

NWX-DOC-NTIA-OTIA

**Moderator: Emy Tseng
November 20, 2019
1:00 pm CT**

Coordinator: Thank you for standing by. At this time all participants will be on a listen-only mode. Today's conference is being recorded; and if you have any objections, you may disconnect. I'd like to introduce Emy Tseng. Ma'am, you may begin.

Emy Tseng: Hello. Thank you. Good afternoon and thank you for joining us today for BroadbandUSA's monthly webinar on broadband topics and issues of interest to the public.

I'm Emy Tseng and I'm a Senior Program Specialist with NTIA's BroadbandUSA Program.

Today's webinar, Building Digital Workforce Skills at the Local Level, focuses on how local leaders are building partnerships among governments, businesses, nonprofits, and educational institutions to help residents attain the skills needed to thrive in a digital economy.

A digitally skilled workforce is essential for the economic development of our nation's communities. Our presenters today are David Keyes, Digital Equity

Program Manager with the City of Seattle Information Technology Department. Stacy Wedlake, Research Coordinator and Analyst with the Technology and Social Change Group at the University of Washington Information School. Shonna Dorsey, Senior Business Systems Consultant at Mutual of Omaha and also Commissioner of the Nebraska Information Technology Commission. And Kagan Coughlin, Co-Founder and Trustee of Base Camp Coding Academy.

Before we begin, I would like to review the logistics for today's webinar. First off, the presenters will all answer questions upon completion of all of the presentations. So, as you hear from each presenter, please use the question box on the right-hand side to submit your questions or comments.

Second, the presentation along with the transcript and audio recording of today's session will be available on the BroadbandUSA website within seven business days of this webinar. And it will be under the Events/Past Events tab.

Finally, please visit our BroadbandUSA website for information about our Technical Assistance Program, including guides, products, publications and other tools that can assist you with planning, funding, and implementing your broadband and digital inclusion projects.

So, we'll begin with David Keyes and Stacy Wedlake. David is the City of Seattle Digital Equity Program Manager. He was the first community technology planner in the country and has 30 - over 30 years working at the intersection of information and communication technologies, race and social justice. And he's been a great mentor to me over the years.

Then we have Stacy who is a Research Coordinator and Analyst with the Technology and Social Change Group at the University of Washington. She aims to understand how individuals and communities can gain the technology access and education needed to accomplish their goals. I'll turn it over to David and Stacy.

David Keyes: Great, thanks everybody. Thanks Emy and, thanks everyone for joining us. Excited to be here and appear with the other panelists, too.

Stacy and I have been working closely over the years, and in particular looking at workforce needs and skill levels. So I'll talk a little bit about kind of our programs with the city and approach on some of the workforce training.

And then Stacy will pick it up on some of the work we've been doing on what skill sets are needed for workforce development. And next slide.

And so the city has a digital equity program. We also have an Economic Development Department that's working on workforce training and to youth internships and so on. But this is sort of our guiding vision on digital equity.

So overall we're looking at equitably empowering all residents and communities. Especially those who are historically underserved or underrepresented.

In the areas of kind of interest or that we've defined that we work on are skills training, connectivity, devices and tech support, and then applications and online services.

And in the skills training area, what that also means is, in order to work towards equity, we recognize that there's a real value and need to sort of

foster and have intentional investments and strategies to get diversity and inclusion in the workforce.

And ultimately, we as - you know, in our Seattle IT Department benefit from having a variety of skills and perspectives as we develop products and services for residents of Seattle, and, likewise, see that in the companies and nonprofits in our area. Next slide.

So, we look at that in a couple of different ways. One is that, you know, everybody needs some foundational skills. So to even be able to get into the workforce or stay in the workforce, or to be able to access supported services, you need at minimal sort of basic skills. A set of what we think of as, kind of applied life skills.

So can I use the online transit system to figure out how to get to work? Or can I apply for benefits or find childcare on line? And so on. So those are sort of foundational skills.

And increasingly, how to learn online. So certainly in all our work, folks are finding that there's a critical need to be able to do additional learning online, both for wage progression, wage retention, and even filling out timesheets or what have you. So there's a need to be able to learn online. So those are the foundational skills. And then, next slide.

As we look at job pathways then we've kind of identified these four areas. So one is that sort of, how do I get started? So what are the digital skills I need to find work and the basic skills to perform in a job? And those are some fairly common. And you'll see that as we talk about the digital skills typologies categories.

And then there's applied technology. So do I have the skills needed for a particular job in health or point-of-sale purchases? Or inventory. Or, as I was talking to some folks from our Seattle Jobs Initiative Program, there's some basic technology digital skills people need to even do the diesel mechanic training program. Or for somebody who's working in the hotel industry in housekeeping, to be able to do reports and so on. So, those are sort of applied tech.

