

## HI-TEC 2021 Virtual, TRANSCRIPT, Day 2 (Thur July 22)

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☑Rachel: Welcome back everyone. We are so glad to hear you --

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to see you on day two of HI-TEC 2020.

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-- 2021. I have been lucky enough to be

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the chair of the HI-TEC committee this year. Want to

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thank the National Science Foundation for their support of

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this conference. We also want to thank our supporters and

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sponsors.

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Also, as you could see from the schedule, we have a great

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program lined up. Grab a cup of coffee, tea, your beverage of

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choice, sit back and enjoy our wonderful keynote and are

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inspiring panel of faculty and students.

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Speaking of, don't forget to view the 80 plus on-demand

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sessions. You should have received the link earlier this

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week and we will put it in chat again.

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The sessions are available for six months and you will get a

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receipt -- a recording of this live event from yesterday and

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today. Also, just a reminder to

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complete the day two conference survey which you will get as you

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exit the program. It makes a huge difference to us as we work

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on planning future conferences. A quick reminder to put your

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questions in chat. Both for our keynote and also

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for our panelists. You can turn on closed captioning if you

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like, and set zoom in side-by-side view.

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At this time I'd like to jump into our program and introduce

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our day two keynote speaker, Jessica Gomez. She the founder

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and CEO of RO Valley Microdevices Inc.

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-- Rogue Valley Microdevices Inc.

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Please join me in a very warm welcome for Jessica Gomez.

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☒Jessica: Hi, everyone. I'm excited to be here. I've been

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watching the chat area and how many people are on, this is an

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amazing conference. I look forward to attending in person

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at some point. I even saw someone from Long Island hop up.

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Thank you for being here.

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I wanted to start by sharing a little bit about my own personal

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journey.

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I think there is this misperception that in order to

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be a CEO you are born with this silver spoon in your mouth.

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Are you have to be some sort of math was, -- math whiz or a boy

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genius like Mark Zuckerberg read that's not true. I'm living

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proof of that fact. I have spent my early years in

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a low income Hispanic neighborhood on Long Island, in

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New York.

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One of the things my parents decided early on, they were

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nontraditional and they decided they would homeschool as kids. I

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am one of four. The home part went OK but the

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school part did not happen. I think it was more difficult than

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they anticipated it being. I had to struggle much later on

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in life to overcome those challenges. At 12 we made a big

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move, from a very urban area to the middle of nowhere in

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southern Oregon. About five miles past the

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nearest gas station. We moved at the worst possible

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time, the entire economy in Oregon wasn't collapsed due to

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the shutdown of the forest. There was a lot of controversy

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over the spotted owl -- the spotted owl and the

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environmentalist and loggers were fighting with each other

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and nobody had any money. My dad was a cabinetmaker in his dream

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was to have his own company.

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I think that financial stress, coupled with being separated

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from our extended family was too much. Our family fell apart. I

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left home early. I had to figure out how to survive on my own.

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I spent a little over a year couch surfing, -- couch

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surfing -- couch surfing. During this I had my very first

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experience in a classroom. I remember it distinctly because I

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was terrified.

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My fear was that I was going to walk in and the teacher would

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ask me to write something on the blackboard, like they do in

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the movies. And everybody would find out how far behind I was.

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That didn't end up happening but I didn't stay long. I spent a

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couple of months in the ninth grade, I maybe

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completed half of 10th grade. That was hard. It was a

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brand-new environment for me. I never really got used to that.

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What ended up happening, my grandmother, a bilingual teacher

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back east tracked me

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down and said uh-uh, you're not doing that anymore. She brought

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me back to New York and Tommy value doing hard work. She

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encouraged me to set goals for myself. She expected I would do

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well. That I would graduate high

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school and go on to college. She was probably one of the most

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influential people in my life up to this point. She was an

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incredible woman. I went back to New York. I started the first

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day of 11th grade. I completed 11th and 12th grade. One of the

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incredible things about being in school in the New York school

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district at that time was that we had access to tech school.

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Which I was really excited about.

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I happen to be pretty creative, I wanted to go for videography.

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We had access to that.

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That's a big part of what made that experience more enjoyable

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than it otherwise would have.

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The model they had, we called it boses at the time.

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You would spend your morning going to class, and the kids

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who were going to tech school would get on the bus and they

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would take us to a school in Bellport. We would get there and

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it was great.

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We would have one day of learning the theory behind our

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area of study. So I was taking videography and we learned about

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depth of field, how to set up a camera, how to put lighting on

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the subject. The theory behind it. The next day we would put it

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into practice. It was amazing.

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I learned skills that I still use today.

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I learned how to work in a team. I learned leadership.

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I learned that I could manage a project and be effective.

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I learned to be self-confident and how to set up equipment.

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Those are all skills I still use. I do see that somebody just

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put

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up the BOCES Board of Cooperative educational

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services. Thank you for that.

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I couldn't afford to go to a four-year university, and

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Suffolk community college was close to where I lived. I had an

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incredible experience. It was great. We had a lot of mentors.

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People who care deeply about making sure that I had what I

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needed to be successful. I first tried going full-time. That was

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a struggle.

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And my grandmother said that you have to pay for groceries and

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car insurance. She really wanted me to be responsible. So I had

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to work.

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I had to work part time. That wasn't jiving together. I was

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struggling. So I decided I would go to school part-time in my

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very first full-time job was in the

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industry that I am in now.

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I started at a company that was

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making microchips, inkjet chips. I remember the first couple of

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weeks, I thought they were going to fire me because I took

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a batch of silicon wafer's. They were in this cassette and I

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dumped them by accident upside down on the table. That had to

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be about \$5,000 worth of material. They were great.

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They gave me the opportunity to learn and grow. I remember

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looking into the microscope for the first time.

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It was just incredible. You could see things in the scope

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that you could not see with a naked eye. I thought wow. I was

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hooked. I have to learn more about this industry.

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So I learned how to run all the equipment during that job. I

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would sit with the maintenance guys and get them

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to explain to me the theory behind what they were doing and

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what was wrong with the machine. How they were fixing it. I got

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an opportunity to work on the manufacturing execution system.

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At that point it really looks like DOS and was confusing. We

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had to do that implementation and get people to start using

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software so we could manage the workflow of chips.



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That was a great experience in

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how and operation --an operation supposed her run. A couple years

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later I met my husband there. We got recruited out to a company

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in Southern California.

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This company was in competition to develop the first all optical

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switch. That was back in the early thousand's.

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Everybody was looking at these all optical networks.

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This company had micromirror technology which was incredible.

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We got recruited out of there. It was your typical Silicon

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Valley experience through there

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was here and P that -- beer at -- beer and pizza nine hours a

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day. And I would walk by and somebody would be snoring

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because they had been there all night. The CEO was also

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inspiring. He expected us to tackle our

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jobs in a very entrepreneurial way. He was like, listen.

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You are young and innovative. We expect you to use that in your

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job string not that he wanted us to go off and start our own

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companies but he expected that we would be creative about how

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we solve

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problems. Later on, the company did not end up surviving, but

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many of the people I knew there went on to start their own

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companies.

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A few years later, this company had invested heavily in bringing

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up their own

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manufacturing equipment and facility, which was really

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expensive. They built a clean room and

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they outfitted it with lots of chip manufacturing equipment. It

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was really expensive. I think part of that was to

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signal to investors that they were manufacturing ready, but it

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ultimately didn't work. We found ourselves running out of money.

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My husband and I years later were laid off from this job

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that we moved 3000 miles to work at. We just purchased a house,

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we were in the middle of a remodel

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and got laid off. We had to reevaluate what we wanted out of

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our careers. What we wanted out of life. We loved the start of

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atmosphere.

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We really enjoyed working on new technology but moving every

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three years and chasing that dream across the country didn't

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seem like a great idea. We are also passionate about being

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close to our families. We decided that we would move

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to Oregon. One of the challenges with doing that is that there

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was not any tech jobs there. We were struggling to figure

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out what we were going to do.

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Throughout the conversation, it happened over couple of months.

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We got a call from last friend of ours who was the facilities

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or send at the company that shut down.

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He said hey, remember the clean room, they left it in the

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building to get out of the lease . And we said yes.

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He said the new owners of the building have hired me to get it

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ready. They are putting a data center in the building and they

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don't want any of that equipment. They have hired me to

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sell it or take it out. I'm in the process of trying to find

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someone who wants this. Do you know anyone?

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We said yes, we would want that, but we don't have any money.

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He said OK, I'm still working through my Rolodex.

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Put in a zero bid offer, let me know how much you want, if

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nobody decides to buy it we will just give it to you.

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I thought gosh, this was a longshot. We worked up the email

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and figured out how much we could use. We sent the email

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off.

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They accepted our offer. We hired a couple of people

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from labor ready, that was the temporary staffing agency global

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-- local to us.

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We put it in a box truck and drove it to somewhere where we

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spent the next eight months putting together a business

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model. We made probably 30 trips to Oregon.

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We would get in the car at 4:30 in the afternoon.

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Battled through rush hour, get up to Oregon at 3:00 in the

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morning and commenced our real estate agent and the plans

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examiner from the city, the Fire Chief, our local bank to meet

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with us on Saturday mornings. I think during that time I

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probably sent out 25 or 30 business plans with financials

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to different financial organizations to try to cobble

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together funding for this company. It was only 320,000 at

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that time . It was a small amount. Only one bank would talk

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to me. It was a local guy where we

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live now, we are still friends. He goes to my Rotary.

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It was a tough start up. By the time we were ready to

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make that move and start putting together our facility,

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we had sold her house. We put every penny into that business

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to try to secure our loan. We had the clean room.

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By the time we got up and running we had about \$50,000,

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\$60,000 in credit card debt. That was unheard of at that

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time. Nobody did that. It was great. We started out with

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cement floors.

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Unfinished walls, a tiny 2800 square-foot space. I remember

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doing actual construction, building our office.

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I learned how to glue PVC pipe together, how to bend stainless

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steel tubing, work on the equipment, we had to install our

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oxidation thermos ourselves. It was two of us and we worked

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day and night for probably two years before we hired our first

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employee. Fast-forward forward to today.

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We have almost 30 people. Our company is thriving. We have had

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the opportunity to work on some really incredible technology.

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I will share some of my slides, so you could see what we are

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working on. You should be able to see that now.

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This is me, in high school.

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This is when we first started the company. Our company today's

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considered

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a pure play men's foundry. That means we don't develop our own

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technology. What makes us unique is that we started very early on

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in the chronic development cycle and

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we support those products all the way through duction.

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We serve a whole bunch of industries, automotive, health

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care, industrial. We work with a lot of different types of

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customers.

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But because of where we set in

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the supply chain, we have had this new emerging technology

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that's being developed for probably at least 10 years. We

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have had a full foundry. We have worked on things like

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molecular diagnostics. We have made different versions of high

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temperature pressure centers. We worked on continuous glucose

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monitoring.

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We are working on LIDAR technology which is going into

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autonomous vehicles and AgTech equipment. We make a graphene

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enabled biosensor in a company in San Diego doing incredible

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things. One of the more interesting

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projects was with a team out of the University of California San

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Francisco. This team was a cross functional team.

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They had people who were high tech chip manufacturing folks,

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mechanical engineering, biotech people were involved.

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They developed a bio artificial kidney to replace dialysis.

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This was an implantable device, about that big.

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It goes inside your body, as if this was a kidney, so you never

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have to sit through a dialysis treatment. Absolutely

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incredible.

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They put very tiny holes in silicon chips to create one part

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of that filter. They take a biopsy from your

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kidney and grow part of that kidney and use it to filter out

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the other biomaterials. It is still early, obviously, but this

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shows you the breath of things being worked on today. Which is

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incredible.

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Over the last five or six years, something we have been seeing

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and we have watched evolve over time is that we as an industry

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are running out of manufacturing capacity.

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I think I have mentioned it earlier, our company is one of

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the few peer play MEMS foundries in North America.

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We are seeing an explosion of need for manufacturing and we

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don't have a way to satisfy it. So lead times are going further



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and further out. You have probably read about

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the chip shortage. We have high demand, limited capacity, some

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of what's driving that has happened

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recently with COVID. Consumer demand for electronics has gone

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up. When schools are shut down

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every child needed an iPad or a Chromebook. Every educator had

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to be able to connect.

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Anybody who could work from home probably needed new equipment,

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phones, tablets. All of that.

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We used up our inventory, these

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companies have a stockpile of chips to satisfy manufacturing

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and that's just gone now. You can see leadtimes being

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stretched out further and further. We see that in the

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automotive industry and others. Other things driving this our

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high-performance computing, artificial intelligence. We hear

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a lot about AI. Data centers and 5G, the world

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has been rolling out 5G technology

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on this other offshoot in the industry I work in, there is

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still a lot going on.

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Some of that we have talked about, but there's other things.

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There's a lot going on in diagnostics and medical imaging.

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You look at IOT you look at the potential for what IOT can do in

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communities.

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There is a company that's developing technology. You could

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put a chip on a parking space and if you are

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driving around in a populated area, your car will hook up to

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that chip and it will guide you to the nearest open parking

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space. Things like managing electrical

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grids, traffic management throughout the cities. These are

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things that are coming and we have to keep up with demand.

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That's become more and more difficult, the longer we wait to

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bring up that extra capacity.

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In the semiconductor and MEMS industry can we saw a 20%

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increase in manufacturing. We also are seeing 20% this year.

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That's 40% growth in two years on top of what we were already

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seeing for the last five years. We were pretty tight, the

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leadtimes are going far out and there's a lot of momentum around

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bringing up new facilities to satisfy this need.

