STINNER: Any additional proponents? Any opponents? Seeing none, anybody in the neutral capacity? Seeing none, that concludes our hearing on Agency 69, Nebraska Arts Council. We'll now open the hearing on LB292, Information Technology Initiative, by Senator Vargas. Afternoon. Go ahead.

VARGAS: Thank you very much, Chairman Stinner, members of the Appropriations Committee. For the record, my name is Senator Tony Vargas, T-o-n-y V-a-r-g-a-s. I represent District 7 in downtown and south Omaha. Today I want to talk about Nebraska IT Initiative. I first became aware of the Nebraska IT Initiative when Senator Watermeier introduced the same bill in 2017. Now due to a tremendous budget shortfall that-- that year, this committee, myself included, voted to terminate funding for the program. There are three key reasons I felt compelled to reintroduce LB292. The first is this proposal falls-- falls in line with the focus of Governor Ricketts, the Department of Economic SRI report, and the work of the Economic Development Task Force which is that it is smart and it matters to invest in our future work force, our students. The Nebraska IT Initiative is statewide. And in the handouts I have passed around, you can see that schools of all sizes on the second page right behind that info graphic handout. Border to border, we're participating in this program. Students from Omaha, Scottsbluff had similar opportunities to earn industry certifications in programs that our employers and educators tell us are key skills. The curriculum and opportunity to learn these critical skills is not just limited to just students, but it also includes important professional development for teachers including annual training and collaboration. The program grew substantially between the time it was enacted in 2014 and when funding was terminated in 2017. All across the country the partnership between the state government, student, teachers, and the technology industry has become a true driver for preparing our future work force. Now years ago, skills in computer programming were targeted primarily to those students who were attending a four-year postsecondary institution. But that's no longer the case. Whether a student is pursuing a job in manufacturing, agriculture, or data science, a baseline foundation in technology is a necessity now. The growth of our tech-driven economy impacts all industries and has changed the skills that our students now need in order to succeed in the work force. The educational curriculums and certifications in the program helps students gain a wide range of technology skills, from IT operations to coding and computer science. These skills are critical

to our future work force. The nonprofit organization Code.org which promotes access to computer science education shows that Nebraska currently has 2,241 unfilled jobs requiring coding skills yet the state only produces 539 computer science graduates every year. In the future, even more jobs will require some level of coding ability. It is projected that by 2030, 65 percent of all jobs will require coding or data science skills. Now I'd also like to offer some basic background information about the program. The Nebraska IT Initiative is a partnership between the Department of Education and industry-led education and technology companies like Microsoft. Although the program currently identifies Microsoft as its collaborator, other technology companies that offer education curriculum can certainly ask to be included. High school and community college-- high school and community colleges can apply to participate in the initiative where there is currently a waiting list and students will then work through a series of curriculum and practice tests before they take an ax-- an exam on the actual program. Now once they passed, they are issued an industry-backed certificate that they can add to their resumé in college and job applications. The IT Initiative had a major impact on students and teachers while it was in operation. And at the time when this program ended because of state budget cuts, 85 schools and 12 community college campuses were participating. in addition to that waiting list I mentioned earlier. The last time this bill had a public hearing in 2017 there were 175 letters of support from students all across the state of Nebraska. I believe that public-private partnerships like Nebraska IT Initiative are important for growing the future work force. The technology changes so rapidly; and helping students achieve industry certification in these high-demand skills and programs will help them succeed for years to come, whether they are entering into a postsecondary institution or the work force. In order to help both students and teachers become better prepared for the types of jobs that will be in high demand, the state must continue investing in this program, which is why I hope you will support LB292. And very briefly, there is a trend happening across this country and the trend is in investment in computer science and data analytics. This isn't a momentary thing. This isn't something that it's just a fad of some sort. This is because I think we're seeing it and it's not just confined to one industry. Every industry is becoming more nimble. The hard skills required to live in this current day and age and be competitive is becoming more competitive. People need to have more industry certifications and need more practice. And if we can get our students to get that in high school, we can close the gap in a lot of these existing jobs and become more competitive across the Midwest and

across the country. This is what we're facing. Other states are going I think even farther. Other states are requiring computer science or coding to be part of their curriculum. They're requiring it to be a full-on standard and there's certain industry standards they need to then pass. I am compelled by the fact that the Nebraska Department of Education does have learning standards that align with this program. But I'm asking you to look at the demand that we've seen over the last three years in the existence of this program. Students, teachers, communities, administrators, rural and urban, are utilizing this and are trying to figure out a way to make their students more competitive. And what we're trying to do is make sure that they have the resources to do that. With that, I'm happy to answer any questions.

STINNER: Questions? Senator McDonnell.

McDONNELL: I'm sorry I missed part of your opening. Return on investment, are you talking about return on investment?

VARGAS: I didn't state an exact return on investment; but I think what we're seeing is we are lacking in terms of the number of jobs that we currently have unfilled with the number of graduates that have computer science degrees. I think it's about 2,400 unfilled jobs currently and we only are graduating somewhere 500 and, 500-plus, close to 600 graduates that have some sort of computer science degree in the state of Nebraska.