And then there's a whole range of things in IT career, and I'll mention those in a second. And then business and entrepreneurship. And skills for running your own business or participating in business. Next slide.

And so the question kind of, you know, comes up as we look at sort of new economy, a resolving economy then, you know, is coding the thing that I need to learn. And so I'd argue probably there's an importance to some introduction to coding for everybody to help understand things, but not everybody becomes a software coder.

And so that sort of critical question is, how do we help people become aware of what skills there are and get them on the pathway to learning that. And if you go to the next slide.

And so even in the IT industry, while there's kind of ups and downs and sort of most in demand jobs and skills needed in an IT career, one of the things is that what I come into in an IT career, I may have - not need that same set of skills ten years from now.

Or I may come into the IT sector and the job I eventually get isn't even invented yet. So part of the goal I think, in getting into the IT sector, if you're

going into that field specifically, then was even getting the skills to be able to move on and move around and learn.

So, as well as, sort of this diversity of many careers that support IT or use IT that aren't IT careers. But here's sort of a range of, you know, the variety of some of what we see in the IT sector. Next slide.

And so here at the city, you know, we do some things to help foster workplace skills. So part of it is this partnership and support for community based training. So our Technology Matching Fund Grants and some other targeted grants are supporting youth employment, development, adult basic ed, adult workforce development, partnering with community organizations.

We also look and work with them on career exposure. So this afternoon I have a tour of students that are in an intro tech careers program coming in for a tour at Seattle IT, to meet with our helpdesk folks, for instance.

And so I think overall, part of that question is for folks is, how do they even know, and how do we help them get vision that this career exists. That something then I can have motivation to get the training because I want to work for the game development company or someplace else.

And then internships and apprenticeships, an important part of that is developing the support for interns and apprentices, internally at the company or organization. So that we can bring people in and support diversity and different cultures within our workplace. So there's a pathway to experience and a pathway to retention.

I have a link there for Apprenti, which is a program with the Washington Technology Industry Alliance, doing some great work with apprenticeships

that we're partnering with. It's kind of worth looking at their site and their program.

We're working on a pathways project with Seattle colleges to help high school students get exposure or get basic skills, so it eases their pathway into a degree at the community colleges.

And then looking at soft skill support lastly. And so there's a whole variety of soft skills that are required for people to be ready for work. And this Job Readiness Skills for Youth is a report that was done by our Office of Economic Development. And so when you get the slides there's a link to that in there.

So kind of thinking about the whole system of support to be able for somebody because it's absolutely to integrate digital literacy skills into their workforce development. Next slide.

And so Stacy is going to talk more - what we started looking at is, as we were looking at, you know, what are basic skills? What are these first steps to help vulnerable communities get access into the workforce. We began looking at, so what does it mean when people are talking about this.

And so we looked at a range of frameworks and curriculums. This particular graphic is of a piece from the UK digital skills framework. And I'll turn it over to Stacy who will talk in more detail about what we saw in terms of digital skills for the workforce.

Stacy Wedlake: Thanks David. So next slide. So this slide lists all of the resources that we reviewed. And so what we really were trying to do is an example, popular framework and curricula. Those kind of local to Seattle, but then also

thinking internationally because, there's been some really great work around digital skills in Europe.

But of course, this is far from an exhaustive list. But and just to be clear, these frameworks and curricula that we looked at are not workforce specific. They are much more - it's kind of a comprehensive, what digital skills would someone need in their life.

But for this particular talk I'll focus a little bit more in on the workforce related skills. And those are all linked. And then some of the curricula is available in some other languages as well. Next slide.

So in order to compare the different resources, we did this inventory of what skills each framework or curricula actually covered. And so because each one has a slightly different approach to skills, and kind of been talking about, you know, what are they teaching. And so, but we needed to compare them.

And so to do that we divided the skills into ten different - into use categories. And we found a total of 74 different skills. And just to be clear, the number of skills in each category does not show that one is more important than the other or, more or less complex. These are just what we identified in the reviewed resources.

And I would argue that on some of the categories, there actually needs to be some more focus and some more skills.

But in the next slide -- and so next slide -- kind of gives some examples of the different skills that are covered. And again I'm just kind of pulling out some more of the workforce related categories.

And as David was mentioning, we you know, again we like to think about the different, kind of supporting digital skills that people need in order to work today.

And so some of the more gateway skills or the foundational skills that you need before doing anything. Things like passwords - basic passwords and the Internet searching.

But then also there's things of communication. And you share your connecting to this online webinar for example. You probably do video conferencing as part of your job, as well.

And then - but, you know, daily, I know I'm having to avoid phishing and scams that come to my work email. And in addition to those more basic workplace tools like using different word processors.

