

ICT Educator Webinar Series

Cloud Curriculum Pathways and Updates in the LA/Orange Region

March 5, 2021

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[00:00:00] Welcome

STEVE WRIGHT: I'm Steve Wright. I'm the sector navigator for ICT statewide. Welcome to our ICT Educator Webinar series. This webinar series is brought to you by our entire team of regional directors and the Economic Workforce Development program. And all of our speakers join us and share their knowledge and their information free of charge. Everything here is about benefiting the student.

We have in our archives now, I believe... I have to look at the number every week. It's getting to 54. I think by the time this season ends, we'll be at 60 webinars, and we tend to average about 70 to 100 views per webinar by the time... Because some people view them live. Some people view them after. That's why we do the recording, edit it, provide a complete transcript, slides, and any links that are relevant, so this is an incredible thing we do.

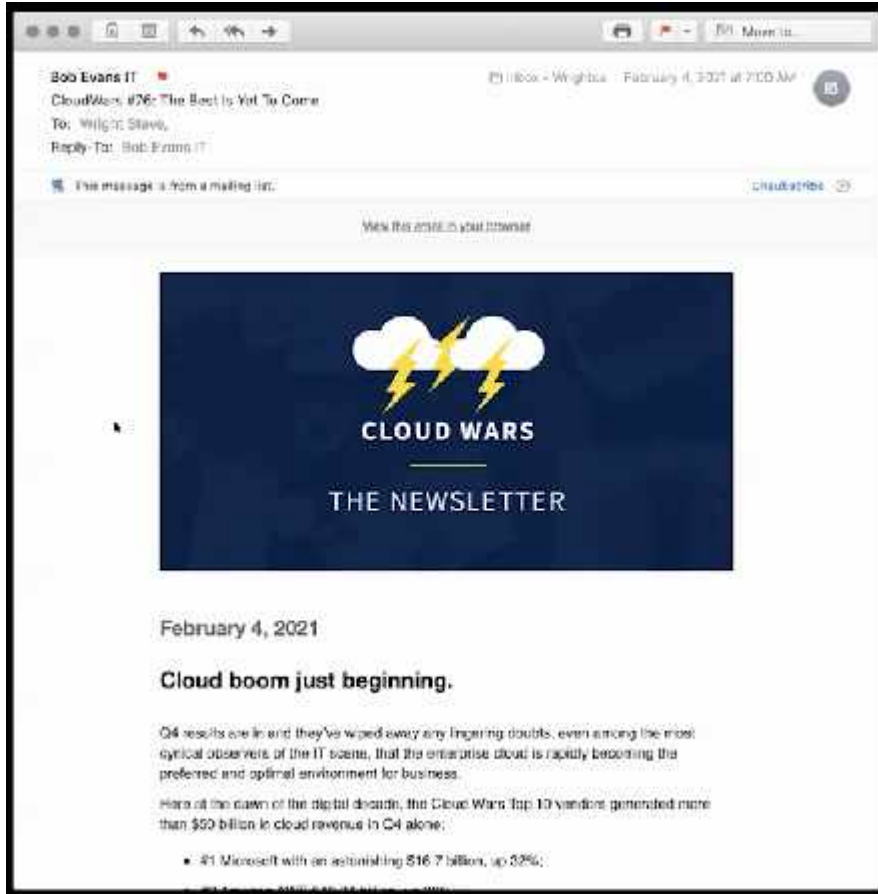
We did a survey recently, and faculty that attend this on a regular basis, which is about 80% community college faculty, said they take this information and directly bring it and share it as part of their curriculum and to their student base, so we feel really good about that.

- **March 12** – *CompTIA's Lifelong Learning Resources for Students and Faculty*
- **March 19** – *EON Reality Update and Grant Opportunity Announcement*
- **March 26** – *Microsoft K-14 Portals for Faculty and Students*

In the next couple of weeks, we've got some wonderful things. James Stanger from CompTIA is going to be with us to talk about what's new with CompTIA and what they're seeing in terms of the labor market, and then we're going to have EON Reality come back. They've been making extraordinary strides in artificial reality trainings CTE worldwide, and they're saying, "How come it's not catching on in California? We've got the whole world doing this!" So, they're going to talk to us about a grant opportunity they have. And then Charlotte is going to be back again with her Microsoft pals to talk about Microsoft K-14 portals and tools you can use there.

[00:01:46] Today's Topic

STEVE WRIGHT: For this week, I'm especially excited because we're going to be looking at the evolution of the cloud computing pathways that have been developed. I think Santa Monica City College started this thing off with a bang with their AWS thing and Salomon was part of that, and now everybody else is looking at it.



And I'd just like to take a moment and do a quick screenshare of an email that I get, an email newsletter called 'CloudWars' by Bob Evans. Anybody who is interested in cloud, I highly recommend that you sign up for this. This is #76, and it's the boom is just beginning. And when you look at the market share... When I used to do market research for Verizon, this is the kind of thing that I... I mean, this was my morning news, OK?

Microsoft is at, with Azure, an astonishing \$16.7 billion market share... Amazon has always been the leader, is huge. Google Cloud started off with almost nothing about a year ago. It's climbing up. Salesforce, of course, a different type of application, but you look at all these... Oracle, which was kind of asleep at the wheel for a while, has jumped in. ServiceNow growing like crazy.

So, when you think about cloud and the information we have on cloud, it basically indicates that students need to know a variety of platforms in any one particular company where they might work, and they're all growing, but you still have to start somewhere!

Amazon Web Services has done a wonderful job of making themselves very accessible in helping us get things started, so it's very logical that we would work with them. And anything you learn with Amazon Web Services you can certainly parlay easily into some of the others. But on the other hand, a lot of adult learners might want to jump right into Azure, and we'll be watching those other technologies as well, as well as their outreach.

I just wanted to say that because I think the market research behind where we go is something we all need to keep up on. Cloud is moving very rapidly, so I recommend you all start with that newsletter to keep up to date.