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Right now there's 52 new manufacturing facilities coming

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online. They are scheduled to do that by 2024.

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That represents \$900 billion in global investment. This is a

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significant amount of investment. This is all over the

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world.

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So if China is trying to build in its own, they want to be

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independent technology wise, we do have Korea and Taiwan looking

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at additional capacity.

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Europe is looking at bringing up capacity, also here in the U.S..

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We are finally taking notice that we have to develop an

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incentive program to build and resilience into our own supply

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chain.

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If you look at what we used to be, we used to manufacture 37

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percent of all semiconductor devices in the U.S. in 1990.

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It's down to 12% today.

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There's a lot of concern around this. Microelectronic supply

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chain and resilience is important. It's actually an

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issue of national security. We have seen rising tensions

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between the U.S. and China. We also see vulnerabilities in

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the supply chain because much of this is clustered in certain

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parts of the world.

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If we have a pandemic, like we are experiencing. If we have a

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natural disaster, if we had geopolitical

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tensions, something unexpected that happens to disrupt that and

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all of our eggs are in one

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basket, that's a real problem. There is a momentum to onshore

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that and diversify this my team so we are less vulnerable.

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Congress is likely to invest \$52 billion through the chips for

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America act.

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It made it through the Senate, it's in the house and I think

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that will happen. That investment will be twofold. It

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will be building and more resources for research and

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development. I'm sure there are many of you watching this

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carefully. It will impact how public

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education institutions and what resources NSF has, it's huge.

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The other piece is building in an incentive package for

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companies that want to develop manufacturing capabilities. I am

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bringing some of that back to the U.S.. Including materials

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and equipment.

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We are trying to push them to look at the whole continuum.

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It's not about chip manufacturing only comments

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about getting the materials you need to deliver on that promise.

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All of this is happening.

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We have all of the momentum, it's an amazing opportunity and

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at the same time, we have a dropping labor participation

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rate. That's a challenging environment.

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We see companies all over and small businesses are struggling

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with this.

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In 1990, even in the 2000's, we have a workforce participation

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rate of about 67 plus percent. That means it's everyone

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working age, everybody currently working whether it's part-time

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or full-time, and everybody who is looking for a job at that

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time. We have seen that go down.

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It's now 61.6%. We have less people

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participating at a time where we absolutely need more.

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We have a 6% unemployment rate which is not helping.

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There was a recent survey, the National Federation of

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Independent business saying 46% of small businesses have jobs

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they can't fill.

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91% of those people who responded said they are not

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getting qualified applicants. It's extremely challenging.

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I did this interview with a local newspaper a couple of

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weeks ago. We had a great conversation.

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The gentleman who recorded it was wonderful. He thanked me for

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coming in and he said I just want let you know , I have no

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idea when the story will run. We are down to reporters and an

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editor. It's happening everywhere.

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And it has really slowed us down.

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I'm sure you have heard from your areas, how much they are

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struggling through this time.

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I want to spend some time thinking about beyond our

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traditional workforce and education system, what can we

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do? There's tons of momentum around this.

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When I was looking at your sponsors I was so impressed by

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the level of creativity that people are tackling this issue

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with. I think it's phenomenal.

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The future of work will be important. What will this really

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look like for us? We have listened to countless

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presentations from futurist , there's a lot of thinking around

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things like agricultural harvest will be automated.

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We will have these big manufacturing facilities that

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are automated.

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Humans are obsolete as much of the messaging that's out there.

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I don't think that's true. If you are in industrial like mine

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and you have to do these specialty types of

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manufacturing, we need -- too much automation is bad for us

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because we don't have the ability -- the flexibility we

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need. That's true for many small businesses.

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But as we prepare for automation, what are things that

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are really important?

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What are things that everyone can agree on? Humans need to be

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able to add value beyond what is done by automated system and

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intelligent machines. What is that? We need to be adaptable.

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We need to be able to operate in a digital environment. We are on

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a virtual conference right now. That's cool. We are adapting to

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this new way of working. I think it's phenomenal.

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One of the things I was brought was this integration of home

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life and work life.

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We used to look at work life balance and now it's work and

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home life integration. We can do more of what we are comfortable

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with and our families can see the work that we do. There's a

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lot of value in that. Skills that we need to build

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for success.

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People think that math and science and these stem fields,

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it is important to build the stem skills. But there are some

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basic things that are not going to change.

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They are the same skill gaps that I'm struggling with when I

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bring in new technicians and engineers. This has not changed

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on long time. His leadership and decision-making skills.

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Complex problem-solving, critical thinking, social and

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emotional intelligence, collaboration.

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We need to build more resilience, stress tolerance and

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flexibility. Those are important. They are not skills

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you can be taught on paper. You have to develop them over time.

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You need that on-the-job training to build up those

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skills.

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We started this with our kids early. We used to do our own

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maintenance.

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We would work and because of this movement toward

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specialization we don't do that.

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So kids have less opportunity to build those skills organically.

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It's going to be important that we collaborate on how to get

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this done. Industry specific skills that I

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see we are lacking, and community college and university

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for our engineering people and people going into technical

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fields, we need to pay more attention to safety.

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Making sure that people understand basic safety systems.

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I have had challenges with this end of had to retrain.

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You could ask new college graduates, has anyone talked to

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you about this and they would say no.

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We are working with a lot of dangerous chemistry and

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chemicals and have something

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coming in at an engineering level.

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I would encourage employers to reach out and try to provide

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some guidance on that.

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I think it's going to be -- the other areas are on the quality

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system side. It's something that a lot of people roll their eyes

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that. Especially when they are busy developing technology and

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they don't want to be bothered with quality systems. It's

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important, and hard to backtrack and force that discipline and

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how we tackle quality from a manufacturing perspective area

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those are my two industry specific skills

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that I think are missing. I think the rest we could do a

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better job at acclimating people for work.

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Part of that is that we need a demand driven workforce

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development system. We have a lot of people and workforce

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development here so I will not spend tons of time on this.

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But we need to dig down a little deeper and align K-12

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and postsecondary education. We are working on that in my local

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community. It has been a challenge.

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Part of that beginning conversation, we started eight

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years ago now is that the workforce board level we

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invited our partners and community college president.

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The president of our university to participate in those

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meetings. To start a conversation on how

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we can align and provide better paths for kids that are going

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through the K-12 system. So that we have a better output.

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Collaboration across agencies. I'm not telling you anything you

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don't know. But it's a challenge.

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We have dollars coming down from the federal government.

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They hit our states, and they bounce around between a couple

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of different state agencies and they can allocate it to our

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local workforce. At the end of the day, those

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folks are expected to coordinate and weave together those

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resources across some

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state agencies to make sense of and develop programs that are

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meaningful. It's a lot of hard work.

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I know we are leaving dollars that are not making a down to

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the community.

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I always advocate that we need more flexibility so that we

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could develop specific workforce programs that work for those

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regions. Not every places the same.

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The last thing is meaningful data. This drives me nuts.

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As somebody in an engineering field, we have a hard time

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getting longitudinal data.

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Who are we helping and our programs effective? There's a

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lot of work to do in this area.

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This gives us the right feedback to nurture things are working

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well. Inspiring our use, this is important.

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These are my two little ones. I have a 10-year-old and a

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six-year-old. I brought them to our clean room and let them see

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what we do.

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It's really important. The one on the left is seven years old

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now. This is an adult sized clean

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room outfit so I put a bunch of rubber bands on and we walked

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around and we talked about the process. And now we have a much

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better understanding of what mom and dad do.

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I think that's important for kids. We have to inspire kids to

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be creative. To think about innovation in a very different

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way. Early connections is important.

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It's not just how are you going to support your family when you

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grow up, it's what are you, as an individual, going to give

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back to your community. What can you offer the world that's

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unique and different? If we tackle it that way, we

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are going to get much more engagement. When you talk about

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cultivating our next generation of innovators, we need them to

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be creative. To really have a heart for the

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work they are doing. That's when the magic happens.

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Sometimes that takes inspiring kids early. And hooking them up

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with mentors and sponsors and role models.

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I had that throughout my early career. It was phenomenal. It's

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part of the reason I'm here today.

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We talked about K-12 alignment.

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We need industry involved we have to have everyone, not just

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the larger companies, companies that are 200 people, 300

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people, 50 people, sometimes they have the resources and the

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knowledge to get more involved in digging down and building

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that awareness with kids about what they do. Some of the

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smaller companies are just as important and valuable but they

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don't have a structure and infrastructure to plug into. One

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of the things that our company did early on to build

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awareness about what we do a kids in our communities is that

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we got involved with first robotics.

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If you have not heard about first robotics, it's a great

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program. The kids get together in teams and build a robot from

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scratch. The purpose is to compete.

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They go through this obstacle course. It's really cool. The

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most impactful thing about this program is that at the end

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of the day they have a notebook where they are recording what

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their thought process was during the build of this robot.

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They are required to present this during competition time to

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the judges.

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We sponsor to this team. We also brought them with us to

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one of the biggest semiconductor tradeshow.

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It used to happen every year in July. It's amazing. You can see

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all of the latest and greatest equipment with industry

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professionals there. We brought these kids and they

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got to show off their robot and talk to people who are in their

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industry.

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Something we have not done well on the semiconductor side is

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that we have not promoted ourselves as a career option for

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young people. People find out about it when they are in

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college.

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If you talk to a 16-year-old kid , and you ask them, I hear

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you want to be an engineer, do you have any idea where you want

00:50:58.000 --> 00:51:00.000

to work?

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I could guess what they want to say. There will not sound want

00:51:01.000 --> 00:51:10.000

to work at rogue Valley Microdevices.

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They will say Google and Facebook. They will name those



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products and platforms that they know best. That they are

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actively using. So we has industry leaders have

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to work harder to get in front of these kids and build the

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awareness early. And getting involved with

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things like first robotics and doing activities like this is

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great. Our industry Association has an

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amazing program called high-tech you -- U.

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These kids participated in that as well. It's a two day program

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that they put on through their foundation. It's an introductory

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course in

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what it's like to be a semiconductor engineer. It was

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fantastic. If anybody is interested in learning more, I'm

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happy to give you contact information.

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They are rolling this program out to businesses and companies

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and helping to train their staff on how to deliver this program.

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Career technical education, you all know how excited I am about

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this and the impact it has had on my journey. I think it's

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phenomenal.

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At the time I went I did not have access to dual credit

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programs. I'm really excited about this.

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As we look at the needs moving forward, what can we do?

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How can we build on career technical education? What does

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it mean to take that to the next level, to building

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out a really innovative workforce? I am looking at the

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apprenticeship model, where I think is where we will end up

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going. This is the model, you have

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probably heard about this which was developed in Germany and

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the Swiss has have had -- the Swiss have had great success in

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this model. It starts in high school, the

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Jr. year of high school, and you get paid to do on-the-job

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training in high school.

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Your senior year, you are working half-time, classes are

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aligned to that field of study. When you graduate you can

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continue on through university or community college. But you

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are also learning a trade.

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This helps to address that lag. Especially for at risk kids.

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For graduating kids who are maybe not exposed to these

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options in high school. What ends up happening is they fall

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down this rabbit hole and they don't know what to do.

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It is scary to be 17 and 18 and to know that the graduation date

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is looming and you have no plan. This provides a path.

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We have 20,000 youth apprentices in the program now. Half are in

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Wisconsin and North Carolina. If you are from those states.

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Amazing job. Thank you. We have other states that are

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developing these programs, Colorado is doing that. He

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started in 2018. We are starting to look at how do we adapt this

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to our U.S. education model. It's fantastic and I'm excited.

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I have a video I'm going to

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share with you about what kids are saying about youth

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apprenticeship models. I will play this quickly and come back.

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☒[NO AUDIO]

00:55:53.000 --> 00:56:04.000

[NO AUDIO]

00:56:04.000 --> 00:56:13.000

Jessica: I'm going to stop share, can you hear me OK now?

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I love that video, it's really inspiring. We don't have to

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watch it now area really it's about how

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inspired these kids are about their youth apprenticeship

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experience.

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The thing to recognize is that this used to be focused on

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trades. You think about construction,

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electrical, this is had -- this is extended to all kinds of

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things. I.T., business, health care, engineering.

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This is really providing that structured path for kids to get

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inspired and figure out what they want to do in life. Some of

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the pushback that I

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have heard is we don't want to lock people into a particular

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career, they may not know what they want to do. What I have to

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say about that is that it doesn't matter.

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Those skills we talked about earlier, they are so

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transferable.

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We need people to get out of the world, though that those skills,

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and get ready to contribute.

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And once you feel that, the benefit is huge to employers. I

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can tell you, for me, when we start from the beginning and we

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have someone who has never been exposed to our industry, even

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with the raw ingredients, it takes about six to eight months

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to train that person to do a process technician job.

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I encourage people to get involved in youth apprentice

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ship models because you are investing in your future

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workforce.

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Really phenomenal.

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I think what I will do is stop here, I want to leave you with a

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couple of messages, encourage your kids to do their best work.

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I did not start out -- but I had some incredible mentors.

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I'm really dedicated to figuring out those pathways to education

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and I know you are as well. Don't forget to encourage them

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and have high expectations.

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It is so important to have that expectation and give them the

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confidence to work hard at that. I will end it here.

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☞> it do you have time for questions?

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☞Jessica: I do. Peter:

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Do you think we will ever have fully automated manufacturing

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facilities where employees can work remotely?

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☞Jessica: I think we will have some of that.