I also need to, when I have a task or a job to do, I need to identify and figure out kind of what tool is right. Is this something I need to be doing in Word, in PowerPoint, or maybe using something different. Or maybe it shouldn't be used by technology at all. Next slide.

So this is again, just trying to give an example about what we found. And these are just four different curricula that we looked at. And again, each one of these is kind of - is supposed to be sort of this comprehensive approach to skills.

That as you can see, things like Microsoft Imagine Academy, which is really just teaching Microsoft Office Suite, does not cover any gateway skills. And so if someone had a goal of learning this software suite because they need it

for a job and, but they don't have some of those gateway skills, they need to go and learn those before they can even start this particular program.

And this is not a plug for a particular curriculum or another - it's just showing kind of what the inventory pulled out. And that before an organization chooses a curriculum or maybe a government entity kind of promotes a particular curriculum, it's important to know kind of, what is actually covered within that.

And you can see then, these can vary quite a bit. The GCF LearnFree is a great resource for people who need more of those gateway skills. But if someone is looking for more of the creations, or wanting coding, or multimedia production, html, then more so web literacy covers a lot more of those skills in the other - in the sample. And next slide.

So just as a kind of summary here, you know, when you're looking at different digital skills curriculum, or kind of approaching, kind of thinking about what sort of digital skills are needed for the workforce, you know, definitely you need to think kind of holistically. Think about kind of what skills scaffolding people need in order to reach their goal.

So maybe they really do want to learn coding or learn kind of the work - kind of like an office workplace skill. But they may need more basic skills. Or they also maybe, within that class, they also need to make sure that things like those privacy and security lessons are being taught as well. And next slide.

So again, you will be getting - the slide deck will be available. Looks like seven business days after this webinar ends. And so there's links to our State Comprehensive Report which has a lot of details on our findings, and a lot of

details on the resources that we looked at, if you're interested in using or adopting one or another.

And then the comparison spreadsheet that really kind of gets into the weeds so you can do pivots and tables and stuff like that.

And then there's a link to learn more about the City of Seattle's great digital equity work. And then of course, David and my contacts. And I'll hand it back off to the moderator.

Emy Tseng: Okay, thank you so much David and Stacy. So just as a reminder, the presenters will have time to answer questions at the end of the session. So in the meantime, feel free to submit questions for them in the Question box on the right-hand side of your screen.

All right, our next speaker is Shonna Dorsey. Shonna is an Omaha, Nebraska native tech advocate trainer, mentor, volunteer, community builder, and former business owner.

She currently is a senior business systems consultant for Mutual of Omaha Insurance, and leadership training consultant for Mindset LLC. Shonna has led and supported workforce and community development initiatives throughout Nebraska. And she currently serves on the State of Nebraska Information Technology Commission. So please welcome Shonna.

Shonna Dorsey: Thank you so much. Next slide please. So my session today will mostly focus on what the opportunities are in Tech, and how public-private partnerships have looked in our community. As well as, what some of the challenges we're facing with our existing tech shortage.

So as an overview, we know that tech jobs are some of the most - the best paying jobs around. And in many cases, especially when you think about software development, app development, web development, they don't require a four year degree to enter those spaces.

And so we know that that presents a huge opportunity for many folks in our community. Next slide.

So this is just a sample of some of the tech job salaries. And when you look at the Bureau of Labor Statistics' data, as far as software developers and web developers goes specifically, the percentage increase or availability of those types of jobs is, per our cases, lots of other fields.

So we're looking at 21% for software developers and a 13% rate of increase in job opportunities over the next ten years from 2018 for those two roles alone. They are also some of the best paying so, you can see here that the salaries are above average for many communities.

So in Nebraska our average annual salary across all industries is around \$35,000 to \$37,000. So these just again, represent great opportunities for people in our community. Next slide.

This is just a few examples of some of the top growing jobs. So barista is the fastest growing jobs. We all see coffee shops in our community. But they're also some of the lowest paying. I've never been a barista, but it seems like a high stress job.

But careers in application development, including web development, which I'll be talking primarily about, pay pretty well. They offer a lot of flexibility, depending on the company. And a lot of job growth opportunity. Next slide.

So I want to share a little bit about my pathway into tech, because it has been a little non-traditional. And when David and Stacy were speaking, I was thinking about my own pathway where, when I started off as a young student, we didn't have very much access to computers and computer labs in my community.

I did go to a magnet school in Omaha. But it just wasn't commonplace for people to consider careers in IT.

So I did have some great mentors who opened my eyes to the opportunities, but I did spend a lot of time in customer service roles, which I think is extremely important as we think of the soft skill side of tech careers.