[00:03:55] California Cloud Workforce



STEVE WRIGHT: Right now, I'm going to turn it over to, I guess, Charlotte. Are you going to kick off?

CHARLOTTE AUGENSTEIN: Yes. Yes indeed. Well, good morning, everyone. My name is Charlotte Augenstein, and I am the Regional Director for ICT/Digital Media, and with me today, we have our team, and I would like for each of us, Salomon, Dorothy, and Sherry, just to introduce yourself and a little bit about what your role is, and then I will pass the baton to Salomon, who will dive a little deeper into our Los Angeles cloud pathway and the amazing work that we've done and what we're doing. So, Salomon?

SALOMON DAVILA: Thank you, Charlotte and team, for having us today. My name is Salomon Davila. I'm a Project Manager working in Strong Workforce project here in southern California, with the Santa Monica College being the lead of the project. Thank you.

SHERRY SHOJAEI: Hi, everyone. I'm Sherry Shojaei. I'm a Director with Career Ladders Project. Career Ladders Project is under the office of the Foundation for the California Community Colleges, and we support colleges, workforce partners, their high school partners in equity-minded redesign. So, we do a lot of kind of workshops, professional development, capacity building, all across the state, kind of research on a local level, research on a larger level, policy on a local level, policy on a larger level. And I have been fortunate enough to be part of this amazing team for the past few years that has developed these programs across California.

CHARLOTTE AUGENSTEIN: And last, but not least, Dorothy...

DOROTHY PHILLIPS: Good morning. I'm Dorothy Phillips. I'm the Lead Faculty at Los Angeles Harbor College. Also the lead AWS faculty. I'm really excited to be part of the Santa Monica team, and I'm just looking forward to it. Thank you very much.

CHARLOTTE AUGENSTEIN: Wonderful. With that said, I'm going to pass the baton to Salomon, who will share his deck, so I will stop sharing.

[00:05:48] Attributes




SALOMON DAVILA: Once again, thank you for having us today. We're glad to share our journey, essentially. This is a project that we were asked to describe a little of how we developed, how it transitioned from an idea into reality. So, what you'll see here is, essentially, how we undertook a regional project here in southern California. And I believe you will recognize a lot of the aspects involved, and hopefully, this is informative to you.

So, these are some of the things that we started off with in our project. We wanted to make certain that this was a regional coordinated project for the results that we adhere to labor market information. As many of you know, that's really the ticket in terms of developing any new programs.

Align all our curriculum with industry's help and their credentials, and utilize a model that many folks call this differently across the nation, but it's a pathway model—one that supports students from various entryways to various exits of the curricular model, with student assistance and work experience included. You'll see how we include that in there.

Last, but not least, this project included a professional project management—that's me—which was addressing all the trainings to go on time and all the details to be observed and the outcomes to be adhered to. So, that assisted our projects as well, so I'm glad to have participated in that regard.

[00:07:28] Creating an Ecosystem



Major Theme:
Creating an ecosystem to reinforce learning communities with systems of:

- open source collaboration
- codevelopment of curriculum
- regional employer communication
- common student assessment

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SALOMON DAVILA: Just another way to frame this for everybody so that you can see how we approached this project is that we wanted to make certain that there were certain themes involved in anything that we did. And one thing was is it was open-source collaboration. Everything we did, we made sure that we were going to share, or how we were able to share. We were able to leverage co-development of curriculum, either with faculty or with industry. We wanted to communicate to the regional employer pool to make certain that we can draw upon them for advisory, for internships, as you'll see later on.

And last, but not least, this ambitious goal to have some sort of common student assessment so that we can collectively know how we're doing as a region. Obviously, students are in different classes at different colleges, but we wanted something common that we could see. I'll share how we've been doing with that as well.

[00:08:22] Student Success

Video link: <https://www.youtube.com/watch?v=OOKnj3kT1fU>

SALOMON DAVILA: Before we get started, let's show a brief video. I think this should appear in your windows.

STUDENT: *I've always been interested in technology and how it works. Whenever I've been on my phone or computer, I was always curious about what makes this technology possible. Taking the cloud computing class at El Camino gave me the insight I was looking for. The class introduced me to Amazon Web Services, which really opened my eyes to the possibilities and career opportunities available within cloud computing. Now I know what it takes to build an audience on my channel, how to hack smart devices, and most importantly, advance in a career with my cloud computing skills.*

NARRATOR: *We are committed to providing students with the opportunity to gain career-boosting skills. That's why we partnered with Amazon Web Services to work on a cloud computing certificate. Students will learn how to stream media to any sized audience across the web using AWS. They'll also learn how to build*

systems that can handle tomorrow's demanding applications, like self-driving vehicle technology, machine learning, and more.

Students don't only have the opportunity to learn about engaging and exciting ideas, but they'll be able to build them, too. Take your skills to the next level with the cloud computing class powered by AWS at El Camino College.

SALOMON DAVILA: So, that was one of our partner colleges, El Camino, and their sizzle reel, as we call it, because we felt from the very beginning not only the regional branding, which is California Cloud Workforce, which covers a lot of southern California colleges, even into Ventura and Inland Empire. There are actually some colleges in the Bay Area that participated with us at the onset, so we really embarked a lot of California in general, and each college has their own sort of recruitment video, as you saw there, that we felt was important to introduce themselves to their community and to their partner high schools or employers.

[00:10:35] Career Pathway Model




SALOMON DAVILA: So, how does that look like? Well, we had to think about the full spectrum of who our stakeholders were in that career pathway model that you see here, very briefly described. We had to think about our high school partners and how they operated, what sort of courses they needed to partner for enrollment for their students, whether it be dual enrollment or concurrent enrollment.

Obviously, we needed to develop a curriculum for colleges that was common across all of our colleges, including a regional certificate that was preapproved at our regional level. That way, it was very easy for colleges to adopt a common curriculum, which was already approved at the regional level in

California. We have about 7 regions, so we here preempted the application of any college submitting their program by essentially having it preapproved.