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I think we'll will have some pretty sophisticated

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manufacturing facilities for certain things. It will be

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important to have skills -- skilled people who can manage

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that. When it comes to maintenance and the facilities

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part of that equation, we need human beings. I don't think we

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will get away from that.

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☞Peter: This has been a tough year and a half are a lot of

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people. How has your company and business been affected by COVID?

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☞Jessica: It was really challenging. I can tell you that

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first couple of months, part of the business that we were doing

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completely dropped off. The other part doubled.

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We had to make a shift from doing one and two step

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processing for other manufacturers to do full device

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fabrication for everything. And we had our challenges.

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People coming down with the common cold. We didn't know how

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to manage that. There was very little guidance

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at first. I now know more about our employees than any CEO

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should. But it was the nature of the time. We are stronger and

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better off for it.

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We work a lot to build and efficiency and we now have

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people who have flexibility built into their schedules and

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it was not something we got to do. And we are really getting

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the benefit of that. Overall, it was a great thing for us.

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☒Peter: When you hire technicians, what's a key marker

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that convinces you and your team to make a job offer?

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☒Jessica: We look for people who can focus. It's one of the

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things we see missing in general.

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We look for people who can multitask and do that.

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Bartenders are typically really great at that. It sounds weird

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but they are great at it. Pharmacists are really good.

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Anybody in the medical care, they tend to do really well.

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But it's more about, to me, the attitude and the work ethic. If

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you come to the table and you are real -- and are willing to

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work hard and learn, that's what we are looking for.

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☞Peter: There were some questions about

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increasing the number of women in tech programs. From your

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perspective, what things have you found to be effective. What

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hasn't worked so well?

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☞Jessica: Having great examples of women in technology is

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probably the very first thing.

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Me being in the position as CEO has changed that for our

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company.

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I think we have most of our management team, -- I think we

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lost them. All of our managers at our company are female.

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Including our sales and engineering manager.

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I think we need to do a better job at providing family



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resources. Something that I tell all of my

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incoming engineers is that you should not have to compromise

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your family to do this job. Yes it's difficult, but doable.

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And you have a supportive environment. So somebody needs

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to bring their child to school -- to work, bring them in.

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I am a big believer that as employers, we might need to look

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at having on-site childcare again and finding better ways to

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do that so that moms and babies can be more connected. That's

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the deterrent. If you're a process engineer you are on your

01:03:37.000 --> 01:03:42.000  
feet all day

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long, in the FAB, keeping your skills fresh. It's tough to

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manage a family.

01:03:50.000 --> 01:03:55.000  
Peter: What do you see is the biggest

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obstacle that your business faces to recruit high quality,

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entry-level talents.

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Jessica: I see that inflation is going to continue to impact our

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ability to attract and maintain.

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We are now, in some ways, competing with government

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programs. We will see what happens in September. We know

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that materials are more expensive.

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We have to raise our prices because we now have to increase

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our salaries by quite a bit just to keep up with the normal job

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market pressures that we have now.

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I am hopeful that will settle down. And we have to get more

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people back to work.

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We have the 61% participation rate. That's not enough to

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support the level of people that we need.

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It's not enough to support the volume of people we need working

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and thinking about building a career.

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☒Peter: Some new technologies are

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continuing to mature. One of those is virtual reality.

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Do you think training in virtual reality can replace hands-on

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experience?

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☒Jessica: We are seeing some really incredible things. It's

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not so much virtual reality as much as it is augmented reality.

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Augmented reality mean I

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purchased a brand-new piece of equipment. We have an augmented

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reality headset.

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What the hope is is that that manual will be digital. We can

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do maintenance on the machine to put on the headset and we have

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an overlay technology. It says OK, here's what you are

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looking at to get to that particular O-ring to change this

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out. Here are the tools you need.

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We want you to turn this valve, look for these particular

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things. Here's how you get inside the machine on change

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that out.

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Here is what this looks like when done correctly.

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That's what I'm hoping we can gain from augmented reality. I

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am really excited about how that's going to impact our

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ability to do our own maintenance and be able to learn

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more about the facilities that are being built now. They are

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highly sophisticated.

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☒Peter: Do you have time for one more question?

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☒Jessica: sure. Peter: Get out your crystal

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ball. What do you see emerging in the next few years?

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Do you think manufacturing is going to change based on AI,

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machine learning, and how can educators keep up with what you

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see coming out?

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☒Jessica: The technology that is going

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into the modern manufacturing plants, that already exists.

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We are going to see more sophisticated ways to manage

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things like chemistry flow, gas flow, just the facility side of

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what needs to happen in order to keep people safe and keep a

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facility running properly is pretty sophisticated. All of

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that is now connected. I think we will be able to

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manage those things a little easier and more efficiently.

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And some of these, you don't even touch the product anymore.

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It's amazing. I think that's coming.

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My hope is that we don't forget about the foundational skills.

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We look at these things and it appears like magic. How are they

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doing this? Look at what we can do with our cell phones. It's

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amazing. We forget to teach kids the

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basic mechanics of how it's done. And that's where you have

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to build up those skills. You have to understand that if

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you are going to be working in an environment because we need

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people that not only -- that we can train on the software side.

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But people who really understand how the systems are put

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together.

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☒Peter: Thank you so much for sharing your story and

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supporting technician education.

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☒Jessica: thank you for having me.

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☒Peter: Rachel, back to you.

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☒Rachel: Thank you. That was a terrific keynote.

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It's great to hear your story.

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Everyone, we are going to take a short break. We will be back for

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our final

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panel of the day at 1:10 Eastern. I will see you soon.

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☒Rachel: Welcome back.

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We are excited to hear from her our panel of students and

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educators. This time I will turn things

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over to our panel moderator. Mary?

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☒Mary:

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Welcome back tod day 2. They are sharing some of the

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teaching and learning practices introduced during the last

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pandemic year they hope will stick around. We have all

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experienced the best stories on how this went. What are the

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things that folks would like to see persist?

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I will go ahead and introduce you to them quickly. We have

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three instructors. James Brown from Shaw University.

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Welcome, James.

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We have Pam Silvers from Asheville-Buncombe technical

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community college.

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And we have Jason Tucker from North Central State College in

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Ohio. We welcome them and thank them for taking time with us.

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We have three students.

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The first is Cheryl Batista from Asheville. Welcome, Cheryl.

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Cameron Schulz, who recently graduated from north-central --

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North Central.

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And Elizabeth Sanders, a senior at Shaw. She is trying to get

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login. We will go ahead forward and when she joins us we will

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take a moment and recognize her as well.

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Good morning, panelists. How are you today?

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Great follow-up to Jessica's presentation. We will hear

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straight from the horses mouth. -- horse's mouth.

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We will settle on context. We have talked about this already.

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We don't want to go too deep into the particulars.

01:21:58.000 --> 01:22:03.000

We will ask the instructors, the faculty members, and I will

01:22:03.000 --> 01:22:05.000

start with Pam. When did your institution go online?

01:22:05.000 --> 01:22:06.000

How long were you fully online? What did this do for your

01:22:06.000 --> 01:22:07.000

classes logistically?

01:22:07.000 --> 01:22:19.000

☑Pam: Thank you. We went online on March 11, 2020.

01:22:19.000 --> 01:22:24.000

We headed a two week break instead of a one-week spring

01:22:24.000 --> 01:22:27.000

break and came back and were online. I have been teleworking

01:22:27.000 --> 01:22:30.000

since that time.

01:22:30.000 --> 01:22:35.000

Probably the biggest transition was having students at the

01:22:35.000 --> 01:22:37.000

technology. I'm a computer instructor.

01:22:37.000 --> 01:22:39.000

I was ready to be going online.

01:22:39.000 --> 01:22:44.000

☒Mary: James, do you want to go next.

01:22:44.000 --> 01:22:57.000

☒James: My story is interesting.

01:22:57.000 --> 01:23:02.000

Last spring I was at fourth ic -- Forsyth community college. I

01:23:02.000 --> 01:23:04.000

was a full-time PhD student.

01:23:04.000 --> 01:23:06.000

Going face-to-face at the time, that switched to online. We

01:23:06.000 --> 01:23:11.000

started around March and that I moved to Shaw University in the

01:23:11.000 --> 01:23:18.000

fall. We were planning on going online.

01:23:18.000 --> 01:23:23.000

The biggest issue was the learning management system.

01:23:23.000 --> 01:23:25.000

Getting that in order.

01:23:25.000 --> 01:23:30.000

Even to this day having attendance be translated into

01:23:30.000 --> 01:23:31.000

the database as we take attendance, that has been a

01:23:31.000 --> 01:23:34.000



challenge.

01:23:34.000 --> 01:23:39.000

That was pretty much the hardest part of the transition.

01:23:39.000 --> 01:23:43.000

☒Mary: Thanks, James. Jason, you had a little bit of

01:23:43.000 --> 01:23:45.000

a different circumstance.

01:23:45.000 --> 01:24:01.000

☒Jason: It was interesting here in Ohio.

01:24:01.000 --> 01:24:06.000

Early March of 2023 diverse was -- I hope it was the most

01:24:06.000 --> 01:24:09.000

challenging time of my career. I don't want anything to try to

01:24:09.000 --> 01:24:11.000

top that. We had a meeting right before

01:24:11.000 --> 01:24:13.000

spring break about zoom.

01:24:13.000 --> 01:24:15.000

We might need this for a couple of days and then it stretched

01:24:15.000 --> 01:24:39.000

out the two weeks and all of our lectures are still online today.

01:24:39.000 --> 01:24:44.000

Our lab is done in-person or with the industry partners.

01:24:44.000 --> 01:24:47.000

I had a lot of students who

01:24:47.000 --> 01:24:52.000

tried to avoid it early. I know you have questions about the

01:24:52.000 --> 01:24:54.000

lab. I'm trying to figure this out as we speak.

01:24:54.000 --> 01:24:59.000

We had virtual labs the rest of that semester. Over this

01:24:59.000 --> 01:25:01.000

previous school year, both the fall at the spring, both

01:25:01.000 --> 01:25:06.000

electric components were online.

01:25:06.000 --> 01:25:11.000

Most of the labs, including our labs, were in person. 90% of the

01:25:11.000 --> 01:25:18.000

time. We had to take them online because of COVID numbers.

01:25:18.000 --> 01:25:23.000

It was extreme here in Ohio. The biggest challenge was developing

01:25:23.000 --> 01:25:25.000

labs. Trying to figure out the best

01:25:25.000 --> 01:25:30.000

way to assess certain labs, get scheduling figured out. When I

01:25:30.000 --> 01:25:35.000

had students in-person, how can I design labs that would give

01:25:35.000 --> 01:25:41.000

the biggest bang for the buck before the students

01:25:41.000 --> 01:25:42.000

got to graduation and got to their worksites.

01:25:42.000 --> 01:25:46.000

☐Mary: That was something, Pam, you were teaching computers.

01:25:46.000 --> 01:25:51.000

James as well. It makes a little bit of an easier transition.

01:25:51.000 --> 01:25:55.000

A lot of audience members are things like advanced

01:25:55.000 --> 01:25:59.000

manufacturing and biotech, where those hands-on labs are a

01:25:59.000 --> 01:26:02.000

critical thing. That became a big challenge. That was impacted

01:26:02.000 --> 01:26:07.000

by which state they were in.

01:26:07.000 --> 01:26:09.000

We had such a patchwork system of restrictions and allowances.

01:26:09.000 --> 01:26:14.000

Thank you for sharing that. A little bit of a context they are

01:26:14.000 --> 01:26:19.000

about what you guys were facing. Students, we will turn to you

01:26:19.000 --> 01:26:21.000

now. Elizabeth, thank you for joining us.

01:26:21.000 --> 01:26:26.000

We introduced you but there you are. We can say hello to

01:26:26.000 --> 01:26:27.000

Elizabeth. You were sitting there and you

01:26:27.000 --> 01:26:29.000

got the announcement and you are like holy cow.

01:26:29.000 --> 01:26:32.000

What were your first thoughts when your campus when fully

01:26:32.000 --> 01:26:44.000

online? Did you have logistical or

01:26:44.000 --> 01:26:48.000

technical issues you had to deal with? Cheryl, you want to go

01:26:48.000 --> 01:26:53.000

first?

01:26:53.000 --> 01:26:56.000

Cheryl: hello, everybody.

01:26:56.000 --> 01:26:59.000

My concerns in the beginning were availability of campus

01:26:59.000 --> 01:27:03.000

staff and resources. Hands-on learning. We talked about the

01:27:03.000 --> 01:27:09.000

labs. Also the ability to interact

01:27:09.000 --> 01:27:14.000

and study with students, other students. I felt that was

01:27:14.000 --> 01:27:18.000

important for part of the learning as you were going

01:27:18.000 --> 01:27:22.000

through college.

01:27:22.000 --> 01:27:27.000

One of the things that technically was a challenge in

01:27:27.000 --> 01:27:34.000

some instances but not others was how well the learning

01:27:34.000 --> 01:27:40.000

management system was organized for the students so we knew when

01:27:40.000 --> 01:27:41.000

things were due and what chapters we needed to have

01:27:41.000 --> 01:27:46.000

studied and testing dates and things like that.

01:27:46.000 --> 01:27:47.000

One of the benefits was that to a great degree we had to rely

01:27:47.000 --> 01:27:57.000

on our initiatives to find information, to get through the

01:27:57.000 --> 01:27:59.000

learning chapters or week or whatever, because some

01:27:59.000 --> 01:28:04.000

professors were not always as immediately available if they

01:28:04.000 --> 01:28:09.000

were on campus. You had a class the next day and asked the

01:28:09.000 --> 01:28:13.000

question.