But after spending about a decade in those types of positions, I did finally move into a helpdesk type of role. Had some opportunities to do business analysis and process automation. Moved into project management where I was able to leverage my - I'm sorry, customer service skills and couple those with technology skills and also my project management skills.

And then went on to start a code school, which is one of the reasons why I really have a lot of passion about that, for that career changing professional who doesn't have any experience in IT, but wants to create a greater life for themselves and/or their families.

So through that initiative we were able to, over three years, partner with a lot of companies in town from start-up to the largest privately held bank in the country, to offer technology skills training, primarily, app development. Over a short period of time I think - our courses at the time were from ten weeks to three months, depending on the content.

And then help folks land into entry-level application development positions with those companies. So that education or training provider and employer partnership is really critical.

From there I moved onto a vice president position with a nonprofit. That nonprofit actually acquired the school. So that made the school effectively, a nonprofit, or at least a program under a nonprofit and that helped open some doors there too.

And now I'm working for Mutual of Omaha in a tech consultant role where I'm helping Mutual expand its talent pipelines from high school all the way to people within the company that want to transition into tech careers. Next slide.

So before I get to the career changer piece and some of the partnership examples, one of the great things about tech, like David and Stacy mentioned, is that it is ever-changing.

And with the advancements in technology, new services are becoming available, which I find fascinating. So with GPS and in-app payments, social media connections, etcetera, that is effectively the component - main components that Uber, and so it's just fascinating to me that these types of opportunities create new businesses, create new jobs. But then again, leads us to where we're at with the significant technology talent shortage. So that's definitely a benefit and a challenge. Next slide.

Here are some more examples of jobs that we're seeing currently, and then also some that will show up in the future. So the previous slide had examples of just kind of technology match ups. And this slide just represents a short list

of some of the jobs that we're seeing coming on to - come into fruition like drone technicians, science ethicist, data managers, etcetera. Well, that's not a new one.

But robot repair, we'll start to see a lot more artificial intelligence type of roles as well. So it's exciting times. Next slide.

Okay, so in Nebraska - Greater Nebraska I should say, we are anticipating that we're going to need about 10,000 tech workers by 2025. And that's due to a variety of factors. So we have people that leave our community for a variety of reasons. We have talent needs that outpace our college graduation rate.

So you can see on that slide that in 2015 alone, we had over 2300 open tech jobs with a total of 438 total graduates. And one thing to keep in mind is that 2300 open jobs represents a range of skills and level of expertise. So it's not all 2300 entry-level tech jobs. Those are just a variety. So we just don't have the talent to support the demands of our businesses.

We also have companies that are quickly growing, which is a great thing. But when they do, they can't find the talent they need to support their customer demand.

And then like David and Stacy mentioned, there are definitely some digital access inequities in our city. We have schools that are - some are privately funded. Some are in areas with a higher tax base. And so the equipment and resources they have access to are different than our lower income - parts of our - I'm sorry, the lower income parts of our community. So there's definitely an opportunity for us to make some improvements there. Next slide.

So some examples of things that we can do to address the challenges that were presented or shared on the previous slide are on this slide. So some of the traditional things you see on the tech career awareness raising side are, job shadows and classroom visits from tech professionals.

Some of the things that we're working on expanding, and we're working with our nonprofit partners and employers are tech career exploration fairs. And also just hard tech exploration fairs where kiddoes and adults have opportunities to have hands on engagement opportunities with techs.

And then we're also looking at options to partner with teachers - I'm sorry, partner teachers with tech professionals who can support the need to share information about advancements in technology without requiring the teacher to learn the skills to teach the kiddoes. And so they need to be prepared for the future of work.

On the talent pipeline side, some of the traditional approaches that we've all seen are looking at college students, experienced workers, hiring from competitors. We see all of those here.

But some of the things that we're starting to explore in our community are, looking at high school students and providing internships for them. Looking at candidates who don't have college degrees. Considering code school graduates more regularly, versus on an exception basis.

And then also sending our own talent into code schools and community colleges to teach. Next slide.

So this is just a couple of examples of details of our partnerships with nonprofits who provide those hands on experiences I shared in the previous

slide. Do Space and the AIM Institute are two of our main nonprofits in Omaha that are supported by businesses to help bring tech experiences to people in our community.

So, Do Space is a large digital library. It's like a large tech library. So they offer community printing, lots of workshops from Adobe Photoshop, to how to run a 3D printer, and advanced web development.

They also offer space for co-working for free. So that folks who are running small businesses or trying to start up something, have the space to work that is modern and well-equipped with great technology.

And the AIM Institute is the nonprofit I worked for before starting with Mutual. And they offer a series of programs to kids as young as kindergarten up to the adult transitioning career speaker, to help them explore careers in technology and get the training they need for school or the workplace. Next slide.