Last but not least, thinking about certifications and that transition into employment and what would be success for our students, especially understanding where they come from. You'll see in a moment how we studied really carefully where our students came from, what they needed, and how to help them to transition into the cloud. So, we had to think about all the interactions that are involved there. And of course, a video like you saw there was something that really assisted with introducing students to employers to their programs.

[00:11:55] Project Outcome #1: Community of Practice




Project Outcomes 1 of 5

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COMMUNITY OF PRACTICE

Develop a network to communicate, share resources, evaluate outcomes and iterate best practices.



SALOMON DAVILA: So, a little bit about the outcomes. That's sort of background information to let you know how we started. From that, we developed some clear outcomes that we wanted to drive. The first one is developing a community of practice. We realized from our experience before, myself, Sherry (she'll address this in a moment), we knew that this wouldn't launch without a community of practice, meaning...

The way that we define community of practice is that if there was no interest in helping someone else within that community, right... If there's no interest in assistance from faculty helping other faculty or students helping other students, we knew that we didn't have a community, so we worked really hard to develop events, develop methods of collaboration, levels of trust, levels of interdependencies between one another.

All of that was really well coordinated, I think, to make certain that everyone was well supported in whichever level they felt. Some folks were very high on the technical side. Some were very high on the teaching side. Some were very high on the high school. Some were very high on the employer side. So, we wanted to make sure we drew upon everybody to share their expertise and to share that with everybody and to be validated in a way that our community sort of saw that as an asset, and that we needed that. So, that was something that was critical to our project, and I believe we achieved that.




These are many pictures of our events. We have faculty getting trained. We have students at Cloud Days as we call them, which were, essentially, employer interaction with our students. We even had a Cloud INIT that you see there at the top, where it was the welcoming of alumni students, welcoming new students into the programs.

By the way, this is all on a regional level, so these are students from various colleges welcoming students from other colleges under the umbrella of California Cloud Workforce.

So, there was a lot of the planning and logistical aspects to this to making certain people met, people shared, people were celebrated and their contributions warranted to this very ambitious goal of developing the community of practice, so I'm really glad we have that and it's sustained itself through COVID times, of course, virtually, but a lot of great success on the community of practice.

[00:14:30] Project Outcome #2: Curriculum




Project Outcomes 2 of 5

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CURRICULUM

Create a common core curriculum with high school dual enrollment and 4 year university articulation in a career pathway model.



SALOMON DAVILA: Outcome number two: common curriculum. So, here not only do we want a common curriculum, but we wanted to make certain that we didn't leave the high schools out. We wanted to make certain that we drew upon the high schools.



CA Cloud Workforce Core Program



- Introduction to Cloud Computing
- Databases Essentials
- Compute Engines
- Security
- Elective 1
- Elective 2

- [Introduction to Cloud Computing](#)
- [Database Essentials](#)
- [Compute Engines](#)
- [Security in the Cloud](#)



And with that in mind, we actually came up with a 4-course core curriculum for which the first one, Intro to Cloud Computing, can be quite general and could even have been morphed to an Intro to IT if need be. So, we felt that that was necessary for the high school connection.

And then, what you see here is just three general cloud topics that you see there, including two electives that are actually unique to the college, where the college can actually do some specialty development for their offering. In other words, a college can specify that “We’re going to do the core, plus Networking, Advanced Networking,” or, “the core plus Machine Learning,” or, “the core and App Development,” for example. I’ll come back to that in a moment.

You see the four courses here. If you have the link to the presentation, which I put in the chat, you can actually access the core shells. These core shells were developed, and now I think they’re at version 4, and we have 16 colleges, which you’ll see in a moment. But they are welcome to start with these shells as a baseline, and they can either add, augment, delete whatever they need to, but at least everyone starts with a baseline of what would be the general outline of the course.

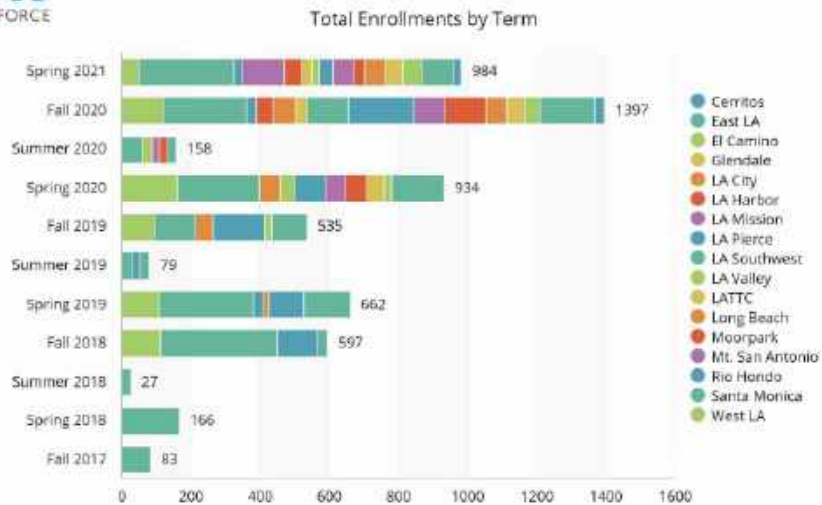
These are free and public to use. If you want to take a look at them, you can download them and install them in a Canvas shell. Essentially, it’s a starting-off point, and that really helped a lot of new instructors as we got this rolling and grew the classes and sections.

The electives that you see here, that’s been proven to be something of a fortuitous planning on our behalf, because now there are a lot of students that have taken the four core courses, and now that the faculty are producing sort of electives in cloud, students are sort of interchanging between colleges and taking these electives to their interests.

Some colleges are offering Azure as their elective, so students are taking the Azure class in that college. Some colleges are doing Cloud App Development, so those students interested in that are going to that college. So, it really helps with enrollment so that those specialty courses don’t get canceled, and there’s enough enrollment in these higher end classes. So, it’s really worked out, I think, planning regionally this way for enrollment purposes.