01:28:13.000 --> 01:28:16.000

If you could not do that -- it inspired confidence that we were

01:28:16.000 --> 01:28:20.000

able to get answers without just going right to the professor.

01:28:20.000 --> 01:28:25.000

There were pros and cons. In the end the professors did

01:28:25.000 --> 01:28:29.000

great, the colleges did great and we all learned a lot moving

01:28:29.000 --> 01:28:34.000

forward with this virtual learning thing.

01:28:34.000 --> 01:28:42.000

☒Mary: Did you have technological issues? For you OK/-- were you

01:28:42.000 --> 01:28:47.000

OK there?

01:28:47.000 --> 01:28:50.000

☒Cheryl: it was less about the service being there then if the

01:28:50.000 --> 01:28:55.000

company was throttling down service.

01:28:55.000 --> 01:28:58.000

That was a rural Internet access challenge.

01:28:58.000 --> 01:29:01.000

Sitting in the parking lot at McDonald's to connect, which

01:29:01.000 --> 01:29:06.000

was not easy in the cold weather for hours.

01:29:06.000 --> 01:29:07.000

☒Mary:

01:29:07.000 --> 01:29:09.000

I know in some areas libraries, like the County libraries would

01:29:09.000 --> 01:29:11.000

set up Wi-Fi spaces and their parking lots and such to try to

01:29:11.000 --> 01:29:24.000

address that. There is a lot of different

01:29:24.000 --> 01:29:29.000

strategies people ended havd to deal with with those issues.

01:29:29.000 --> 01:29:35.000

Cameron, do you want to go next? Go ahead and your first

01:29:35.000 --> 01:29:41.000

thoughts when you went online. Did you have logistical issues

01:29:41.000 --> 01:29:43.000

or technological issues you had to deal with?

01:29:43.000 --> 01:29:47.000

☒Cameron: Thank you for having me.

01:29:47.000 --> 01:29:50.000

When we first went online I was concerned with lab work.

01:29:50.000 --> 01:29:55.000

The degree is his extremes with different techniques we have. I

01:29:55.000 --> 01:29:57.000

was fortunate enough to live in town and have a pretty decent

01:29:57.000 --> 01:30:01.000

computer set up an Internet speed that allowed me to stream

01:30:01.000 --> 01:30:06.000

the lectures and lab work in videos. I was fortunate in that

01:30:06.000 --> 01:30:11.000

manner.

01:30:11.000 --> 01:30:14.000

Honestly, my first thought was this might be the time to take a

01:30:14.000 --> 01:30:16.000

break after this semester. I was super skeptical about online

01:30:16.000 --> 01:30:21.000

learning. I need a professor in-person.

01:30:21.000 --> 01:30:22.000

After the first -- we shut down for the semester and I got rid

01:30:22.000 --> 01:30:24.000

of all my fears. D worked out great in our professor was

01:30:24.000 --> 01:30:25.000

amazing.

01:30:25.000 --> 01:30:37.000

☒Mary: Thanks, Cameron. Elizabeth, how about you?

01:30:37.000 --> 01:30:45.000

Did you have any kind of logistical or technological

01:30:45.000 --> 01:30:47.000

issues you faced?

01:30:47.000 --> 01:30:51.000

☒Elizabeth: Well, at first we were told to be sent home right

01:30:51.000 --> 01:30:56.000

after spring break.

01:30:56.000 --> 01:31:02.000

I was prepared for the rest of school to be online.

01:31:02.000 --> 01:31:05.000

Since I was a computer science major, usually most of the

01:31:05.000 --> 01:31:08.000

assignments I had were on my laptop. I was able to transition

01:31:08.000 --> 01:31:13.000

more smoothly online.

01:31:13.000 --> 01:31:15.000

At Shaw specifically, the platform, we used for their

01:31:15.000 --> 01:31:16.000

online schooling which was usually just for summer school

01:31:16.000 --> 01:31:21.000

classes, it was converted to all schools. They already had an

01:31:21.000 --> 01:31:25.000

infrastructure set in place.

01:31:25.000 --> 01:31:30.000

Once the online school happened, they transitioned everything

01:31:30.000 --> 01:31:35.000

onto that platform they were using. It was kind of easy on

01:31:35.000 --> 01:31:40.000

that front. Yeah.

01:31:40.000 --> 01:31:42.000

☒Mary: I will go a little off script and I apologize to my

01:31:42.000 --> 01:31:45.000

student participants. I promised I wouldn't.

01:31:45.000 --> 01:31:50.000

None of you three really had any issues.

01:31:50.000 --> 01:31:55.000

Did you hear any stories of your peers?

01:31:55.000 --> 01:31:57.000

Elizabeth mentioned a little bit about how they got sent home and

01:31:57.000 --> 01:32:02.000

people did not have what they needed. Notebooks and materials

01:32:02.000 --> 01:32:06.000

and books and things.

01:32:06.000 --> 01:32:11.000

Did any of you have stories of students who cannot get on or

01:32:11.000 --> 01:32:17.000

did not have the technological means to get on or anything like

01:32:17.000 --> 01:32:22.000

that?

01:32:22.000 --> 01:32:27.000

☒Cheryl: Several people in my community did not have service.

01:32:27.000 --> 01:32:32.000

They did not have any service.

01:32:32.000 --> 01:32:33.000

This -- most of the students around my area are younger.

01:32:33.000 --> 01:32:37.000

They are in the high school situation and middle school. I

01:32:37.000 --> 01:32:42.000

think many of them were just pulled out of school.

01:32:42.000 --> 01:32:45.000

Parents have lost their jobs.

01:32:45.000 --> 01:32:48.000

I think there was a lot of children that were not in

01:32:48.000 --> 01:32:53.000

school. They did not have access to the Internet and did not have

01:32:53.000 --> 01:32:55.000

materials to connect, for the resources, the devices.

01:32:55.000 --> 01:32:56.000

I think that changed probably the fall. They worked through

01:32:56.000 --> 01:33:02.000

summer. They had the opportunity to get the support they needed

01:33:02.000 --> 01:33:12.000

from the county and so forth. That is what I saw in my area.

01:33:12.000 --> 01:33:17.000

☑Elizabeth: My mother owns a daycare.

01:33:17.000 --> 01:33:18.000

For all the students that would usually come for afterschool

01:33:18.000 --> 01:33:23.000

programs and things like that, they kind of worked with the

01:33:23.000 --> 01:33:29.000

daycare's in the wake County area to make sure to make sure

01:33:29.000 --> 01:33:35.000

all the students were able to have their own hotspots,

01:33:35.000 --> 01:33:40.000

headphones, and the issued computers to as many students as

01:33:40.000 --> 01:33:41.000

possible. With that it was kind of in



01:33:41.000 --> 01:33:45.000

partnership with other institutions.

01:33:45.000 --> 01:33:48.000

A child that would traditionally go to a YMCA, they facilitated

01:33:48.000 --> 01:33:51.000

them full-time to make sure there was some type of

01:33:51.000 --> 01:33:57.000

productive learning environment. Some of the summer camp

01:33:57.000 --> 01:34:00.000

teachers had to wind up facilitating around three to

01:34:00.000 --> 01:34:04.000

five different students from completely different schools.

01:34:04.000 --> 01:34:09.000

They all had different schedules. It was really a wild

01:34:09.000 --> 01:34:16.000

time. We were definitely able to help

01:34:16.000 --> 01:34:21.000

as many kids as we could that we already serviced.

01:34:21.000 --> 01:34:22.000

☑Mary: Thank you, Elizabeth. That says our context. Everybody

01:34:22.000 --> 01:34:27.000

scrambling. We are trying to make it up as we go.

01:34:27.000 --> 01:34:32.000

In all of that some positive things happen. Let's move on to

01:34:32.000 --> 01:34:36.000

those questions.

01:34:36.000 --> 01:34:41.000

I will ask each of you, and I will start with an instructor

01:34:41.000 --> 01:34:43.000

because they have been sitting silently for too long and

01:34:43.000 --> 01:34:46.000

instructors don't like to do that. Pam, what changed to doing

01:34:46.000 --> 01:34:51.000

business as usual?

01:34:51.000 --> 01:34:55.000

Improved your teaching your environment for educating?

01:34:55.000 --> 01:34:58.000

☒Pam: I have to say I always thought

01:34:58.000 --> 01:35:03.000

it was a good teacher but I have some tips I picked up that I

01:35:03.000 --> 01:35:05.000

plan on continuing. One of the biggest parts is I had more of a

01:35:05.000 --> 01:35:09.000

tendency to come to the office and do my work.

01:35:09.000 --> 01:35:13.000

I would check emails at night but maybe not as much. I think

01:35:13.000 --> 01:35:17.000

as an instructor a split day is much more beneficial to students

01:35:17.000 --> 01:35:22.000

who are learning. online Even students coming to

01:35:22.000 --> 01:35:27.000

class are often doing their work at off hours. They need answers

01:35:27.000 --> 01:35:30.000

to questions when they need it. We are due back in the office on

01:35:30.000 --> 01:35:35.000

August 16. If I go in the morning for a bit and then go

01:35:35.000 --> 01:35:37.000

home and have my break time and then to work again in the

01:35:37.000 --> 01:35:40.000

evening, that's more beneficial for students.

01:35:40.000 --> 01:35:45.000

I definitely had created videos and I still do it. I grade

01:35:45.000 --> 01:35:51.000

homework via videos. I give weekly announcements via videos.

01:35:51.000 --> 01:35:57.000

I had in my student evaluations

01:35:57.000 --> 01:36:02.000

of students that I was concerned, but I see you so much

01:36:02.000 --> 01:36:08.000

for the videos I feel like we are in-person and I know you.

01:36:08.000 --> 01:36:12.000

In the third one is great communication.

01:36:12.000 --> 01:36:16.000

Noticing with students don't turn in work, sending an email

01:36:16.000 --> 01:36:21.000

and finding out what is happening. I had one student who

01:36:21.000 --> 01:36:25.000

only had his telephone hotspot.

01:36:25.000 --> 01:36:29.000

He had two kids doing school at home, and his wife and himself.

01:36:29.000 --> 01:36:31.000

His time to get the hotspot was really at midnight to 2:00 a.m.

01:36:31.000 --> 01:36:37.000

I asked if I could call you. He said if my phone rings, he kicks

01:36:37.000 --> 01:36:40.000

everybody off the hotspot.

01:36:40.000 --> 01:36:45.000

Remembering our students are nontraditional. I think this

01:36:45.000 --> 01:36:48.000

really helped drive home how many different things they have

01:36:48.000 --> 01:36:53.000

happening and how as instructors we need to be flexible and have

01:36:53.000 --> 01:36:59.000

good communication. I think those two things going

01:36:59.000 --> 01:37:04.000

forward with help students -- would help the students.

01:37:04.000 --> 01:37:07.000

☒Mary: James, why don't you go next.

01:37:07.000 --> 01:37:12.000

What changed and improved your teaching, or your learning?

01:37:12.000 --> 01:37:17.000

☒James: Sure. To Pam Posey point, I thought I

01:37:17.000 --> 01:37:21.000

was a good instructor too. COVID really tested that.

01:37:21.000 --> 01:37:26.000

It throws you for a whirlwind.

01:37:26.000 --> 01:37:28.000

In a traditional sense, I never considered myself creative. I

01:37:28.000 --> 01:37:33.000

can't paint a picture. I don't think I can.

01:37:33.000 --> 01:37:34.000

I don't think it will look very pretty as a stick figure.

01:37:34.000 --> 01:37:39.000

Because of COVID I discovered my creativity in terms of

01:37:39.000 --> 01:37:43.000

instructing, right?

01:37:43.000 --> 01:37:48.000

When I first started showing in the fall, it was a mix of

01:37:48.000 --> 01:37:50.000

communication.

01:37:50.000 --> 01:37:51.000

Are we going to be online or face-to-face? We were going to

01:37:51.000 --> 01:37:56.000

be online. But teaching computer science,

01:37:56.000 --> 01:37:58.000

specifically programming, I thought it was important for

01:37:58.000 --> 01:38:03.000

them to see me work through

01:38:03.000 --> 01:38:06.000

problems in real time, in a somewhat face-to-face

01:38:06.000 --> 01:38:09.000

environment where I could have a whiteboard and step through

01:38:09.000 --> 01:38:17.000

logical expressions. I had to complete the redesign my class.

01:38:17.000 --> 01:38:21.000

Mondays and Wednesdays were online. There were lectures.

01:38:21.000 --> 01:38:26.000

On Fridays I would go face-to-face. That was optional

01:38:26.000 --> 01:38:31.000

for the students. I would go face-to-face and work with the

01:38:31.000 --> 01:38:36.000

labs with them. At least they had the

01:38:36.000 --> 01:38:39.000

opportunity for me to help them through labs. We had masks in

01:38:39.000 --> 01:38:44.000

safety precautions. I thought it was so important for them to see

01:38:44.000 --> 01:38:46.000

me and have me help them through those

01:38:46.000 --> 01:38:51.000

problems. Another thing about the creativity was, again, I

01:38:51.000 --> 01:38:53.000

thought it was important for me to have a whiteboard to step

01:38:53.000 --> 01:38:54.000

through problems. I found myself with some classes, I would log

01:38:54.000 --> 01:39:01.000

on with my desktop. I had a little touchscreen laptop.

01:39:01.000 --> 01:39:15.000

I would log on with it touchscreen laptop and write on

01:39:15.000 --> 01:39:20.000

the laptop while giving a lecture on my desktop.

