without having to have a person right there all the time. So that's pretty cool. And the last sort of tech slide that I hear is that we've talked to actually a fair amount of this today. The theme has sort of come out is that we need to move beyond just sort of focusing on costs all the time and talk about focusing on value as well. And that research that we do both at our center here in Minnesota and in many of our partners nationwide, has shown that there's really significant social, emotional, economic benefits for individuals, employers and taxpayers when people with disabilities are working and that public programs and services, many of which provide critical services and supports that people with disabilities and their families should work to facilitate and incentivize workforce participation for people with disabilities.

Christy Kallevig: The Center for Integration offers assistance to employers who would like help in hiring people with disabilities. Go to our website to find their contact information. Regardless of whether it is an individual with a disability entering the workforce, a new immigrant or a new graduate, there needs to be in an investment in the individual and creativity in how we prepare people to take on a new job.

Laura Kalambokidis: I think that educational institutions and firms, employers are figuring out ways to do training in more flexible ways, to be more flexible about training and credentialing. So maybe we don't need someone to do this three-year program to be credentialed to do this job.

Maybe we can bring them in as an apprentice, and they can learn on the job. Maybe we can have a mobile training unit that goes somewhere to train people. Those are the kinds of things. It's this creativity in, in making those matches that I'm seeing.

Christy Kallevig: Ken Bartlett, Professor for the Human Resource Development Program in the College of Education and Human Development brought attendees back to the human side of workforce challenges by discussing how we invest in individuals and challenging us to think about why we do the things we do.

Ken Bartlett: I prefaced pretty much my whole presentation with this simple thought. And I encourage us to change the way we look at things, because when we do that, the things we look at, can change. And more specifically, what I'm advocating is a changing view of people. I guess I could use the academic term human resources, but to use the term people.

The traditional view of people in organizations has been that there are costs associated. I want to suggest that we focus more on the emergence of a strategic view of human resources, which is as the creator of a positive return on investments (plural, many) but this is very difficult to do because there are many facets of the organization that are involved. I think this is even more difficult if we want to only focus on elegant formula and economic models, which is why I think it is so impressive and important and exciting that we are here today taking a very interdisciplinary theoretical and applied view of thinking of the workforce in Minnesota. So I wanted to show you this slide (shows slide). And so, allegations of plagiarism are never warranted against me, this is ripped off from an introductory management textbook. And the point being is that almost every introductory human resource management or management textbook has this slide in it. Which makes me ask the question, what are we teaching our students? So when they become managers, when they become leaders in an organization, the dominant framework of how they view people in the workforce is one of these costs.

So earlier today in our first presentation on changes in the workforce, we heard about some of the shifting demographics. I'm one of those foreign migrants (I prefer the term "international") who came to Minnesota for work. And as someone who is originally from New Zealand, the rest of the world would say that I am from "down under." Wow. We're sick of being called down under. And so I encourage you to question your frame of reference. Why do you call things the way you call things? We never refer to ourselves as being from down under.

I think that comes at multiple levels, be it at a workforce level or even at an individual worker level, because I think many times our frame is one of "how can I get this person to do what I want them to do?" rather than what am I doing? What are we doing to improve peoples' quality of life at work? So that they want to work hard on their own. And that's been quite a profound shift in management. But I think it also needs to occur at workforce planning and development levels as well because when we make visible investments in people we're acknowledging value with fostering growth, showing appreciation, things that are important to each and every one of us. When we think of people, I want to make a slight distinction between the fields of human resource management and human resource development. You can get a degree in both of these areas at the University of Minnesota, my colleagues in Human Resource Management are in the

Carlson School of Management. I'm a faculty member in Human Resource Development in the College of Education and Human Development and there's a reason for that.

A number of years ago, the University of Minnesota alum professionally placed in a well-known management consultant who produced this diagram to highlight some of the differences between human resource development and human resource management.

The pink are those activities that largely draw from education and human development to foster on helping people be better at work tomorrow than they are today. All of this is HR, and if you were involved in any aspect of HR, an over-simplified version of this diagram is very much the actual guide of day-to-day work behavior. But when we think of workforce development, part of the difficulty is that it encompasses such a wide range of activities, policies, and programs that tend to be thought about in a geographical context. It had something to do with the creation, the sustainment in the tension of a viable workforce that can support current and future business and industry. Much of the current discussion on workforce development tends to separate the layers and we think of individual centering on training and education. Those activities are undertaken by an organization so they stay globally competitive and at a societal level, we think about the future economic stability and growth of the geographic region. Much of this separation ignores the interconnections and the interconnectivity of development activity that does need to occur in each of these levels. And again, that brings us back to somewhat of this arbitrary distinction between an investment and cost.

Because oftentimes we think that a lack of investment is nothing more perhaps than a missed opportunity. The current budget situation means that we can't invest in our workforce the way that we would like to. Well, there's no harm in that. It was just a missed opportunity. What I would argue is that there are significant costs. These are often equally difficult to contribute. We focus a lot on employee turnover. It's not just those who leave, it's those who stay. What is their engagement level? What is the level of performance? Even highly measurable things like human error in accidents, and I think as many of the previous presenters have touched on, there are significant costs at a societal level of limiting investment in individual lives, community and our environment. So this raises new questions. What kind of employee investment should we be talking about? At what level? And when we make an investment on whose behalf? Or for the sake of whom is that investment made? This is messy, this is complicated. I often want to attribute who's getting the benefit so we can charge them the cost.

As I conclude, I'm thinking of a recent report authored by DEED that said, while Minnesota's economy has recovered…wow... we have a lot of work to meet the workforce challenges of the future. The challenge is either an opportunity or a crisis, depending on your frame of reference. And I wonder what if lead by the University of Minnesota, we had a coordinated investment strategy that was the envy of the nation that would help Minnesota become a world leader in addressing workforce challenges, and I leave us with this quote which is on our program today: "Imagine if we did do this?"

Christy Kallevig: So let's do what Ken urged us to do to change the way we look at things because when we do, things we look at tend to change. Although we are facing workforce challenges, let's not lose sight of how *Laura Kalambokidis* described Minnesota's economy.

Laura Kalambokidis: One of the greatest economic assets is the diverse economic base. Another of our great assets is our strong workforce. We have a well-educated workforce and very high labor force participation, so that's another asset for us.

Christy Kallevig: And let us always remember this lesson from Ryan Allen.

Ryan Allen: I oftentimes make the mistake of being too myopically focused on workforce and that creates an atomized vision of workers, right? These are our neighbors. They are members of our faith community. They are our teammates. And we need to keep that in mind. I think too often we can get wrapped up in the abstract and lose sight of that. So I want to make sure that that remains.

Christy Kallevig: Thank you for joining us for part one of our special workforce wrap-up. Learn more about University of Minnesota Extension Center for Community Vitality at extension.umn.edu/community. Remember that you can see all of the presentations from the symposium, including slides and full audio z.umn.edu/workforcesymposium. Make sure to follow us on Facebook and Twitter to stay up to date on new research and resources for communities and those who lead them. Please join us again for another episode of Vital Connections on Air.