LA County Community College Cloud Computing Enrollments by Term



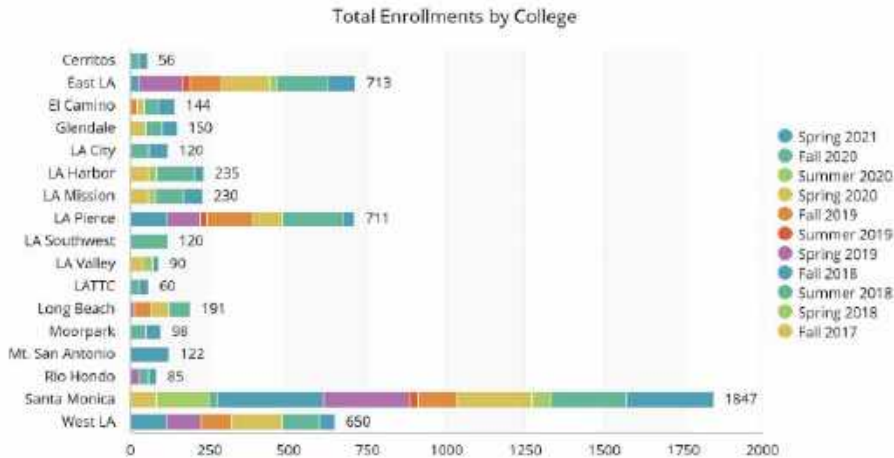
So, what about enrollment? As projected, we have hit our mark with roughly... You know, we expected... Actually, we expected 1800 enrollments (this is not students), which roughly between 300 and 400 students, depending on how many classes they take. But we've been... You can see here, based on our projections, these are scheduled classes, so we got there. We actually exceeded our expectations, and that's because there's a college that just started this spring, which will only be growing. They've been adding more sections for the spring.

So, enrollment has grown, but as you may imagine, in order for us to be able to offer as many classes for enrollments that you see here, faculty had to be trained, the shell had to be reviewed. There was a lot of preparatory work that was involved in making certain that faculty and the classes were going to be successful, including some of the high school partnerships that we also worked on as well. So, I'm really glad that our team collectively has achieved this great marker.



LA County Community Colleges Cloud Computing Total Student Enrollments

Total Enrollments since Fall 2017: **5622**



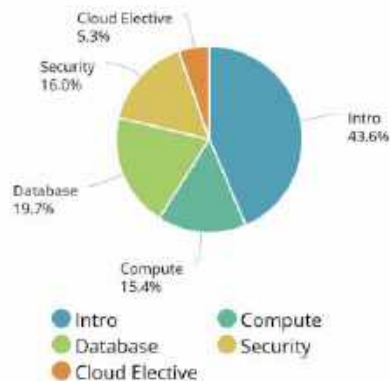
Here are some of the colleges by their numbers. You can see there are several colleges that really are much larger than others, but that's only because they kind of started early. The other colleges are hot on their heels, so to say, and soon we'll sort of improve on their numbers, I'm certain. But yeah, some of those got started earlier, and some just got started this spring, like Mount San, but Mount San is a huge college that pretty soon will catch up, and supersede, some of the other colleges, I project.

So, since Fall 2017, we've had over 5600 enrollments within these courses, so that's a pretty big number at this point here. Quite successful.

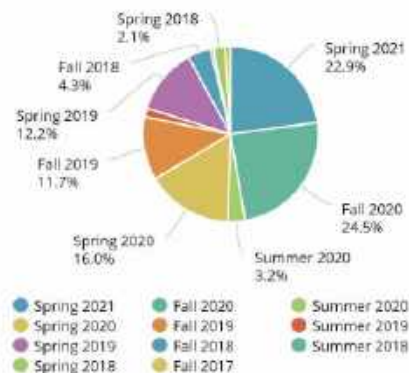


LA County Community College Cloud Computing Enrollments by Category and Term

Percentage of Sections per Course



Percentage of Sections per Term



So, a little bit about the enrollments just so that you can see that the intro course (remember the four core courses that we focused on), that still the majority of the course is offered, as expected. The other three are kind of evenly distributed, and then we foresee this cloud elective growing as the time progresses, so we'll measure that.

But it's only been over the last year, last spring... Sorry, this spring and last fall that really half of the enrollment has been reached. So, you can see that we just broke this sort of pattern just recently, but I foresee this to sustain itself for the longevity of the enrollment. That achievement of enrollment has marked done, essentially.

[00:20:12] Project Outcome #3: Industry Partnership



Project Outcomes 3 of 5

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INDUSTRY PARTNERSHIP

Alignment of occupational skills and program outcomes by industry councils and advisories.



Employer & Community Partnerships



SALOMON DAVILA: Outcome number three is partnerships with our industry. And actually, more than just industry but also organizations. So, all the logos and folks you see here really helped us out in a variety of ways from developing advisory minutes, developing reports with local economic development groups. CLP, which you'll hear more about their role in a moment with Sherry's help. AWS Educate and AWS Academy

assisted with our training efforts. WASTC, which I see Richard on here, really helped a lot to systematize a training of the faculty, which we were doing locally, and then it just got too much, too big, and we're glad for their help. And of course, any channel partners that Charlotte has introduced us to. And of course, our regional consortium for a variety of reasons. They're a great resource as well. This could not have been possible without the input and just putting resources together from a variety of different regional systems that you see here in order to be partners.



So, here's a brief video, I think, that will show how we're trying to recruit more employers.

VIDEO TEXT: *Cloud computing skills are in demand. We are local community colleges offering classes preparing students for certifications, internships, and future careers. Get involved! Gain an edge and invest in local talent. Stay competitive and partner with CA Cloud Workforce.*

There are many ways to get involved: present your business challenges, become an industry mentor, offer a virtual visit, be a guest speaker at Cloud Day events, share internship opportunities.