01:39:20.000 --> 01:39:23.000

Everything was an effort to help my students to try to get

01:39:23.000 --> 01:39:28.000

those concepts, to login logical concepts. The biggest take away

01:39:28.000 --> 01:39:33.000

I had from business as usual is very simple but for me it is a

01:39:33.000 --> 01:39:38.000

very powerful tool we have in our arsenal. Recording a

01:39:38.000 --> 01:39:43.000

lectures. -- the lectures.

01:39:43.000 --> 01:39:47.000

Making those recordings accessible. I started a YouTube

01:39:47.000 --> 01:39:52.000

channel. I watch YouTube.

01:39:52.000 --> 01:39:55.000

I had no idea how to start a channel but I started uploading

01:39:55.000 --> 01:40:00.000

my lectures to that channel to make it successful. I uploaded

01:40:00.000 --> 01:40:05.000

into the YouTube channel.

01:40:05.000 --> 01:40:08.000

Granted, about the LSMS, I don't think it was as intuitive as I

01:40:08.000 --> 01:40:13.000

would have liked.

01:40:13.000 --> 01:40:17.000

I would upload it to the LMS and the YouTube channel so the

01:40:17.000 --> 01:40:21.000

students had as much accessibility as possible.

01:40:21.000 --> 01:40:25.000

In the event the LMS went down, hopefully YouTube never does.

01:40:25.000 --> 01:40:30.000

That is something I will continue to do, even as we go

01:40:30.000 --> 01:40:33.000

face-to-face. Set up a camera and record

01:40:33.000 --> 01:40:36.000

lectures so I can upload those to whatever platform for the

01:40:36.000 --> 01:40:41.000

students to ingest at a later time. It helped me as I was

01:40:41.000 --> 01:40:46.000

administering the labs. They would ask a question and I would

01:40:46.000 --> 01:40:50.000

just say, did you watch the video? It made it real simple.

01:40:50.000 --> 01:40:51.000

That is definitely something I will continue to do as hopefully

01:40:51.000 --> 01:40:56.000

we transition to a more face-to-face modality.

01:40:56.000 --> 01:40:58.000

☒Mary: Thanks, James. I have spent some time as a tech

01:40:58.000 --> 01:40:59.000

support for faculty.

01:40:59.000 --> 01:41:04.000

There is a lot of resistance to doing recordings. I think this

01:41:04.000 --> 01:41:10.000

was one of those things that now that we have done it it is not

01:41:10.000 --> 01:41:26.000

so bad. It is very convenient. I am betting we will hear from

01:41:26.000 --> 01:41:29.000

students that they were -- they really appreciated that as well.

01:41:29.000 --> 01:41:32.000

Jason, haven't you?

01:41:32.000 --> 01:41:37.000

What shifted that improved your teaching and learning?

01:41:37.000 --> 01:41:39.000

Jason: After we survived the craziness

01:41:39.000 --> 01:41:44.000

and had a chance to breathe, we have a new bioscience program.

01:41:44.000 --> 01:41:45.000

We were having a meeting with our external evaluator talking

01:41:45.000 --> 01:41:47.000

about some of the challenges we had. Jim had a great phrase I

01:41:47.000 --> 01:41:50.000

have probably used more in the last 12 months the neighbor used

01:41:50.000 --> 01:41:55.000

a phrase in my career.

01:41:55.000 --> 01:41:58.000

COVID-19 provided us the disruptive innovation

01:41:58.000 --> 01:42:07.000

opportunity. It was drastically changing how

01:42:07.000 --> 01:42:12.000

we did things, but it forced us to reevaluate our lab

01:42:12.000 --> 01:42:14.000

assessments, our whole curriculum.

01:42:14.000 --> 01:42:18.000

Look, if any of this is just busy work that maybe we can loop

01:42:18.000 --> 01:42:23.000

in instead of having two or three separate labs, maybe

01:42:23.000 --> 01:42:27.000

having one larger one that can

01:42:27.000 --> 01:42:32.000

test certain techniques and documentation practices and

01:42:32.000 --> 01:42:34.000

writing lab reports.

01:42:34.000 --> 01:42:39.000

Just like Pam and James mentioned, especially with

01:42:39.000 --> 01:42:42.000

James, I literally blew up a course of my two or three times.

01:42:42.000 --> 01:42:45.000

I changed the schedule and my

01:42:45.000 --> 01:42:49.000

Dean had asked, are you OK? I'm on schedule five of this course.

01:42:49.000 --> 01:42:56.000

When the semester started I was on schedule six.

01:42:56.000 --> 01:42:59.000

One reason I blew it up was because I wanted to maximize not

01:42:59.000 --> 01:43:04.000

knowing how long we were going to have students in the lab. We

01:43:04.000 --> 01:43:07.000

all figured on the traditional flu season started everybody was

01:43:07.000 --> 01:43:08.000

closer together. COVID my get to a certain point where we lose

01:43:08.000 --> 01:43:18.000

the un-person lab. -- in-person left.

01:43:18.000 --> 01:43:19.000

I wanted to look at my critical in-person lab, the one I report

01:43:19.000 --> 01:43:21.000

to the advisory committee on.

01:43:21.000 --> 01:43:26.000

We assessed student abilities to analyze scientific data, to take



01:43:26.000 --> 01:43:30.000

what they took in their notebook and put it to an effective lab

01:43:30.000 --> 01:43:35.000

report. Normally those labs for that course happened in October

01:43:35.000 --> 01:43:44.000

and November. I was terrified I may not have student.

01:43:44.000 --> 01:43:45.000

I blew my schedule up, rearranged the course, granted

01:43:45.000 --> 01:43:47.000

by the instructor two or three times. Am I going crazy with

01:43:47.000 --> 01:43:48.000

this? I was able to get those assessments done earlier in the

01:43:48.000 --> 01:43:50.000

semester before we lost the labs. That set our students up

01:43:50.000 --> 01:44:13.000

for success the following spring semester where Cameron was able

01:44:13.000 --> 01:44:18.000

to do this, go to the industry partners during their practicum

01:44:18.000 --> 01:44:20.000

when they get the hands-on lab experience. It provided the

01:44:20.000 --> 01:44:24.000

opportunity -- it forced me really to look at the program.

01:44:24.000 --> 01:44:29.000

What are the critical lab assessments that I know our

01:44:29.000 --> 01:44:30.000

industry partners want to have students have experience with?

01:44:30.000 --> 01:44:32.000

Tools under toolboxes I like to call it. James and Pam both

01:44:32.000 --> 01:44:36.000

mentioned this. I want to hear the students' perspective.

01:44:36.000 --> 01:44:41.000

Being very deliberate in Mike indication to students. Not just

01:44:41.000 --> 01:44:53.000

in the lab but in our element. I have some working students.

01:44:53.000 --> 01:44:58.000

Our program is also part of our college now initiative on

01:44:58.000 --> 01:45:03.000

campus. I had 16-year-old students coming in as juniors in

01:45:03.000 --> 01:45:08.000

high school. All of a sudden in the online hybrid.

01:45:08.000 --> 01:45:10.000

My first thought was I do not want to lose these kids because

01:45:10.000 --> 01:45:11.000

they were 16. I wanted to be very deliberate and having the

01:45:11.000 --> 01:45:16.000

instructor presence.

01:45:16.000 --> 01:45:21.000

Having those instructor videos was huge. Having MINI lecture

01:45:21.000 --> 01:45:25.000

videos. I recorded about 400 last year.

01:45:25.000 --> 01:45:35.000

I will use them as long as I can. Students really like the

01:45:35.000 --> 01:45:38.000

shorter videos, because some students all they could look at

01:45:38.000 --> 01:45:42.000

their material late at night because of work or family

01:45:42.000 --> 01:45:45.000

obligations. Daycare was a significant challenge.

01:45:45.000 --> 01:45:50.000

Being deliberate, not just in communication. I did not want to

01:45:50.000 --> 01:45:55.000

be a hurdle to them. With the craziness going on

01:45:55.000 --> 01:45:59.000

with COVID, going into quarantine, I did not want to

01:45:59.000 --> 01:46:01.000

contribute to the anxiety students had around COVID. That

01:46:01.000 --> 01:46:06.000

was a big driving force. That in the disruptive innovation

01:46:06.000 --> 01:46:10.000

opportunity provided by having me look at the whole curriculum

01:46:10.000 --> 01:46:14.000

and make sure everything was lined up to

01:46:14.000 --> 01:46:19.000

maximize our students for success.

01:46:19.000 --> 01:46:21.000

☒Mary: Pam, you had something you wanted to add?

01:46:21.000 --> 01:46:22.000

☒Pam: This was a tremendous advantage I never expected,

01:46:22.000 --> 01:46:25.000

guest speakers for classes.

01:46:25.000 --> 01:46:30.000

For the fall semester, year ago last fall, fall of 2020, I had

01:46:30.000 --> 01:46:32.000

14 guest speakers. I could line of people every week. They came

01:46:32.000 --> 01:46:38.000

on zoom. I recorded them on to those available afterwards.

01:46:38.000 --> 01:46:43.000

It was hard to get speakers to, the classes sometimes because it

01:46:43.000 --> 01:46:44.000

was a half-day for them to drive to campus, talk to the class, go

01:46:44.000 --> 01:46:47.000

back to work. I had so many speakers.

01:46:47.000 --> 01:46:51.000

I have the luxury of having so many recordings from graduates

01:46:51.000 --> 01:46:53.000

and employers that I get to pick through and decide which ones to

01:46:53.000 --> 01:47:09.000

use. That is something that has been a tremendous carryover.

01:47:09.000 --> 01:47:12.000

I will given the option of coming in via Zoom to save their

01:47:12.000 --> 01:47:17.000

time.

01:47:17.000 --> 01:47:18.000

☒Mary: Thank you for that edition. We have heard from

01:47:18.000 --> 01:47:20.000

instructors. They like the fact they can record their lectures.

01:47:20.000 --> 01:47:25.000

They like the communication tools.

01:47:25.000 --> 01:47:28.000

They enjoy being able to maybe -- we enjoy is a strong word but

01:47:28.000 --> 01:47:33.000

restructuring the classroom so they are tighter and a little

01:47:33.000 --> 01:47:43.000

more intentional. As Pam mentioned, the ability

01:47:43.000 --> 01:47:45.000

to bring in lots of different folks you could not necessarily

01:47:45.000 --> 01:47:50.000

do if you are asking them to campus and such.

01:47:50.000 --> 01:47:53.000

Now we want to hear from the learners side on the other side

01:47:53.000 --> 01:47:58.000

of the screen receiving all this crazy -- and the crazy times.

01:47:58.000 --> 01:48:03.000

Good things but in crazy times.

01:48:03.000 --> 01:48:08.000

What is something your school did or instructors made to how

01:48:08.000 --> 01:48:12.000

they instructed that really was beneficial to you? It turned out

01:48:12.000 --> 01:48:14.000

to be a big plus. I will start with Elizabeth.

01:48:14.000 --> 01:48:19.000

I will let her start us off.

01:48:19.000 --> 01:48:24.000

☒Elizabeth: I guess one thing was the

01:48:24.000 --> 01:48:29.000

structure of how class was run.

01:48:29.000 --> 01:48:30.000

Some of my classes that were typically more of a lecture

01:48:30.000 --> 01:48:35.000

style, it kind of flips where we -- our homework was to look at

01:48:35.000 --> 01:48:39.000

the lectures and then do the labs together as a group in

01:48:39.000 --> 01:48:44.000

class.

01:48:44.000 --> 01:48:48.000

That allowed us to spend that time we needed to look at the

01:48:48.000 --> 01:48:53.000

lectures beforehand and take the detailed notes and not rush

01:48:53.000 --> 01:48:59.000

through the process of learning while cramming all the

01:48:59.000 --> 01:49:04.000

information within maybe the one hour slot we had.

01:49:04.000 --> 01:49:07.000

Actually spend that time asking the questions we would not have

01:49:07.000 --> 01:49:12.000

had been able to ask if a lecture was going on or asking

01:49:12.000 --> 01:49:13.000

questions for problems that we did not understand. It may just

01:49:13.000 --> 01:49:18.000

be more accountable to what we were learning.

01:49:18.000 --> 01:49:22.000

If you did not watch the lecture , it was not beneficial to sit

01:49:22.000 --> 01:49:24.000

in on the classroom discussing things we already study prior.

01:49:24.000 --> 01:49:29.000

I only had one class like that before COVID happened. That was

01:49:29.000 --> 01:49:34.000

a math class. It was an experiment they were

01:49:34.000 --> 01:49:39.000

doing to see what type of teaching style and learning

01:49:39.000 --> 01:49:40.000

style was more beneficial.

01:49:40.000 --> 01:49:42.000

Seeing more teachers adapt that style for more classes outside

01:49:42.000 --> 01:49:46.000

of math, which is mostly formulaic. It was interesting to

01:49:46.000 --> 01:49:51.000

see how that was being contributed through all of my

01:49:51.000 --> 01:49:56.000

classes throughout. It became more of a Socratic

01:49:56.000 --> 01:50:02.000

style of teaching so we could discuss things that were

01:50:02.000 --> 01:50:06.000

happening in real time and feel more in-person versus coming

01:50:06.000 --> 01:50:11.000

online to listen to a lecture.

01:50:11.000 --> 01:50:16.000

☒Mary: You would like to see that persist. You would like to see

01:50:16.000 --> 01:50:19.000

that be the model folks use? Go ahead.

01:50:19.000 --> 01:50:24.000

☒Elizabeth: You are fine. It would be a split.