The most interesting thing that we're doing at Mutual right now, in my opinion, is on the tech side anyway, tech talent development side specifically, is partnering with a local code school called, Metropolitan Community College, to upskill our existing talent into careers in IT.

So the program that we launched last year is a part-time training program where our employees who are not currently in tech, are able to retain current employment. And they're in a variety of roles from customer service and sales to audit and compliance.

But they're able to maintain those roles and get the training they need from Metropolitan Community College to become application developers, upon

completion of a part-time, nine month, full stack Web developer training program.

The success that we experienced with that is pretty incredible on the front end. So we opened up the applications for about a little less than a month, about a month last year. And we opened it up to all of our associates. We've got about 5000 associates at Mutual of Omaha.

And we received 54 applications from all over the company. We had four approved positions, but we did end up sending five through. And they're all saying that they're getting a lot of benefit out of the program which started in September. And it's scheduled to end in May of 2020.

But it's been a great benefit to us because we're able to show our investment in our existing talent. We have people who understand the culture of our company. Learning skills that they need to get into high wage, high demand careers. And it's a win all around for us. Next slide.

And finally, we are also looking into high school internships. So this one is a little bit challenging for us because, like to David and Stacy's point, many people, especially when they're new to the workforce, have limited experience with customer service skills that many of us take for granted who have been doing this for a long time. Interpersonal skills and just some of the things that we consider basic.

So we partnered with a nonprofit in town that does provide that soft skills training. And interview high skill students, high aptitude students for IT internships at our company. So last year we brought in two. But because of the success of that program, we're bringing in up to five this - in 2020.

We're also - we're seeing more companies I should say, become open to hiring people without four year degrees. So that was a traditional requirement for many of our larger firms in town. But we're starting to see them become open to code school grads, some self-taught learners, and just a variety of different candidates. Next slide.

And our goal overall are these three things at the core. So we definitely want to increase employee engagement and moral. And one of the things I didn't mention about the apprenticeship program is that we have paired each student with a mentor from Mutual that is in IT currently.

And so that creates a partnership between that current skill professional with someone who's new to the field. And that is important to us. It also increases moral through that investment in talent.

We also hope to improve retention by providing these opportunities to engage in a variety of ways. And then decrease the time to fill open positions as well. Next slide.

Okay, and that's it for me. There's my contact info. And if you want to look into more info on the code school we partnered with, their website is, [mccneb](http://mccneb.edu/code-school) - it's Metropolitan Community College Nebraska - [mccneb.edu/code school](http://mccneb.edu/code-school). Thank you.

Emy Tseng: Thank you so much Shonna. So our final speaker today is Kagan Coughlin. Kagan is a co-founder and Trustee of Base Camp Coding Academy. Base Camp is a non-profit that provides an innovative, one-year coding curriculum to under advantaged, Mississippi youth, at no charge.

Kagan has also spent a number of years working in finance and technology, and also working on historic preservation and creative economy initiatives in Mississippi. Please welcome Kagan.

Kagan Coughlin: Thank you, Emy and good afternoon everyone. So we are here as a case study of something that can be done as a pipeline for a business community to source its own future workforce from the local population. Next slide please.

So Base Camp Coding Academy is four years young. It came together as an initiative from folks in the business community who are experiencing that supply and demand challenge in the tech sector.

So the numbers that we saw for Nebraska, Mississippi has comparable numbers. Twelve hundred open coding and technology positions, and less than 200 graduates from our two and four year degree program institutions in the state IT -information technology and computer science.

So the pain is being felt in the business sector. And the shortage of institutions to train in a rapid fashion, the incoming workforce, inspired a few of us to see if we could develop a plan and a program ourselves.

And the way that we pitched this to the business community in this region, was really the financial model that would be competitive with the current sourcing strategies.

So that, unfortunately these days means relocating talent from the East and West Coast and paying those relocation fees. Or working with a talent sourcing agency which is not an inexpensive strategy for expanding the workforce.

So we knew the numbers. The cost of both of those strategies. And we worked to develop a homegrown method to train our regional folks to fill these tech jobs at a price point that was either competitive or very close to what was being spent today. On employees that traditionally, if they relocate for one company, if they've proven their mobility and are likely not going to be in any one institution for more than two to three years.

So the strategy was to identify a very focused core group that we would attempt this training program on. And that became high school graduates. Immediately after they complete their high school experience, we take them into our program. And it is a 40 hour a week, 2000 hours of training over the course of 12 months program. Taking folks from zero on this scale, to a fully competent software developer who is a value-add to whatever institution they go and work with.

We are very clear that for this to be an economic model that is sustainable, the charity function stops at the point of graduation. And the company is recouping their investment through their new employee. Next slide please.