Some of our colleges include: Cerritos College, El Camino College, ELAC, Glendale Community College, LACC, Los Angeles Mission College, LAHC, LATTTC, Mt. Sac, Moorpark College, Santa Monica College, West LA College, Los Angeles Pierce College. Connect with us today! CACloudWorkforce.com

SALOMON DAVILA: So, that's just an example of a campaign that's going to be rolling out to start soliciting employers for the new internship program, which I'll describe a little bit later on, but the whole point is that the focus on partnerships, the focus on employers is also very prevalent in this project as well.

STEVE WRIGHT: Salomon, I've got to ask a question.

SALOMON DAVILA: Sure.

STEVE WRIGHT: From the student base that you have right now, how many need a new job? And how many are getting trained within the job they're in to expand their capabilities, so they might not need a new job? It might be an upgrade?

SALOMON DAVILA: Yeah. I'll share all that information in, I think, two more slides, Steve. I don't know the number off the top of my head, but you'll see it in a moment.

[00:23:06] Project Outcome #4: Industry Certifications



Project Outcomes 4 of 5

INDUSTRY CERTIFICATIONS

Develop a model to prepare students for industry certifications.

SALOMON DAVILA: So, just before we get into the employment, because your question, Steve, led us to, basically, the continuation of this into employability. Industry certifications, which many of us in our respective colleges are trying to address individually. Again, we attempted to do this regionally.



Professional
Two years of comprehensive experience designing, operating, and troubleshooting solutions using the AWS Cloud

Associate
One year of experience solving problems and implementing solutions using the AWS Cloud

Foundational
Six months of fundamental AWS Cloud and industry knowledge

Specialty
Technical AWS Cloud experience in the Specialty domain as specified in the exam guide:

- aws certified Solutions Architect Professional
- aws certified DevOps Engineer Professional
- aws certified Solutions Architect Associate
- aws certified SysOps Administrator Associate
- aws certified Developer Associate
- aws certified Cloud Practitioner
- aws certified Advanced Networking Specialty
- aws certified Security Specialty
- aws certified Machine Learning Specialty
- aws certified Alexa Skill Builder Specialty
- aws certified Data Analytics Specialty
- aws certified Database Specialty

For cloud, we selected the AWS certifications. There are two specific certifications that we selected, the Cloud Practitioner and the Solutions Architect Associate. With that in mind, I'm going to actually switch it over to Dorothy to describe this process a little bit. Dorothy?

DOROTHY PHILLIPS: Yes. Good morning again! I would just like to share our experience and small success at Harbor College. I've been working in the AWS technology for the last 2 ½ years, and it's exciting to be a

part of it because it's a brand-new technology. It's been around less than 15 years, and we all know in the IT industry that 15 years is how many lifetimes? But we have the four core courses that Salomon mentioned and two electives. And the beauty of this program is it can be completed within two semesters/one year.

So, we started at Harbor in the spring of 2020 with 8 students, and we ran our intro class again during the summer of 2020, and we picked up another 25 students. And by the end of the fall semester, we had 5 students that were eligible for the Cloud Practitioner Bootcamp, which would prep them for the industry certification.

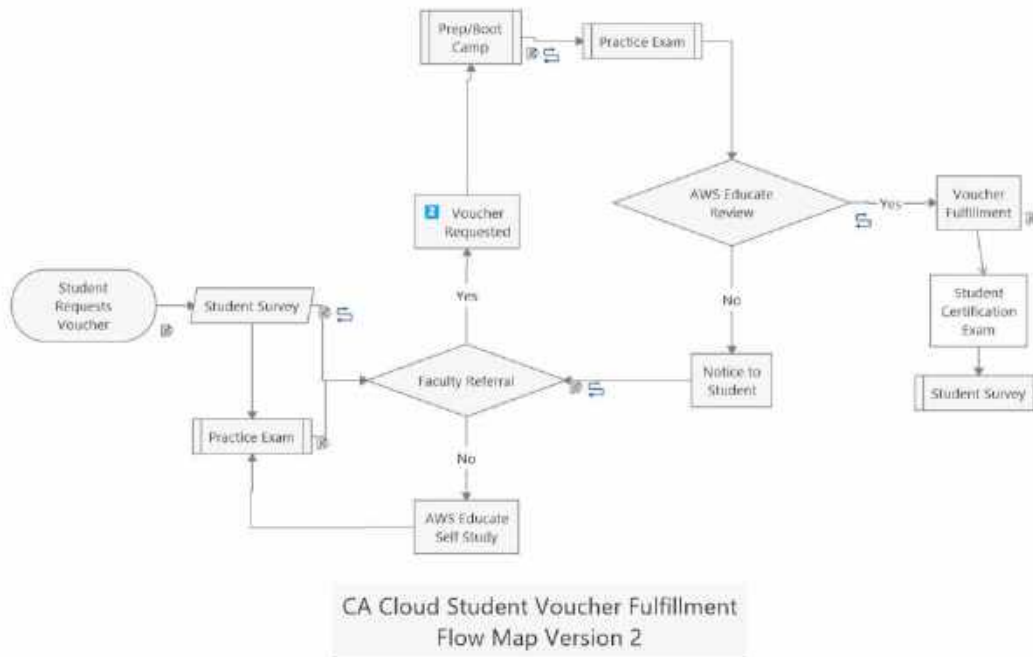
So, in my final class, I had the option of giving the students the Bootcamp, or they could do a class project. So, several of them opted to take the Bootcamp. So, thanks to Salomon and the Santa Monica team, we set it up whereby the students were invited by the faculty, and they were sent an email. And in that email, they had an assessment test. And in that assessment, we could determine whether or not they were ready for the Bootcamp. And if they were, they registered.

So, during the Bootcamp, we took them from everything... Since we are certified from the actual exam and the psychology involved in the exam, even from the time of day that works well for them in taking the exam, and the belief that since they've had those four courses, they could pass the exams, and we focused on that a little bit to make sure that they were confident that they could pass the exam, and we went through the Bootcamp.