STINNER: Senator Clements.

CLEMENTS: Thank you, Chairman Stinner. Thank you, Senator Vargas. The handout you gave us, annual report, had a list of schools participating at that time. Are there any-- do you know if any continue to participate and offer this program or not?

VARGAS: I'll be able to get that list to you and there might be some people behind me that can speak to that, but I'll make sure to get that file information. One thing that I will say is the program can continue to exist on a volunteer basis so people can-- can do this. But what we saw is there is a barrier to entry. Before this was in place, maybe there was-- there was one example and I can't remember the teacher that had about a 30-- 20 percent of their students were taking advantage of this. As you can imagine, some of the costs with getting the certification and getting in some of the coursework and accessing some of these resources there might have been a cost

associated with it that was on the student. Once we started funding this, hundred percent of the students in this class utilized it. So there is a huge uptick in-- in-- in access and use once we're able to then remove the barrier that we're talking about in funding.

CLEMENTS: In the statement of intent, you talk about leveraging a public-private partnership. How is the private sector involved in this?

VARGAS: So this-- actually we'll have them speak for themselves. Microsoft is here and they'll talk about what they've been investing and how they've been investing, not only in the curriculum, the resources they're providing and the training they're providing and the technical assistance. But I will defer to them to talk about their investment they've made.

CLEMENTS: Thank you.

STINNER: Additional questions? Seeing none, thank you.

VARGAS: Thank you.

STINNER: Afternoon.

RICHARD LANGFORD: Good afternoon, Chairman Stinner and members of the Appropriations Committee. My name is Richard Langford, R-i-c-h-a-r-d L-a-n-g-f-o-r-d. I'm the director of U.S. education strategy for Microsoft, and I am appearing today on behalf of LB292 for Microsoft. Thank you for having me here today. And thank you, Senator Vargas, for introducing this important proposal. Microsoft is committed to working with the Legislature and the Department of Education to empower every Nebraskan to achieve more. We have more than 470 employees in the state, and earlier this year our LinkedIn subsidiary announced plans to significantly grow its presence in Omaha. In 2018, we donated more than $3.5 million in cash, software, and cloud services to Nebraska nonprofit organizations. In partnership with Code.org, we worked with the Department of Education to drive increased awareness for computer science education options. Today on behalf of Microsoft, I'm here to express our support for LB292 which we believe will help Nebraska students gain the information technology, computer science, and data skills they need to prepare for future workplace opportunities. I came to Microsoft from a 20-year career in education. I've been working in the education vertical at Microsoft for 11 years. During that time, one of the projects I've been pleased to work on has been Microsoft's

response to the evolving employability needs of our country. Seven years ago in March 2012, the Council on Foreign Relations published a report on the state of K-12 education in the United States which stated, quote, The country will not be able to keep pace much less lead globally unless it moves to fix the problems it has allowed to fester for far too long. The report went on to categorize the skills gap problem as a national security crisis. In January 2017, Klaus Schwab, chairman of the World Economic Forum, published the Fourth Industrial Revolution which drew the world's attention to a seismic shift in the global economy that is accompanying the current wave of technological innovation in machine learning and artificial intelligence. The warning is that economies that are not able to produce workers with the skills to thrive in this new environment will fall behind. As Senator Vargas noted, it's interesting that while the Nebraska Department of Labor calls out computer and mathematics-related jobs as among the fastest growing in the states and estimates that there will be 2,584 new jobs per year in those occupations in 2017, Code.org reported that only 539 students across all higher educations in this group graduated in computer science. Microsoft wants to help to address this need. We offer an education program called Imagine Academy that we previously provided to the state as part of the Nebraska Information Technology Initiative but was cut due to budget concerns in 2017. This program provides on-line, in-person, and blended courses in relevant information technology, computer science, and data science fields and allows students to test for and receive sought after certifications to make themselves more desirable to employers. The Microsoft Imagine Academy is active in more than 20 states and 135 countries. These courses are used by over 8.5 million students each year and we continue to invest in the quality and relevance of the program. Universities will respond to the demand of the students coming out of high school so we need to ensure that students are given opportunities to develop these skills while they are still in the K-12 system. Imagine Academy contains courses that lead the industry recognized certifications in Word, Excel, and the rest of the Microsoft Office Suite as well as the courses leading to Microsoft technical associate certifications and networking server administration, security, and other infrastructure-related disciplines. The track on computer science includes certifications in Python, Java, acml5 programming languages that are not owned by Microsoft but are the most commonly used by university students. We also have a data science track to introduce students to modern data analytics and concepts like working with nonrelational data and machine learning. In the first year since we added the computer