So we had one round of fundraising to provide enough capital for three different cohorts to graduate through the program. That was done for many reasons, primarily allowing us the freedom to try different strategies, adjust our curriculum, and pacing that curriculum. And build trust with the business community in the graduates of our program.

These are the metrics. So we had three different cohorts come through the program. There were two things that really continued throughout the pilot, to just impress us on all fronts. One was the ability of these students to absorb this content.

We had three different pacing estimates for our first year class. They exceeded the pacing. It was the most aggressive that we had defined in the outset. And that has continued through our fourth year which is in session right now.

And on the other side it was the willingness of the business community to embrace students coming through this program and after they had graduated, to adjust their HR policies, to hire someone for a position that has traditionally required a four year degree.

And we were also able to prove that the price point of \$15,000 per student, which includes the cost of their commuting and their meals throughout the year, is very competitive with what companies are already today, spending to source new talent in this sector. Next slide please.

And I can talk about the program but this - these are the folks that spend eight hours every day grinding through this curriculum. The Mississippi School System has challenges. And there is almost zero exposure to computer science in the course of a K through 12 education in Mississippi.

So these students both are taxing their brains simply, with the new content. But they're also dedicating themselves to a full workday which is often not experienced for folks, until they are post-college.

So these student really impressed everyone involved with this program, with the amount of effort that they were willing to contribute. Next slide please.

That's 19 and 20. The students on the right are actually in session across the hall from me right now. Next slide please.

So if I had one slide, this would be it. Because this is a large cooperative operation. We source our students from the public schools within a 50 mile radius of our location here in Water Valley. And to identify those students, we rely on the staff in those schools. The teachers, counselors, and administrators, to help us identify a young student who does not have opportunity after high school.

We look to be an expansion of the educational system. Rather than moving students from already existing pathways, we are looking for the students that have demonstrated work ethic and aptitude in high school. But do not have for often times, socioeconomic reasons, a pathway after high school. So it takes a champion in each one of these schools to identify students for us and nominate them to the program.

The instructors, this is a sector where if you have the skills to teach this, you can be making far more in the private sector, selling those skills. So the folks that choose to make a career out of teaching this skill, are doing so for reasons that are beyond financial. And they are priceless individuals.

And then the employers on the right, I cannot tell you enough about, if you involve the business community on the front end, and you really involve in designing the curriculum and being mentors for the students. In guest teaching when they have time. In inviting students for campus tours and auditing the office environment over the course of days or weeks.

And then down to changing HR policies and offering full-time employment to alternately educated income employees. We found that the more we asked a company to contribute to the whole concept, including financially, the more willing and excited they were to being participants. Next slide please.

The Board of Trustees, I will skip over this quickly. But these folks contribute more time than I have ever seen contributed in a nonprofit space. They participate in interviewing prospective students in the quarterly evaluations that students go through. This crew meets once a week, contributes financially and their time, their personal skills, for all the needs of a nonprofit. Next slide please.

And so after three years we looked at the metrics and we went back to the business community that had funded the first three years. And essentially asked if everyone was interested in continuing. And what they would like the future to be.

And the support was unanimous to scale up what we were doing and, to expand. So we've been providing software developers. But there's a shortage in the Tech sector for every role that it is adjacent to the pure coders. From business analyst to project managers, to helpdesk, to data entry specialists. So we looked at how could we execute that in a financially, viable way. Next slide please.

And it turned out we needed more space and more folks to join us. So we daydreamed a new facility which could house our expanded coding program. Bring in the community college which we had partnered with over the last four years, so that they could have an on-campus presence.

And a business incubator that would encourage the employers we work with today, to dream with us about the capabilities of our students. Next slide please.

The barrier was always and is always financial. So we got very creative about how to fund that new facility and their ongoing operations. And what has resulted over the last 14 months or so is one of the most complicated financial structures with everyone we asked, contributing in the capacity that they are able.

So we have put together \$2 million in federal grant money. Coupling that with five different tax credit programs - and then next slide please.

And then from the private sector, we raised a good chunk of money in capital donations. But the large financial challenge is ongoing operation. So we reached our financial capital goal to renovate that facility and prepare it for all the programs.

And then we rely on that private sector because, the federal dollars come once, to pay our bills annually. And those five companies, on the bottom of that slide, have each made a multiyear commitment to support 20% of our annual operating budget. Next slide please.

And this is the estimations that we put together based on population and working with the community college and Census data, and Department of Labor data, to estimate the impact across both the Tech sector and the trade sector, of having this facility located in a rural town in Mississippi. We have a population of 3400 folks. Next slide please.