So, we went over the four AWS domains. Salomon went over two in the morning, and the beauty of the Bootcamp and going over the domains and the various topics, at the end of each topic, we presented them with questions. Salomon set up with polls everywhere, where the students could actually go and take the test based on the topics from the individual domain. So, that was very successful.

So, after the Bootcamps, the students were given different assessments. And based on those assessments, the faculty could determine by the percentages whether they were ready for the actual certification. And if they were, the Santa Monica team also provided an incentive. We had the \$100 vouchers that we provided to them to take the actual certification.

So, in my case, I had 5 students that completed the local certificate as well as passing the industry exam, and you're going to hear a lot about the team effort. This would not have been possible without Salomon and the Santa Monica team and the regional consortium, Charlotte and everybody, Sherry, everybody. This harvest is everybody's seed. We didn't have to start all over. We have all the support in the world, so the next step, as Salomon said, is internships and employment, and I'm very confident that we'll get there as well. Thank you very much.



SALOMON DAVILA: Thank you, Dorothy, for describing. She assisted in this process of regionalizing. What you see here is a flow map to, essentially, orchestrate the vouchers that students would get and to prepare them through, as Dorothy mentioned, this process of the Bootcamp.



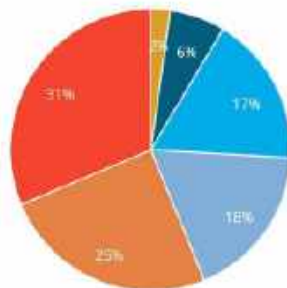
Student Employment Interest Survey

Select College:

15 selected

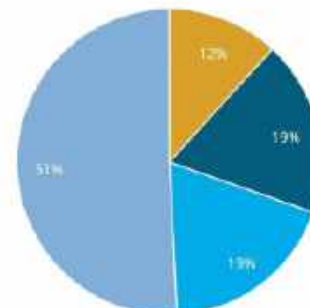
- ⦿ 55 % of students prioritize **AWS certifications** as Program Goal
- ⦿ 88 % of student have a community college program goal
- ⦿ 18 % of students are skill builders

Program Goal



- Take the AWS Solution Architect Associate
- Take the AWS Cloud Practitioner Certification
- Secure full-time employment
- Complete a few courses for skills development
- Secure an internship at an employer
- Secure part-time employment

Educational Goal



- Complete local college Cloud Computing Certificate
- Complete Associate's Degree
- Complete Associate's Degree + Transfer to a University
- Transfer to a University

With that Bootcamp, there were some practice exams. So, going to the sort of regional assessment just a little bit before that, this will answer your question, Steve. So, you asked me how many students were ready for the job employment when they came in.

We first asked them, “What is your immediate goal?” and the overwhelming response we get is to get that AWS Solutions Architect associate certification. That is the number one goal, as you see here. Shortly after that is Cloud Practitioner, but I think they just understand certification. So, that is definitely the goal.

I believe the majority of those folks understand that that comes first, before the full employment. You can see securing full employment comes shortly thereafter that. So, I’m certain that the folks that are getting certified, the majority of them problem are going to seek full employment afterwards already, so you can see how it’s a significant portion of our students that are looking for employment and to prepare themselves by getting certified.

They also want to finish the certificate there at the college, so they understand the value of the courses, and many of them want to complete it, as you see here. Some of them will continue with an associate degree, as indicated here, but only 12% say that their goal is to transfer to university, so we have a lot of folks within their careers and looking to upskill, essentially.

And I believe either this slide, or I kind of brushed over it earlier—over 40% of our students have a bachelor’s or master’s degree already, so quite a significant portion of our students are coming to upskill.

STEVE WRIGHT: Thank you for that. I think it’s an important thing because, you know, in the tech industry... I mean, I’ve been in it for thirty years. You see people all the time saying, “I’m getting rusty. I need to go back and get a certificate or learn something or do something new.” Or “Times are changing. If I want to get that job over in that department, I need to learn this.”

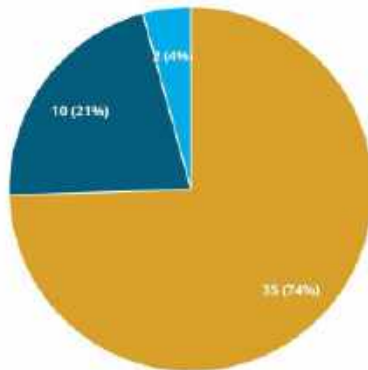
So, for them, they’re already employed, and I wonder if we differentiate our approach to those people from the people that are just starting out, and their eyes are wide open, and they’re like, “I don’t know if I can do this...” I heard Dorothy mention a lot of things about how to accommodate people who may be a little insecure, you know? And I think that’s good, but it sounds to me like we may have two tracks here.

SALOMON DAVILA: There are, I would agree with you, and I think what we’re trying to do right now, which I’ll get to in a moment, addresses a little more of that second more prepared track.



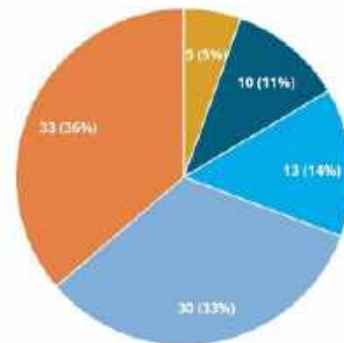
Regional Certification and Bootcamp Attendance

Regional Processed Certifications



- AWS Cloud Practitioner
- AWS Certified Solutions Architect - Associate
- AWS Cloud Practitioner, AWS Certified Solutions Architect - Asso

Bootcamp Attendance



- "Cloud Practitioner, 5-8-2020 am"
- "Cloud Practitioner, 5-8-2020 pm"
- "Solutions Architect, 6-19-2020"
- "Solutions Architect, 6-20-2020"
- "Cloud Practitioner, 12-11-2020"

Just to wrap up the certification, because I do believe we just happened to develop this over last year, really, into something I think that is another success of our outcomes. You can see the certifications that were processed, the majority for the Cloud Practitioner, although we are getting into the Solutions Architect already, and that number is going to grow.