01:50:24.000 --> 01:50:30.000

If there is a potential opportunity for us to discuss

01:50:30.000 --> 01:50:36.000

topics and have information prior, that would be beneficial.

01:50:36.000 --> 01:50:42.000

The lecture style is also necessary as well.

01:50:42.000 --> 01:50:44.000

Finding the balance for each class structure was better.

01:50:44.000 --> 01:50:49.000

☒Mary: Depending on the content you are doing. Cameron, do you

01:50:49.000 --> 01:50:51.000

want to go next? What do you want to see keep going?

01:50:51.000 --> 01:50:55.000

☒Cameron: My favorite take away was the asynchronous lectures.

01:50:55.000 --> 01:50:58.000

I am a nontraditional student. I started school at 29.

01:50:58.000 --> 01:51:03.000

I have to work to pay my bills and go to school.

01:51:03.000 --> 01:51:04.000

The interesting thing is the lectures allowed me to view the

01:51:04.000 --> 01:51:06.000

lectures and material at my own leisure.

01:51:06.000 --> 01:51:11.000

We were in advanced techniques for pharmacology and toxicology.

01:51:11.000 --> 01:51:13.000

These are three hour lectures in person. To have to sit down and

01:51:13.000 --> 01:51:17.000

watch those every morning in one bite might have been a little

01:51:17.000 --> 01:51:29.000

bit much. With them being broken up as

01:51:29.000 --> 01:51:30.000

Professor Tucker did, they were easier to use and follow along

01:51:30.000 --> 01:51:37.000

with. I could do them on my own schedule.

01:51:37.000 --> 01:51:42.000

It made things a little difficult. I was fortunate that

01:51:42.000 --> 01:51:47.000

I could actually listen to my lectures while I was working.

01:51:47.000 --> 01:51:52.000

That gave me the benefit of being able to use the material

01:51:52.000 --> 01:51:54.000

and digest material that I was working hands-on with things we

01:51:54.000 --> 01:51:56.000

were talking about.

01:51:56.000 --> 01:51:59.000

☐Mary: Similar to what Elizabeth was saying. Being able to digest

01:51:59.000 --> 01:52:04.000

and think

01:52:04.000 --> 01:52:06.000

through what you have and apply it, well, in your externship.

01:52:06.000 --> 01:52:12.000

☒Cameron: It was very beneficial. Mary:

01:52:12.000 --> 01:52:16.000

That might is right up with what the faculty and instructors are

01:52:16.000 --> 01:52:21.000

talking about. We are in a get alignment now. Cheryl, what

01:52:21.000 --> 01:52:24.000

about you?

01:52:24.000 --> 01:52:31.000

☒Cheryl: OK. Going back to what Elizabeth

01:52:31.000 --> 01:52:36.000

was saying in terms of more flexibility for learning as

01:52:36.000 --> 01:52:39.000

opposed to that one hour in class. It offered a lot of

01:52:39.000 --> 01:52:43.000

opportunity to grow and learn.

01:52:43.000 --> 01:52:48.000

With regard to that, the time issue -- I don't know how it is

01:52:48.000 --> 01:52:53.000

for other students. For me, it is about an hour and a half

01:52:53.000 --> 01:52:56.000

round trip drive to my college. That's an hour and a half a day

01:52:56.000 --> 01:52:59.000

I have for learning.

01:52:59.000 --> 01:53:04.000

The travel was a concern, at least for those of us who are

01:53:04.000 --> 01:53:08.000

not closer to the college. That is beneficial from the virtual

01:53:08.000 --> 01:53:13.000

perspective. I wanted to add something with

01:53:13.000 --> 01:53:16.000

regard to what Pam was saying that was beneficial also.

01:53:16.000 --> 01:53:20.000

In the virtual environment, and not all professors were doing

01:53:20.000 --> 01:53:23.000



this but I think that they were able to share among each other

01:53:23.000 --> 01:53:28.000

the advantage of doing it. That is timely grading.

01:53:28.000 --> 01:53:33.000

That was a huge advantage from the perspective that if you have

01:53:33.000 --> 01:53:37.000

learned material and you have taken the test and you

01:53:37.000 --> 01:53:42.000

have gotten things wrong in the test, you are already into the

01:53:42.000 --> 01:53:44.000

next week of learning the next material. To have quick grading

01:53:44.000 --> 01:53:46.000

made it possible to ask questions right then, get back

01:53:46.000 --> 01:53:51.000

in touch with your instructor.

01:53:51.000 --> 01:53:57.000

Then I would add having instructors who are using that

01:53:57.000 --> 01:53:58.000

video as an opportunity to interact. Pam was doing a great

01:53:58.000 --> 01:54:01.000

job with this. They were immediately available.

01:54:01.000 --> 01:54:06.000

If you set up an appointment, you could get the information

01:54:06.000 --> 01:54:11.000

you needed and learn what you did wrong.

01:54:11.000 --> 01:54:24.000

Sometimes it is systematic. Those were all very beneficial.

01:54:24.000 --> 01:54:26.000

I want to thank the instructors for your dedication to the

01:54:26.000 --> 01:54:30.000

students. I saw many people who are close

01:54:30.000 --> 01:54:35.000

to retirement as teachers who went ahead and retired because

01:54:35.000 --> 01:54:41.000

it was also difficult to comprehend. Jason, with regard

01:54:41.000 --> 01:54:42.000

to all the videos you made.

01:54:42.000 --> 01:54:45.000

This is just an idea for a potential work-study opportunity

01:54:45.000 --> 01:54:50.000

for one of your students. They will learn all about your

01:54:50.000 --> 01:54:54.000

terminology and so forth. I don't know if they have closed

01:54:54.000 --> 01:54:59.000

captioning. That's a great work-study opportunity.

01:54:59.000 --> 01:55:01.000

Not all students need that, but with the rules of assess

01:55:01.000 --> 01:55:06.000

ability for Internet, I think it's a good work-study

01:55:06.000 --> 01:55:09.000

opportunity.

01:55:09.000 --> 01:55:13.000

☒Mary: Good suggestion. That is a great suggestion.

01:55:13.000 --> 01:55:18.000

Pam, I want to ask a follow-up question. You were using the

01:55:18.000 --> 01:55:20.000

videos to do the lectures, clearly.

01:55:20.000 --> 01:55:23.000

Were you using video to give feedback to individual students

01:55:23.000 --> 01:55:27.000

or to the class as a whole?

01:55:27.000 --> 01:55:32.000

☒Pam: If the assignment is really good, even then I might create a

01:55:32.000 --> 01:55:34.000

video. I create videos that range from amended up to five or

01:55:34.000 --> 01:55:39.000

six minutes. If they're doing an Excel

01:55:39.000 --> 01:55:45.000

assignment, I have the Excel sheet open I can tell them what

01:55:45.000 --> 01:55:50.000  
they did wrong with the formula. I have a class now that they are

01:55:50.000 --> 01:55:53.000  
doing a lot of papers. I can have the paper on the screen and

01:55:53.000 --> 01:55:57.000  
say instead of saying use paragraphs, which

01:55:57.000 --> 01:56:02.000  
for some student -- reason students don't like paragraphs,

01:56:02.000 --> 01:56:06.000  
I can say this would have been a .

01:56:06.000 --> 01:56:10.000  
-- a new paragraph.

01:56:10.000 --> 01:56:15.000  
In a typical week where I have assignments due, I create videos

01:56:15.000 --> 01:56:17.000  
for probably 90% of them as feedback. I really try to also

01:56:17.000 --> 01:56:18.000  
do it for students who did it right so I'm not just getting

01:56:18.000 --> 01:56:23.000  
very good but giving them a very good -- a video feedback.

01:56:23.000 --> 01:56:28.000  
One thing I did before COVID and I now do also is I have two due

01:56:28.000 --> 01:56:31.000  
dates a week. If a student gets behind, they are not behind by a

01:56:31.000 --> 01:56:42.000  
lot of work. Only behind by two or three days of work.

01:56:42.000 --> 01:56:46.000  
I do two due days a week.

01:56:46.000 --> 01:56:49.000  
I probably am a little bit too compulsive of a greater. --

01:56:49.000 --> 01:56:52.000  
grader. If it's been there for longer than three hours I feel

01:56:52.000 --> 01:56:57.000  
bad about it. I think students have to get feedback right away

01:56:57.000 --> 01:56:59.000

when it's an online class. That is something to carryover.

01:56:59.000 --> 01:57:01.000

When I started teaching there was no Internet or emails. Once

01:57:01.000 --> 01:57:02.000

a week you printed it out on a dot matrix and turned it in. A

01:57:02.000 --> 01:57:08.000

change in life.

01:57:08.000 --> 01:57:29.000

☒Mary: Do you use -- did your feedback loops shift?

01:57:29.000 --> 01:57:34.000

☒Jason: They certainly did. I knew it would be critical to

01:57:34.000 --> 01:57:36.000

try to turn feedback around the students. One thing I did was

01:57:36.000 --> 01:57:39.000

dashcam and probably hated me for this. The first years did.

01:57:39.000 --> 01:57:44.000

I had two quizzes a week. They had different due dates.

01:57:44.000 --> 01:57:46.000

The first was just a very introductory quiz. I have been

01:57:46.000 --> 01:57:50.000

loving seeing what folks are saying. A couple of people

01:57:50.000 --> 01:57:55.000

mentioned something similar. The first quiz due early in the

01:57:55.000 --> 01:57:56.000

week was just to show students looked at the lecture materials,

01:57:56.000 --> 01:58:01.000

started to watch the videos. They do with the word

01:58:01.000 --> 01:58:08.000

transcription meant. They knew it PCR said for.

01:58:08.000 --> 01:58:13.000

The later in the week was the module quiz, the summative

01:58:13.000 --> 01:58:20.000

assessment. What are the three stages and where they critical?

01:58:20.000 --> 01:58:26.000

Those types of questions. Students can have feedback on

01:58:26.000 --> 01:58:29.000

where they work with the material. They could get that

01:58:29.000 --> 01:58:34.000

feedback before they got to one of those dreaded exams worth a

01:58:34.000 --> 01:58:44.000

lot more points. I really leaned on those.

01:58:44.000 --> 01:58:53.000

The lab reports, I kept those traditional.

01:58:53.000 --> 01:58:58.000

I tried to begin with turning things around with grading.

01:58:58.000 --> 01:59:03.000

It takes a little time but I tried to let students know I

01:59:03.000 --> 01:59:07.000

know this is on my docket but here is what. -- here is why.

01:59:07.000 --> 01:59:12.000

Being transparent with students. It is taking me a couple of

01:59:12.000 --> 01:59:17.000

extra days but here is why.

01:59:17.000 --> 01:59:21.000

It was leaning on LMS to do heavy lifting for the quizzes.

01:59:21.000 --> 01:59:23.000

That way students can have the feedback weeks before they get

01:59:23.000 --> 01:59:28.000

to that exam so they can spend some time on it then. Instead of

01:59:28.000 --> 01:59:33.000

getting the exam back and doing poorly.

01:59:33.000 --> 01:59:37.000

☒Mary: James? James:

01:59:37.000 --> 01:59:39.000

And blowing up my class, I was trying to find ways to inject

01:59:39.000 --> 01:59:44.000

into my class opportunities for students to catch up. Even for

01:59:44.000 --> 01:59:45.000

my own personal experience, I don't particularly like online

01:59:45.000 --> 01:59:48.000  
learning. It is not really my forte.

01:59:48.000 --> 01:59:53.000  
This is the circumstance we were given.

01:59:53.000 --> 01:59:56.000  
As a teacher I was looking for ways for how I could give those

01:59:56.000 --> 01:59:59.000  
students who do fall behind opportunities to catch up in

01:59:59.000 --> 02:00:05.000  
some ways. To Jason's point, I had pretty

02:00:05.000 --> 02:00:09.000  
much every week two quizzes. They were basic reading quizzes.

02:00:09.000 --> 02:00:14.000  
I took them from the book.

02:00:14.000 --> 02:00:19.000  
They might have been out there. The answers might be on the web

02:00:19.000 --> 02:00:24.000  
but don't tell my students that. It was essentially just so they

02:00:24.000 --> 02:00:29.000  
would have the opportunity, or were given the opportunity to

02:00:29.000 --> 02:00:34.000  
look at least some of the concepts we were going to cover

02:00:34.000 --> 02:00:39.000  
it. The quizzes were due prior to the lecture covering the

02:00:39.000 --> 02:00:44.000  
material. The way I said this quizzes up,

02:00:44.000 --> 02:00:46.000  
they were all extra credit.

02:00:46.000 --> 02:00:47.000  
But, how I did it was your total overall quiz grade could replace

02:00:47.000 --> 02:00:49.000  
your lowest exam grade. Whichever one was higher.

02:00:49.000 --> 02:00:54.000  
The overall quiz grade. The ones you miss, you get a zero.

02:00:54.000 --> 02:00:55.000

Whatever the overall quiz grade, it could replace the lowest exam

02:00:55.000 --> 02:00:59.000  
grade. If they did poorly on their

02:00:59.000 --> 02:01:04.000  
first midterm, they could technically get a much greater

02:01:04.000 --> 02:01:07.000  
great audit if they were doing their reading quizzes up to that

02:01:07.000 --> 02:01:19.000  
point. Most students took advantage of it?

02:01:19.000 --> 02:01:24.000  
Not really. They did not realize the advantage until they did

02:01:24.000 --> 02:01:26.000  
that on the midterm. When the reading quizzes close,

02:01:26.000 --> 02:01:27.000  
that could not -- they could not go back. That was a missed

02:01:27.000 --> 02:01:32.000  
opportunity. Another thing I did was -- I

02:01:32.000 --> 02:01:42.000  
lost the thought. It was another opportunity -- I know it is.