And that's it. So we are very pleased with what has happened. We're very excited about the future. And I can't say enough about how, if you ask folks to participate in what they have to contribute, from the students all the way to the business sector, and all the way to the state and federal government. It's amazing how many yeses we've been blessed with. Thank you.

Emy Tseng: Thank you so much Kagan. So now we'll start the Q&A part of the Webinar. If you haven't done so, please type your questions or comments into the Question box on the right-hand of the screen. And we'll try to get through as many as we can.

All right so we have one question. And this is actually - I'll say, there are a couple of questions that are related around this is, what might be the impact on tech jobs as AI continues to advance. So do any of you want to tackle that? and I'll add on.

David Keyes: This is David. I don't have the exact answer to that. I'd love to have that. I mean I think that you know, what we certainly see is that there's this mix in terms of a number of jobs. In terms of both developing the software to interface with AI.

The development of things like Chatbox or user interface for things like Alexa and voice command, as well as, more kind of smart technologies or data processing integration. And, you know, sensor data and so on with kind of AI intelligence.

And then on the sort of front end is kind of the whole user design aspect I think. Whether it's growing technology.

So both - certainly some jobs will be displaced while others are developed. So this is...

((Crosstalk))

Shonna Dorsey: Oh, go ahead.

David Keyes: No, go ahead Shonna.

Shonna Dorsey: Thanks. I was just going to say to support that, that we are - human beings are so creative, right. So as soon as something is displaced, something else is created. A new industry is created through those displacements.

And so when I think about automation, and AI is pretty new, but automation is not new. So when you think about - one simple example I have is, we all used to use like a physical map to figure out how to get from one place to another. And that was automated through map technology.

And now that's being used for lots of other different purposes which have created new industries and jobs. So I think that there always will be a loss of jobs when processes are automated that people currently do. But then there's usually sort of just new opportunities as well.

Kagan Coughlin: And adding to that -- this is Kagan with Base Camp -- we are probably ten years away from AI being able to self-generate code. From a lay person dictating what they desire to occur in whatever system.

The adoption curve and the affordability of that technology is going to be slow. So the timeframe for these jobs being displaced, especially in rural America, is quite a broad window. And that is 10 to 25 years of strong earning potential, for folks that are geographically isolated.

They have the opportunity to access this career path. And who knows where it will lead to next. But that earnings potential, without having to relocate out of the rural areas, because these jobs are very conducive to remote work. It is an opportunity that we can't bypass.

David Keyes: I think Kagan's point about remote work is important too, you know. And so what are the skills necessary to be able to remotely work effectively, as well as, is going to be critical.

Shonna Dorsey: Mm-hmm.

Emy Tseng: Okay. Another question is, what do you think the opportunity is for internships and people going through the training to start their own businesses? Is there an entrepreneurial training aspect of your programs beyond the technology?

Kagan Coughlin: I can speak to this from Base Camp's perspective. There is an entrepreneurial aspect and that will grow. One of the things that we will be able to afford with a larger facility is to incorporate an angel investor network in a safe, low-cost facility where folks can try out ideas.

For the cohort that we work with, when they graduate from our program, they are 18 to 19-years-old. We encourage them to have several years of business experience in a business corporate environment under their belt before they jump off into free space.

That's largely typically the basics of healthcare and security of a paycheck. The students that we work with, they've never experience that, for the most part. And the entrepreneurial lifestyle is risky.

So we do see a percentage of our students pursuing that path. And we're building to be able to support that.

David Keyes: This is David. Just a quick chime here too. You know I think, I mean it's really interesting to think about where the entrepreneurial sector goes. Because there's technology entrepreneurs that are starting technology businesses. But there's also the, how to source and integrate. And having enough digital skills to be an entrepreneur in other areas.

So for like a quick example, there's a neighborhood here who's working on a food innovation district. So to help, particularly like a number of immigrant refugees who would have small businesses become entrepreneurs.

And so there's programs to help them get enough digital skills to look at the marketplace. Being able to effectively do outreach marketing, customer databases. You know, looking at supply chain issues and technology.

And then, you know, they also work with a group of students learning VR, to be able to a modeling for what a food center would look like. And so I think there's a - you know it's an interesting piece in terms of looking at the whole number of layers where those digital work skills are necessary.

So both specifically to become technology entrepreneurs and develop businesses there. But also to deliver other services that have well-integrated technology as part of that entrepreneurship.

Emy Tseng: And just to add to that - oh, go ahead Shonna. Sorry.

Stacy Wedlake: Oh no, this is Stacy.

Emy Tseng: Stacy, sorry.

Stacy Wedlake: Yes, no worries. Just to kind of even take that like a step kind of further back, to like kind of the skill level. Because basically if you are wanting to go into business at all, you need to have some basic skills in order to help, you know, promote and track your business on line.