Common Assessment - Certification Preparation

Assessment	Percentage
AWS Cloud Practitioner Practice Test	75.2%
AWS Cloud Practitioner Practice Test	38.7%
AWS Cloud Practitioner Practice Test	33.4%
AWS Cloud Practitioner Practice Test	31.9%

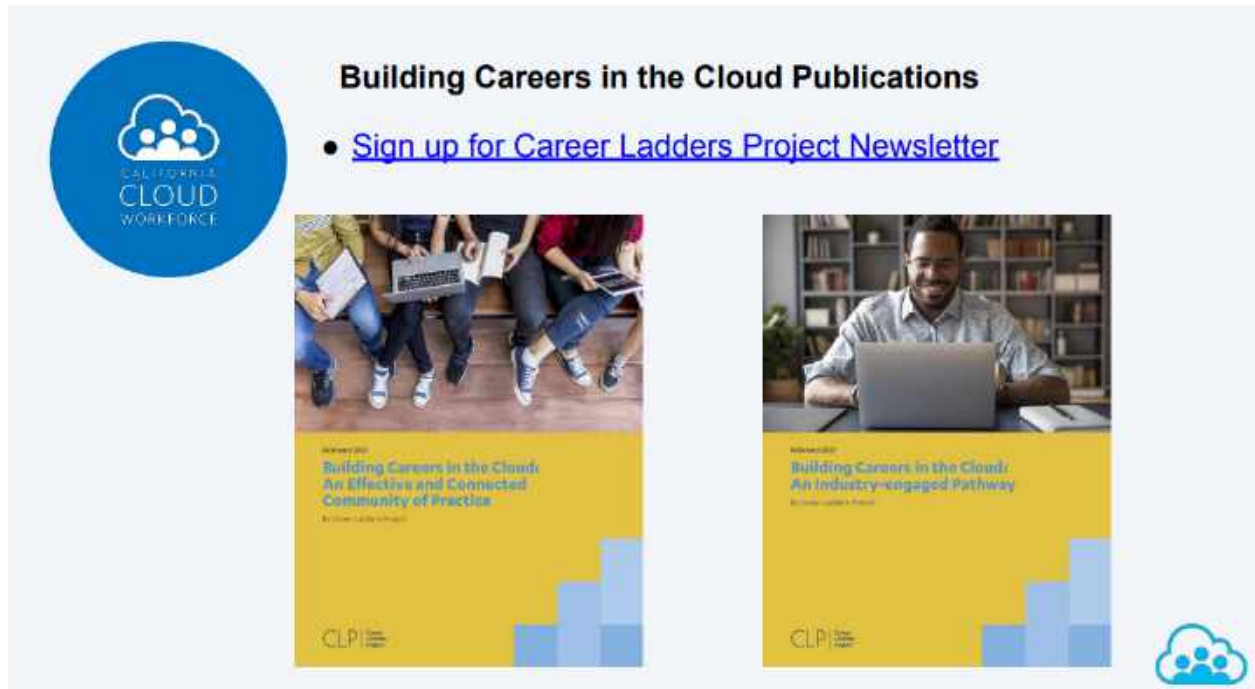
18

The attendance at the Bootcamps have been quite well received for a variety of reasons, so this is just the Bootcamp numbers, but what we're getting from the regional assessment or the common assessment, we're looking at the practice exams that we're having as a carrot to get that voucher. Dorothy mentioned the voucher system that students can obtain to take the certification exam. Their incentive is to go through the process of taking the practice exams after the Bootcamp, so now we have a wealth of regional information in aggregate of knowing how students are doing through these practice exams, what's the general...

This is just some information that we're analyzing of the number of questions per exam, the distribution of the correct answers across the exams, and then you can see we're actually analyzing down to the question level, but you can't see the questions. There are over 300 questions, I think, for our practice exams. But you can see that we can start zeroing in on those questions that students are failing to help improve our regional programs, right? So, we can discuss this at the regional level. These are the questions that students are failing on their practice exams, and how can we improve to cover these topics? Either the Bootcamp can be improved, some curriculum can be improved, etc. So, this is, I think, a timely way that our faculty are going to get us information so that we can improve our processes.

I'm going to switch it over to Sherry to discuss a little bit about how we captured a lot of this and her contribution with CLP. Sherry?

[00:32:11] Building Careers in the Cloud Publications



Building Careers in the Cloud Publications

- [Sign up for Career Ladders Project Newsletter](#)

[Sign up for Career Ladders Project Newsletter](#)

SHERRY SHOJAEI: Thank you, Salomon. So, CLP has been a partner working with the project team, faculty, everyone that's been involved on this project for the past few years, and most focused on providing professional development. We provided two publications that were just released, I think, about two weeks ago, and I'll put that in here. It documents what we've done.

The first one is kind of focused on the community of practice that was built—so the structure, the leadership, the consistent meetings, the consistent webinars, being intentional about the professional development, codesigning the professional development, keeping in mind what the folks need so that it's timely and it's relevant.

And I think what was really critical to see with this community of practice is that, you know, we had 19 colleges that were part of this community of practice. And certain colleges came on earlier on, and then certain ones came on a little bit later. And the fact that a college can come on year two, year three, year four and they're fairly new to it, but there was this kind of consistent home team that was able to support them through that process and feel like they weren't alone in this, that they didn't have to go through this, all these processes by themselves. It was more of a plug-and-play. I think that was really critical for faculty. It empowered them to feel like they were part of a larger community, and it empowered them to be able to move forward and move faster and not be alone in this.

I think it was also really critical for students to see—and I hear this all the time when we do our student focus groups is that students feel like they're alone at the community college. They feel isolated. They don't really feel like there's connections. They sometimes feel like they just go take a class and leave.