02:01:42.000 --> 02:01:48.000  
During the semester I gave Raikes. -- breaks.

02:01:48.000 --> 02:01:52.000  
During class time I would answer any questions students had.

02:01:52.000 --> 02:01:57.000  
I would help them walk through problems they had in their code,

02:01:57.000 --> 02:02:07.000  
whatever it may be. I gave them the opportunity to

02:02:07.000 --> 02:02:12.000  
make up any assignments or labs they missed for 50% credit. That

02:02:12.000 --> 02:02:16.000  
was another opportunity for them to make up whatever assignments

02:02:16.000 --> 02:02:20.000  
or labs they missed.

02:02:20.000 --> 02:02:24.000  
At two times throughout the semester, right after the

02:02:24.000 --> 02:02:29.000  
midterm and right before the file.

02:02:29.000 --> 02:02:33.000  
Any assignments before the midterm, they can make up during

02:02:33.000 --> 02:02:38.000  
the first rest period. After that it was too late.

02:02:38.000 --> 02:02:40.000  
Same for the last makeup period. I try to give them opportunities

02:02:40.000 --> 02:02:43.000  
to catch up. I knew going on my is a drastic shift, just a

02:02:43.000 --> 02:02:48.000  
change from what they were used to. Inevitably some students

02:02:48.000 --> 02:02:51.000  
were going to fall behind. I tried to give them the

02:02:51.000 --> 02:02:55.000  
opportunity to catch up.

02:02:55.000 --> 02:03:02.000  
Mary: I know touching back to Pam's

02:03:02.000 --> 02:03:07.000  
point about video feedback, some LMSs allows you to just hit a

02:03:07.000 --> 02:03:11.000  
record button. When you're looking at someone's work and

02:03:11.000 --> 02:03:14.000  
hit a screen capture and voiceover, that was a big

02:03:14.000 --> 02:03:17.000  
lifesaver for me personally. I was notoriously behind on

02:03:17.000 --> 02:03:21.000  
migrating. When I got that rubrics and video thing, it was

02:03:21.000 --> 02:03:26.000  
like Pam described. You put it on the screen and are walking

02:03:26.000 --> 02:03:32.000  
through. Because it is an individual

02:03:32.000 --> 02:03:33.000  
student, the close captioning is not as much of an issue. You can



02:03:33.000 --> 02:03:38.000

given the option to say if this works for you, that's great. If

02:03:38.000 --> 02:03:43.000

it doesn't, I will write up my notes. In all the time I have

02:03:43.000 --> 02:03:48.000

done that, many, many years because I have taught online for

02:03:48.000 --> 02:03:50.000

a long time, never had a student say will you write that up.

02:03:50.000 --> 02:03:54.000

They do want to have to be the feedback. Just give me a nice

02:03:54.000 --> 02:03:59.000

five minute video where you point of my stuff and you were

02:03:59.000 --> 02:04:04.000

talking about it. I will take that over a

02:04:04.000 --> 02:04:09.000

written, long diatribe about what I did right and wrong.

02:04:09.000 --> 02:04:14.000

☒Pam: The only student who wanted it

02:04:14.000 --> 02:04:19.000

in writing was, I'm sneaking looks at things on my phone at

02:04:19.000 --> 02:04:24.000

work and I can't do the videos. If you would write it up, I can

02:04:24.000 --> 02:04:29.000

look at it while I'm at work. That has been my only complaint

02:04:29.000 --> 02:04:34.000

from a student. Wait'll you get home and look at it.

02:04:34.000 --> 02:04:36.000

☒Mary: As mentioned by Cheryl, there

02:04:36.000 --> 02:04:41.000

is the accessibility issue. In the chapter has been some

02:04:41.000 --> 02:04:43.000

great tools mentioned. This would be a chat to save and hang

02:04:43.000 --> 02:04:47.000

onto as an instructor.

02:04:47.000 --> 02:04:52.000

There has been some stuff in the chat. One of the threads going

02:04:52.000 --> 02:04:58.000

on is this conversation around enrollments.

02:04:58.000 --> 02:05:03.000

Students coming back or not coming back. Coming to campus

02:05:03.000 --> 02:05:04.000

were not coming to campus. Some said we are seeing a dip

02:05:04.000 --> 02:05:09.000

in a moment because students are waiting to make sure they can be

02:05:09.000 --> 02:05:13.000

on campus. Others say if it's not online, they're not

02:05:13.000 --> 02:05:16.000

interested. Online or in-person?

02:05:16.000 --> 02:05:21.000

What is your thinking? Cameron, you get to go first.

02:05:21.000 --> 02:05:24.000

☒Cameron:

02:05:24.000 --> 02:05:29.000

My thinking would be -- Mary: I know you are an anti-online

02:05:29.000 --> 02:05:35.000

person from before. This will be interesting to hear.

02:05:35.000 --> 02:05:36.000

☒Cameron: Definitely was not a fan before. After these last two

02:05:36.000 --> 02:05:38.000

semesters where I experienced it without signing up for it, I'm a

02:05:38.000 --> 02:05:41.000

huge supporter of it. It made things so much easier

02:05:41.000 --> 02:05:45.000

for me to do and take care of my work life and home life, and on

02:05:45.000 --> 02:05:49.000

top of that school. It made it drastically easier.

02:05:49.000 --> 02:05:52.000

☒Mary: Online.

02:05:52.000 --> 02:05:57.000

What about online versus blended? Would you be able to

02:05:57.000 --> 02:06:01.000

come in and have face-to-face a little? With that be your

02:06:01.000 --> 02:06:06.000

preference over straight online?

02:06:06.000 --> 02:06:09.000

☒Cameron: He would have to be a blended but that is my bias

02:06:09.000 --> 02:06:14.000

because the degree path they went down. I would have nothing

02:06:14.000 --> 02:06:19.000

because I would not have the actual skills to do what I need

02:06:19.000 --> 02:06:22.000

to do. Definitely blended.

02:06:22.000 --> 02:06:27.000

I would take math and English another classes online happily.

02:06:27.000 --> 02:06:29.000

☒Mary: Good to know. Elizabeth, how about you?

02:06:29.000 --> 02:06:33.000

Online or face-to-face?

02:06:33.000 --> 02:06:36.000

☒Elizabeth: It would be the same for me.

02:06:36.000 --> 02:06:41.000

Most gen ed classes, I would prefer to take them online.

02:06:41.000 --> 02:06:44.000

Maybe some of my major courses where I even want to network

02:06:44.000 --> 02:06:49.000

with students that are going to

02:06:49.000 --> 02:06:50.000

the same boat as me, I would like to have the blended

02:06:50.000 --> 02:06:52.000

opportunity. We can create study groups. He will be more of an

02:06:52.000 --> 02:06:55.000

organic experience.

02:06:55.000 --> 02:07:00.000

☒Mary: Cheryl, what are your thoughts?

02:07:00.000 --> 02:07:03.000

Cheryl: To kind of depends on your major, for my major I guess

02:07:03.000 --> 02:07:18.000

I would say. I prefer online classes with

02:07:18.000 --> 02:07:23.000

the exception of those that would build a ton of team

02:07:23.000 --> 02:07:26.000

skills, and also involved labs.

02:07:26.000 --> 02:07:31.000

A veterinary tech student. I would not to the anatomy class

02:07:31.000 --> 02:07:33.000

online.

02:07:33.000 --> 02:07:36.000

You really need to examine those bones. I think a lot of it

02:07:36.000 --> 02:07:41.000

depends on what I was studying.

02:07:41.000 --> 02:07:43.000

As far as enrollment, we find out that we were going to have

02:07:43.000 --> 02:07:45.000

on campus classes in the fall. That had a lot to do with

02:07:45.000 --> 02:07:51.000

academic planning. Not only for that semester but long-term.

02:07:51.000 --> 02:07:52.000

It was great news because for some of those classes we need to

02:07:52.000 --> 02:08:00.000

be online. James, you may have this with your students.

02:08:00.000 --> 02:08:05.000

Doing that networking stuff, you need to get a feel for what is

02:08:05.000 --> 02:08:16.000

plugging into what. I guess you can do that online

02:08:16.000 --> 02:08:21.000

but that hands-on would make a difference. I guess they agree

02:08:21.000 --> 02:08:30.000

with the blended. It depends on the course and the major.

02:08:30.000 --> 02:08:33.000

☒Mary: Blended is such a broad, gray zone.

02:08:33.000 --> 02:08:38.000

Think of the full spectrum of having a lab and having every

02:08:38.000 --> 02:08:39.000

thing else online. Navy twice a week and

02:08:39.000 --> 02:08:41.000

everything is online -- maybe twice a week or everything else

02:08:41.000 --> 02:08:42.000

online.

02:08:42.000 --> 02:08:45.000

It is really an interesting but difficult thing to pin down.

02:08:45.000 --> 02:09:11.000

Back to the instructors what are your enrollments looking like?

02:09:11.000 --> 02:09:12.000

From Jason, when you go first?

02:09:12.000 --> 02:09:15.000

☒Jason: We have another three weeks before the semester

02:09:15.000 --> 02:09:20.000

starts. Enrollment is slightly lower

02:09:20.000 --> 02:09:22.000

than what we had last year by a little bit.

02:09:22.000 --> 02:09:27.000

We have more high school students coming in for the

02:09:27.000 --> 02:09:31.000

college now program. Most of the high schools in the

02:09:31.000 --> 02:09:36.000

area will be fully face-to-face. We had some hesitancy when we

02:09:36.000 --> 02:09:41.000

talked to parents. They wanted to have their

02:09:41.000 --> 02:09:45.000

children with the online hybrid. Our numbers without route are

02:09:45.000 --> 02:09:50.000

up.

02:09:50.000 --> 02:09:55.000

A lot of the other hands-on programs, from the limited ones

02:09:55.000 --> 02:10:02.000

from the directors here, they have seen a little bit of a dip.

02:10:02.000 --> 02:10:07.000

I do think our liberal arts type courses for transfer, they are

02:10:07.000 --> 02:10:12.000

almost busting at the seams because of students, like

02:10:12.000 --> 02:10:15.000

Cameron was saying, getting more acclimated to it.

02:10:15.000 --> 02:10:20.000

Even if they are wanting to go to a four-year university or

02:10:20.000 --> 02:10:21.000

beyond, they can stay home for a year and do a lot of those gen

02:10:21.000 --> 02:10:27.000

ed. Hands-on is a little over but

02:10:27.000 --> 02:10:31.000

we have another three weeks before the semester starts.

02:10:31.000 --> 02:10:34.000

☒Mary: Pam, any reporting from you?

02:10:34.000 --> 02:10:37.000

☒Pam: Our enrollment is a little lower but we have over a month

02:10:37.000 --> 02:10:45.000

until classes start. They are starting to market it.

02:10:45.000 --> 02:10:49.000

If we had three sections of a class, one was totally online,

02:10:49.000 --> 02:10:51.000

one was synchronous with zoom, and one was coming to campus,

02:10:51.000 --> 02:10:56.000

the online classes have been filling first or all of them. We

02:10:56.000 --> 02:10:57.000

are having to shift around. We thought there was going to be

02:10:57.000 --> 02:10:59.000

people of wanting to come back to campus. That is not the

02:10:59.000 --> 02:11:00.000

direction we have seen it going. Our chair has been moving

02:11:00.000 --> 02:11:05.000

classes around. If we added sections, it has been adding

02:11:05.000 --> 02:11:09.000

online sections.

02:11:09.000 --> 02:11:18.000

☒Mary: James? James:

02:11:18.000 --> 02:11:23.000

Throughout the pandemic our enrollment stayed fairly

02:11:23.000 --> 02:11:25.000

consistent, fairly steady. That was pretty surprising. One of

02:11:25.000 --> 02:11:31.000

the challenges we face with many students have limited resources

02:11:31.000 --> 02:11:37.000

at home.

02:11:37.000 --> 02:11:43.000

Particularly for me teaching programming, one thing you have

02:11:43.000 --> 02:11:44.000

to have is a computer. Another thing is a computer with decent

02:11:44.000 --> 02:11:52.000

resources on it. That was one of the challenges we faced.

02:11:52.000 --> 02:11:57.000

I think it was coincidence.

02:11:57.000 --> 02:12:01.000

The school had a partnership with Google for Chromebook's.

02:12:01.000 --> 02:12:06.000

Those are only for freshman and sophomores, and Chromebooks

02:12:06.000 --> 02:12:13.000

don't allow you to install the programming environment you need

02:12:13.000 --> 02:12:17.000

to program. There was a lot of work arounds we had to figure

02:12:17.000 --> 02:12:21.000

out. Enrollment stayed pretty consistent.

02:12:21.000 --> 02:12:26.000

That was pretty surprising. I guess it was a good thing.

02:12:26.000 --> 02:12:28.000

☒Mary: That sounds great. We'll get down to the last questions

02:12:28.000 --> 02:12:32.000

because we are running towards the end.

02:12:32.000 --> 02:12:37.000

I am trying to -- do we want to go students last over

02:12:37.000 --> 02:12:42.000

instructors last? The students have been patiently waiting.

02:12:42.000 --> 02:12:45.000

Final question to you guys. What is one think you would what

02:12:45.000 --> 02:12:50.000

instructors to know about the online learning experience

02:12:50.000 --> 02:12:52.000

from your perspective as a learner? One think you really

02:12:52.000 --> 02:12:59.000

would like them to take away? Not just these three but out

02:12:59.000 --> 02:13:04.000

there in the audience. Cheryl, do you want to go first?