Looking at online reviews. Working with your customers because they may expect a certain - you know, your customers may expect a certain level of skills and abilities to share information across.

And so yes, it really is - yes it really at all levels of entrepreneurship, digital skills are so important. Just at different kind of levels of complexity.

Emy Tseng: Okay. This is a question for Kagan. How much is the operating budget for the Base Camp Academy? And was private support the answer from the onset, of the program?

Kagan Coughlin: Sure. So our operating budget during the pilot was a little under \$200,000 per year. And the way we determined what the cost of a student was, was simply to take our total operating funds and divide it by the number of students who graduated.

And that graduation figure is not 100% of the starting class. So baked into that cost, the \$15,000 per student, are the students that do not complete the program. And we have a wonderful working relationship with the community college to transition those students into alternate programs at the community college.

We assist with their - all their paperwork to get them enrolled in a program that's a little slower paced, and stretches it out over, honestly the life challenges that is the largest reason why students don't complete our program.

And so when we are planning on scaling up, our goal is through the Base Camp portion of our operation, graduate 25 students each year. Continuing with an annual budget that is \$15,000 per student. So that would be \$375,000 a year. And that will include a starting class of about 38, expecting to graduate 25 each year.

And the funding does come and has come, almost 100% from the private sector. Those corporate donations. We have donations that come in that are not non-financial. We have one entity that takes all of the students, right before graduation, and buys them all a weeks' worth of business casual clothes. So that they're ready to start their new positions. And other amazing programs like that.

But it is then - the one exception has been our support from the community college. They do assist in the salary of one of our instructors. And allow our students to be on the payroll of that community college to accrue college credit for the time that they spend with us.

Emy Tseng: Okay. I'll direct this to Shonna first. But the rest of you can chime in. So how do you assess what specific tech skills employers are looking for? Do you do it through employer surveys, job listings, and this is probably more relevant for when you started the code school.

Shonna Dorsey: That's a great question. And I think Kagan actually referenced this perspective during his presentation. But it's so important to engage the employers at the onset. And that's not something we did, initially.

We kind of were like, we thought Ruby on Rails was really going to take off in Omaha. And that hasn't happened. But when we started to visit with

employers about what their needs were, then we were able to source talent that could teach those skills. And that definitely helped us with our student recruitment and placement efforts.

So I think that's just extremely important to engage employers at the onset. And just keep them involved as you refine your curriculum and get things through the program.

Emy Tseng: Kagan or does anybody else want to add to that?

David Keyes: Yes, this is David. Just to like a quick comment here, because I think yes, it's really important to have those conversations with employers and look at that. And perhaps to kind of narrow in on, you know, have the conversations to figure out who your most likely partners are, or who has the most interest. And then look at it across that.

And both - I mean we look at the sort of industry stuff like Glassdoor that has a number of kind of open positions that you can look at. But I think in terms of narrowing in on that piece.

You know we're also working on some partnerships like between the library, the workforce development centers, the colleges, and us on student assessment for skill levels coming into their, you know, kind of our broad set of training programs, too. So part of that I think, we'll hopefully be informed.

And I also wouldn't count out, an important thing to ask about is things like, we find like presentation skills and project management skills are really increasing as foundational to many of those jobs, too. So another piece to look at as you're talking to employers.

Shonna Dorsey: That's true. This is Shonna again. I just wanted to add to that, one of the things - one of the reasons why we initially were looking at a technology that was outside of the scope of what we really see in our market is, we were like, well what's coming?

But our community, technology wise anyway, is a little bit slower to adopt new technology. So I'm sure there's a granular framework out there. But we're still, many of the companies that I've talked to, are still on a previous version, which is totally fine. Because that worked for us.

So that's one other thing that we had to keep in mind, not to get too far ahead on modern technologies, as far as what we were teaching.

Emy Tseng: Okay, great. Kagan, did you want to add anything?

Kagan Coughlin: No. I think it was covered very nicely. Thank you.

Emy Tseng: Okay, great. Well, all right. Well, thank you so much for joining us today. and that wraps up. We're right at the top of the hour.

So please join us again on January 15 at 2:00 pm Eastern for our next Webinar. The topic then will be, The Benefits of Smart Building Technology.

And again, thank you to our speakers today, and to all of you for joining us. I'm sorry we were not able to get through the questions. But the contact information for the speakers should be on the slides. Which again will be available on our website. As well as, the transcript and recording. And that will be available within seven days.

And then finally, BroadbandUSA is available for technical assistance to help you expand broadband account activity and promote digital inclusion and broadband adoption in your communities. For more information please email us at broadbandusa@ntia.gov. Or visit our Web site.

Thank you all again and have a great afternoon. Thanks.

David Keyes: Thanks everybody.

END