science and data science tracks, we're excited to see students already qualifying for certifications in these very difficult skill sets. For example in Virginia, 560 high school students received industry recognized certifications in computer science or data science by the end of the last school year. With that said, there's still a significant need in Nebraska for workers skilled in the use of Excel and other parts of the Office Suite. A review of job postings on the Web site LinkedIn yesterday showed that there are over 1,632 open jobs in Nebraska right now requiring proficiency with Microsoft Excel. Again, according to the Nebraska Department of Labor, the projected job growth in the state for office administration jobs is 19,667 new jobs per year. Over the course of the three years Nebraska offered Imagine Academy, more than 10,000 certifications were earned by high school and community college students. Restoring the Nebraska Information Technology Initiative funding will allow even more students to now pursue courses and certifications to prepare for high-wage, high-skill Nebraska jobs that today are going unfilled. Data shows that employees with these certifications are typically 20 percent more productive and earn 15 percent higher wages than those without them. That speaks to the fact that this is an investment. Preparing students in this way for college and career will strengthen the economy of the state. In closing, we look forward to working with the state to ensure that students are prepared with the skills they will need to be successful in the future. And it would be my pleasure to answer any questions.

STINNER: Questions? Senator Dorn.

DORN: You and Senator Vargas both talked about the fact that we're-- we're just not-- we're losing ground on the numbers.

RICHARD LANGFORD: Yes, sir.

DORN: Your Imagine Academy or this program what goes through the schools. What-- explain a little bit about that program. Is that a month-long program or what does it take to get certified?

RICHARD LANGFORD: Yeah, great question. So what we provide is courses that will-- that lead to an exam. So typically the courses will take a semester. They're-- they're usually about a 13-week course. Some of them are self-based. Some of them are on-line so students can take them at their own pace and go ahead and take the test when they feel that they're ready. I will point out that the failure rate on-- on the tests are actually pretty high because these are-- these aren't

participation awards. We-- we make sure that students are experts in order for them to get that certification. So the fact that so many students receive certifications in Nebraska is a real testament to the quality of the program that was put in place here.

DORN: Thank you.

STINNER: Additional questions? Seeing none, thank you.

RICHARD LANGFORD: Thank you, sir.

STINNER: Additional proponents? Seeing none, any opponents? Seeing none, anyone in the neutral capacity? Seeing none, Senator Vargas.

VARGAS: Making this easy, right? Not a lot of the same. I don't have too much to add. I just want to highlight a couple of things. Getting a little bit back to Senator McDonnell's conversation about or question about return on investment and referencing something that Microsoft was stated in Richard's testimony that 15 percent more on average, certified employees earn 15 percent more on average than staff without certification. I want to quantify what that actually means. I'm currently the Chair of the legislative Planning Committee, and for the last two years we've been looking at data in terms of our household income and our earnings. One of the most glaring pieces of information is the percent of individuals and households that are working two or more jobs that are below the poverty line. We have individuals either working in full time or trying to then continue to advance their careers or figuring out a way out of poverty but are working two-plus jobs 40 hours a week. And industry certification like this may be able to get them out of poverty. This is as much hard skills, critical skills that are needed in our current work force. So I just wanted to be able to quantify that because we are falling behind. We need to be more competitive and the data is telling us just that. We're in a unique scenario too. I think we've all been very privy to the accomplishments of the-- both the executive branch and the Legislature for bringing a lot more companies here. I think we've seen through all the different types of tech companies that have been investing in Nebraska. The thing I ask you is if we're creating all these new jobs we need people that are prepared to then step into these jobs. And we need them yesterday, not-- we can't wait. And so we're gonna need to be more forward thinking and preparing for them and this is one pathway for that. We also call ourselves the Silicon Prairie for a reason. I think we do have a lot of entrepreneurs working in the tech space and across Nebraska. But we need to keep

ahead of the game. And I think what we're seeing is as we continue to look at what types of skills people have that are marketable once they're coming out of our high schools and coming with a high school graduation we're not stating that there is a new standard that is required as a result of high school graduation. I think that would be another bill although I'd be really one to then sign up and introduce something like that. What we're saying is let's provide an incentive and make it easier for somebody to get a certification that is going to make them more competitive, put this on the resume, make sure that the people that are applying for these jobs can actually earn them and then they're going to get higher wages and then stay in Nebraska and be part of our work force. That's what this is. This is a very long-term investment to what is going to be a competition with other states in the Midwest on who can better prepare the next generation to then be prepared for the jobs that we need. With that, I want to thank the committee and I know that there's a lot of mitigating priorities. I think this is a long-term priority that we can get behind.

STINNER: Senator Clements.

CLEMENTS: Yes, thank you, Senator Stinner. Thank you, Senator Vargas. One more question came to me. Does the school sponsoring this program have an expense to pay part of the cost?

VARGAS: I will double-check because I don't want to misspeak, but I don't-- I don't believe so. But I mean let me double-check, get back to you.

CLEMENTS: Thank you.

STINNER: Additional questions? Seeing none, thank you.

VARGAS: Thank you very much.

STINNER: That concludes our hearing on LB220 or LB292, excuse me. I have letters of support: Jenni Benson from the Nebraska State Education Association; Dabid Brown from Greater Omaha Chamber has also submitted a letter of support. So that concludes our hearing on LB292.