02:13:04.000 --> 02:13:05.000

☒Cheryl: Can I think about it for a minute?

02:13:05.000 --> 02:13:07.000

☒Mary: Elizabeth or Cameron, do you want to jump on this one or

02:13:07.000 --> 02:13:15.000

go to the faculty and that you have a moment to think on it?

02:13:15.000 --> 02:13:18.000

No one is opening their mic. Cameron, what would you want

02:13:18.000 --> 02:13:34.000

instructors to know? What impressed you the most

02:13:34.000 --> 02:13:35.000

about your students in all this pandemic disruptive nests? What

02:13:35.000 --> 02:13:40.000

impressed -- disruptiveness?

02:13:40.000 --> 02:13:45.000

Pam, I will go to your first. Jason opened his mic. That's the

02:13:45.000 --> 02:13:46.000

way it works, buddy. Sorry.



02:13:46.000 --> 02:13:51.000

Jason: For me it was the resiliency of students.

02:13:51.000 --> 02:13:55.000

One thing I have tried hard to do -- Cameron, I had to make

02:13:55.000 --> 02:14:00.000

class for almost a year when COVID hit. I felt I had a good

02:14:00.000 --> 02:14:02.000

rapport with them.

02:14:02.000 --> 02:14:04.000

My incoming first-year students I wanted to be very deliberate

02:14:04.000 --> 02:14:09.000

in connecting with them on a professional level, sharing with

02:14:09.000 --> 02:14:13.000

them. I was here for them.

02:14:13.000 --> 02:14:18.000

Just like James's and nig -- ID of an off week, that's a

02:14:18.000 --> 02:14:24.000

phenomenal idea. There was a time after the

02:14:24.000 --> 02:14:28.000

first wave of exams for the first year students. It was like

02:14:28.000 --> 02:14:32.000

three or four classes.

02:14:32.000 --> 02:14:37.000

The first lab I had them in, students have this look they are

02:14:37.000 --> 02:14:39.000

just exhausted. All my students have that.

02:14:39.000 --> 02:14:42.000

Even the ones that are very jovial, they were dead in the

02:14:42.000 --> 02:14:47.000

water. You know what, part of my

02:14:47.000 --> 02:14:49.000

restructuring, I had a grace period. Shorter lab today. Here

02:14:49.000 --> 02:14:51.000

is your homework assignment. Go do something for 10 minutes for

02:14:51.000 --> 02:15:01.000

yourself. Sleep in. I have two little boys.

02:15:01.000 --> 02:15:06.000

That's acceptable. Go have a glass of lemonade. Go see a

02:15:06.000 --> 02:15:18.000

friend. The following lab I had a

02:15:18.000 --> 02:15:24.000

couple of students, homework? What did you do for yourself?

02:15:24.000 --> 02:15:28.000

I was able to talk with them more. What is everybody

02:15:28.000 --> 02:15:33.000

struggling with? How is everybody doing?

02:15:33.000 --> 02:15:34.000

Seeing the resiliency of students told me I had to going

02:15:34.000 --> 02:15:37.000

to quarantine because my parents were exposed. I had a loved one

02:15:37.000 --> 02:15:41.000

in the hospital. The fact that they buckled down

02:15:41.000 --> 02:15:46.000

and reached out more. I think having our courses

02:15:46.000 --> 02:15:52.000

structured this way where students could do work on their

02:15:52.000 --> 02:15:54.000

own time really allowed them to hang with it.

02:15:54.000 --> 02:15:59.000

For me, without question, it was the resiliency and hard work of

02:15:59.000 --> 02:16:03.000

students.

02:16:03.000 --> 02:16:08.000

☒Mary: Pam? Pam: I should have been faster

02:16:08.000 --> 02:16:12.000

with the unmute because my word was also resilience.

02:16:12.000 --> 02:16:16.000

I have to say the other is the commitment students had. No

02:16:16.000 --> 02:16:20.000

student starts the semester saying I hope I failed by the

02:16:20.000 --> 02:16:22.000

third week. It is helping them have that commitment.

02:16:22.000 --> 02:16:26.000

I think I emphasize all the time his communication. -- is commune

02:16:26.000 --> 02:16:29.000

occasion.

02:16:29.000 --> 02:16:34.000

-- is communication. If you can walk on the hall and see an

02:16:34.000 --> 02:16:40.000

instructor it is one thing. If you have to do it all, don't

02:16:40.000 --> 02:16:45.000

wait until you are sinking. Communicate earlier. As

02:16:45.000 --> 02:16:50.000

instructors we have to communicate when we notice that.

02:16:50.000 --> 02:16:53.000

That is hard when you have multiple classes and a student

02:16:53.000 --> 02:16:57.000

is just a little behind. Catching that and saying, how is

02:16:57.000 --> 02:17:01.000

everything? They can be really important.

02:17:01.000 --> 02:17:03.000

☒Mary: James, what impressed you about the students?

02:17:03.000 --> 02:17:08.000

☒James: They both stole my word. Mary: They were so quick on the

02:17:08.000 --> 02:17:10.000

little red microphone thing. Sorry.

02:17:10.000 --> 02:17:14.000

☒James: Shaw University is a small HEB you. Not only were my

02:17:14.000 --> 02:17:19.000

students dealing with the pandemic, which is beginning of

02:17:19.000 --> 02:17:21.000

itself, they were dealing with the old George Floyd situation

02:17:21.000 --> 02:17:22.000

-- the whole George Floyd situation. That can be mentally

02:17:22.000 --> 02:17:30.000

taxing. They are getting hit from both sides essentially.

02:17:30.000 --> 02:17:34.000

I had some students who contracted COVID. They had to

02:17:34.000 --> 02:17:46.000

quarantine, as well as dealing with the social

02:17:46.000 --> 02:17:49.000

issues that are ongoing inside the United States. For students

02:17:49.000 --> 02:17:54.000

to fight through that and still show up to class and still have

02:17:54.000 --> 02:17:59.000

a desire to get better, even outside the classroom. I am

02:17:59.000 --> 02:18:03.000

truly and thoroughly impressed by my students. I am happy to

02:18:03.000 --> 02:18:08.000

see them succeed and do much better in life.

02:18:08.000 --> 02:18:12.000

That is really what has impressed me, the resiliency and

02:18:12.000 --> 02:18:14.000

desire and initiative to get through it.

02:18:14.000 --> 02:18:19.000

☑Mary: Thanks for reminding us. That is true.

02:18:19.000 --> 02:18:24.000

There was an additional -- all kinds of chaos.

02:18:24.000 --> 02:18:29.000

I have given you your time. Cheryl has already clicked offer

02:18:29.000 --> 02:18:34.000

mic.

02:18:34.000 --> 02:18:40.000

I'm going for, I'm going first. Fair enough. What is one thing

02:18:40.000 --> 02:18:45.000

you would save back to the educators about online teaching?

02:18:45.000 --> 02:18:48.000

What would be one think you

02:18:48.000 --> 02:18:53.000  
would suggest and you would like to see?

02:18:53.000 --> 02:18:54.000  
☑Cheryl: Interestingly enough, I would incorporate everything the

02:18:54.000 --> 02:18:59.000  
instructors have said.

02:18:59.000 --> 02:19:01.000  
I think that I was most impressed with the dedication to

02:19:01.000 --> 02:19:05.000  
student success. Different instructors handled

02:19:05.000 --> 02:19:10.000  
the virtual learning think differently. Some had more

02:19:10.000 --> 02:19:14.000  
experience with online. Some did not prefer it.

02:19:14.000 --> 02:19:18.000  
We had to get to know that also about each one of the

02:19:18.000 --> 02:19:24.000  
instructors. I think in the end the faculty,

02:19:24.000 --> 02:19:27.000  
the staff, they were all dedicated to our success. I

02:19:27.000 --> 02:19:29.000  
think that Inc. what was going on --

02:19:29.000 --> 02:19:34.000  
incorporated what was going on in our lives. You did not

02:19:34.000 --> 02:19:39.000  
experience that prior to COVID as much. I was heavily taken

02:19:39.000 --> 02:19:45.000  
into account. Every single student had a

02:19:45.000 --> 02:19:47.000  
variety of challenges they otherwise would not have had.

02:19:47.000 --> 02:19:52.000  
Prior to COVID.

02:19:52.000 --> 02:19:53.000  
☑Mary: Thank you, Cheryl.

02:19:53.000 --> 02:19:55.000

Elizabeth, do you want to go next?

02:19:55.000 --> 02:20:07.000

☒Elizabeth: One thing I really appreciated

02:20:07.000 --> 02:20:11.000

was sometimes the professors wouldn't make having cameras on

02:20:11.000 --> 02:20:25.000

mandatory. That itself.

02:20:25.000 --> 02:20:30.000

Having your camera on for an entire class period could be

02:20:30.000 --> 02:20:34.000

really distracting. Sometimes people would not focus on what

02:20:34.000 --> 02:20:37.000

is actually happening. They would just be staring at

02:20:37.000 --> 02:20:41.000

themselves for an hour and some change. Sometimes it is taxing

02:20:41.000 --> 02:20:44.000

to have your camera on.

02:20:44.000 --> 02:20:48.000

I appreciated those that understood that piece of it and

02:20:48.000 --> 02:20:50.000

allowing us to listen and use one sensory tool at a time.

02:20:50.000 --> 02:20:53.000

☒Mary: That's a great point.

02:20:53.000 --> 02:20:57.000

We even saw a little bit of that on the side from the faculty

02:20:57.000 --> 02:20:59.000

talking about recording themselves. It can be exhausting

02:20:59.000 --> 02:21:04.000

to look at yourself forever. Cameron, you wrap it up for us.

02:21:04.000 --> 02:21:05.000

What you think?

02:21:05.000 --> 02:21:07.000

☒Cameron: Can you repeat the question?

02:21:07.000 --> 02:21:09.000

☒Mary: What is one think he would want instructors to know about

02:21:09.000 --> 02:21:14.000  
the online learning environment for yourself that you would like

02:21:14.000 --> 02:21:19.000  
to ask them to continue?

02:21:19.000 --> 02:21:22.000  
☒Cameron: Continue being as responsive and dedicated as they

02:21:22.000 --> 02:21:30.000  
have been. This last semester, Professor Tucker was amazing.

02:21:30.000 --> 02:21:35.000  
If I sent a question and did not hear back in half an hour to an

02:21:35.000 --> 02:21:39.000  
hour, something would be wrong. He was on the ball constantly,

02:21:39.000 --> 02:21:43.000  
which was a massive help. I know it is 7:00 but I have a

02:21:43.000 --> 02:21:45.000  
question. He would admittedly fire off whatever I needed from

02:21:45.000 --> 02:21:50.000  
him.

02:21:50.000 --> 02:21:52.000  
It was amazing, helpful, and great for us and showed the

02:21:52.000 --> 02:21:53.000  
cared.

02:21:53.000 --> 02:21:58.000  
☒Mary: That's a great way to tie this off.

02:21:58.000 --> 02:22:04.000  
Thank you all for your commentary. It is a good -- it's

02:22:04.000 --> 02:22:05.000  
a nice feeling to know we all got through this together. There

02:22:05.000 --> 02:22:10.000  
was a lot of dedication on both sides of the teaching-learning

02:22:10.000 --> 02:22:17.000  
partnership. You have given us a lot of right thoughts.

02:22:17.000 --> 02:22:22.000  
A lot of good things to think about. The chat was great.

02:22:22.000 --> 02:22:26.000

It is captured and will be posted so you can look back.

02:22:26.000 --> 02:22:31.000

There are a lot of resources folks are sticking up for

02:22:31.000 --> 02:22:42.000

educators. With that I will hand it back

02:22:42.000 --> 02:22:47.000

over to our intrepid conference chair, Rachel Bauer, and say

02:22:47.000 --> 02:22:54.000

goodbye to our fabulous panelists. Thank you, guys.

02:22:54.000 --> 02:22:56.000

☑Rachel: Thank you to all of our terrific panelist today. What a

02:22:56.000 --> 02:22:59.000

great group. A lot of great information for all of us.

02:22:59.000 --> 02:23:02.000

A lot of transparency and sharing. It was wonderful. Many

02:23:02.000 --> 02:23:07.000

thanks to everyone who has joined us over the last two

02:23:07.000 --> 02:23:11.000

days, both presenters and participants. All of us who

02:23:11.000 --> 02:23:16.000

worked on the conference this year, I hope

02:23:16.000 --> 02:23:22.000

you enjoyed it. We hope it provides you with food for

02:23:22.000 --> 02:23:26.000

thought and help you with the critical work you doing to

02:23:26.000 --> 02:23:31.000

support stem innovation. Don't forget to complete the

02:23:31.000 --> 02:23:35.000

evaluation is evicted the presentation. We value your

02:23:35.000 --> 02:23:40.000

input and it helps us with future planning.

02:23:40.000 --> 02:23:48.000

Check out those terrific on-demand sessions we have

02:23:48.000 --> 02:23:53.000



posted. We hope to see you in-person next year.

02:23:53.000 --> 02:23:58.000

That is what we are shooting for at HI-TEC 2022.

02:23:58.000 --> 02:24:03.000

It will be somewhere wonderful. Keep your eyes open for a note

02:24:03.000 --> 02:24:08.000

about that in the coming weeks.

02:24:08.000 --> 02:24:13.000

Everyone take care, be well, be safe. Have a wonderful day and a

02:24:13.000 --> 02:24:18.000

wonderful weekend. Bye-bye.

02:24:18.000 --> 02:24:48.000

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