And what we saw through this, especially the regional Cloud Days... You know, we had regional Cloud Days on a Saturday, and we had 150 students showing up from all across the region, and they're seeing other students that are taking the program, and it really empowers them to feel like they're part of something larger, that there are people there that are really working behind the scenes to make this possible for them.

So, those are really some of the lessons that we tried to capture. And of course, some of the things that we hope that we can do better for future program, lessons learned, and ways that we can build this more intentionally in the future.

The second one is really focused on industry engagement and how do we build those partnerships, how do we make those connections for students. Essentially, we are really looking to change the narrative around community college students. When we have community college students interacting with employers, we don't want to just throw them in there. We want to make sure that they're well prepared. We want to make sure that they feel confident. We want to make sure that they are coming and representing themselves in the best way possible so that we can continue to build these industry partnerships.

So, those Bootcamps that everyone was talking about are really intentionally designed with faculty codesigning it. How do we do the Cloud Days so that they're interacting and networking with folks on a more regular basis, so they don't feel that imposter syndrome? And all the other things that come along with navigating these spaces that may feel intimidating to them.

So, the industry-engaged pathway publication really highlights kind of the way that we've been able to interact with industry and engage them. So, if you want to check out those two, I put it in the chat, and it's the first two publications linked on our CLP page.



But I wanted to just take a moment, if you could go to the next slide, Salomon, to share stories from two of the students, and they're featured in the publication. One is Isabelle Wagenwood. She is a rising senior at Santa Monica High School, and she took—and this was intentional, the way that we were able to make connections with the high school as well to provide dual enrollment opportunities for students, so a student can kind of get a lead on their cloud computing program, or maybe they're just kind of a little interested, but they're not exactly sure what they want to go into. This is kind of a great transition into the college.

So, she was a rising senior. She took dual enrollment classes, and she's continuing on in the program, and she actually got an internship with Kokomo Solutions. And she's a senior! She hasn't even finished high school yet, and it's just... What that does to a student's confidence—that is something that is... We could talk about these numbers and the metrics and the outcomes, but that, I think, right there, is the game changer. That's where it's at.

And then Jonathan, who is really great, and he has presented at Cloud Days as kind of alumni trying to support other students that are coming into the program. But he was pursuing a cybersecurity degree at LA Mission. So, as he's pursuing that kind of long-term degree, he came across the cloud computing program, so he went and got the cloud computing certification while he's on this longer-term trajectory.

And I think that's so incredibly critical, especially for our students who are working, are single parents, have families to support. They need to be able to get paid, and I truly believe that this is an antipoverty strategy. How are we going to get students into positions where they're getting paid? You know, it may not be the end-all be-all for them, but at least it's in an industry that is relevant to what they're pursuing for their longer-term goals.

So, when they were featured in the publication, I actually sent them the publications. They responded, "Can I put this on my LinkedIn? Can I link it there?" I was like, "Please do!" So, just the fact that they're thinking that way, "Not only am I involved in this, but I'm also going to market and brand myself, so I'm getting more exposure," I think is really a testament to all the great that folks have done on this project.



And I just included one quote, just a quick humblebrag from Howard Stahl, who is the department chair at Santa Monica College. He said, "I have never seen any other program at my college have such a life-altering effect on students' lives. This program helped students pursue their careers in tech. Couple with industry-

recognized certifications, students are getting employed in great jobs with fantastic companies all over the tech field. It is so absolutely wonderful to see.”

I mean, I included that because I just feel that sentiment, and it’s been a highlight of my professional career, is working on this project. I’m really, really grateful for this team, but I think having that home team, that consistent community of practice that folks can tap into has been just absolutely critical. But yeah, I’m really grateful for that, and if you have any questions about those publications, or if you want to learn more, please feel free to reach out to me or to Salomon, and we can definitely support you.

STEVE WRIGHT: I’ve just got to add a high-five on that because the way you expressed that, Sherry, and the way you brought about the feeling... You know, they’ve got to work, and they’ve got to make money.

SHERRY SHOJAEI: Yeah.

STEVE WRIGHT: And we see so much of people falling off of track. “I want to be this, but right now, I’ve got to work at Starbucks.

SHERRY SHOJAEI: Yeah, it’s true.

STEVE WRIGHT: They’re in food service for twenty years. And nothing wrong with food service—I’ve done that myself.

SHERRY SHOJAEI: Right.

STEVE WRIGHT: But maybe they really wanted to do... The sooner we can get them employed... I just love that that’s part of this program. And those Cloud Days, I know, Charlotte, you’ve had a lot to do with that, too, and then just getting those people together, so they feel like they’re part of something. I mean, it just feels good hearing it. Thank you.


SHERRY SHOJAEI: Yeah, and even during the Cloud Days, the industry partners were saying, “If you have retail experience, if you worked at McDonald’s, if you have customer service experience, that’s a benefit for this program, because we need you to be interacting with companies to help them set up their cloud computing.” So, if you have that retail, leverage that. So, I think that also helps students reshape their own narrative of their own experiences.

STEVE WRIGHT: Yeah. So much of this is the student’s own identity, you know? “Do I identify myself as a technological person?” And that’s so valuable.

SHERRY SHOJAEI: Yeah.

SALOMON DAVILA: Well, thank you very much, Sherry, for your contribution in CLP’s support of this project. And as she has mentioned, those documents really has the tell-all for how this project was done in more detail than I shared here, so definitely reference those for some very good documentation and aspects of our project.


[00:40:55] Long-Term Project Metrics



Long-Term Project Metrics

- Number of students obtaining a certificate or degree
- Students employed within 4 quarters of exiting program
- Student change in earnings as a percentage

18



SALOMON DAVILA: And just I know we're running off until the Q&A session, so just briefly, I'm going to let you know what we're doing as of today, moving forward for the next year and a half, roughly. These are some long-term metrics, which are kind of nebulous and kind of very large, and we can't really... We have to impact these quite a bit in our world, so let me describe really what this means, which involves employability of students and earnings.

Work Experience Education Continuum

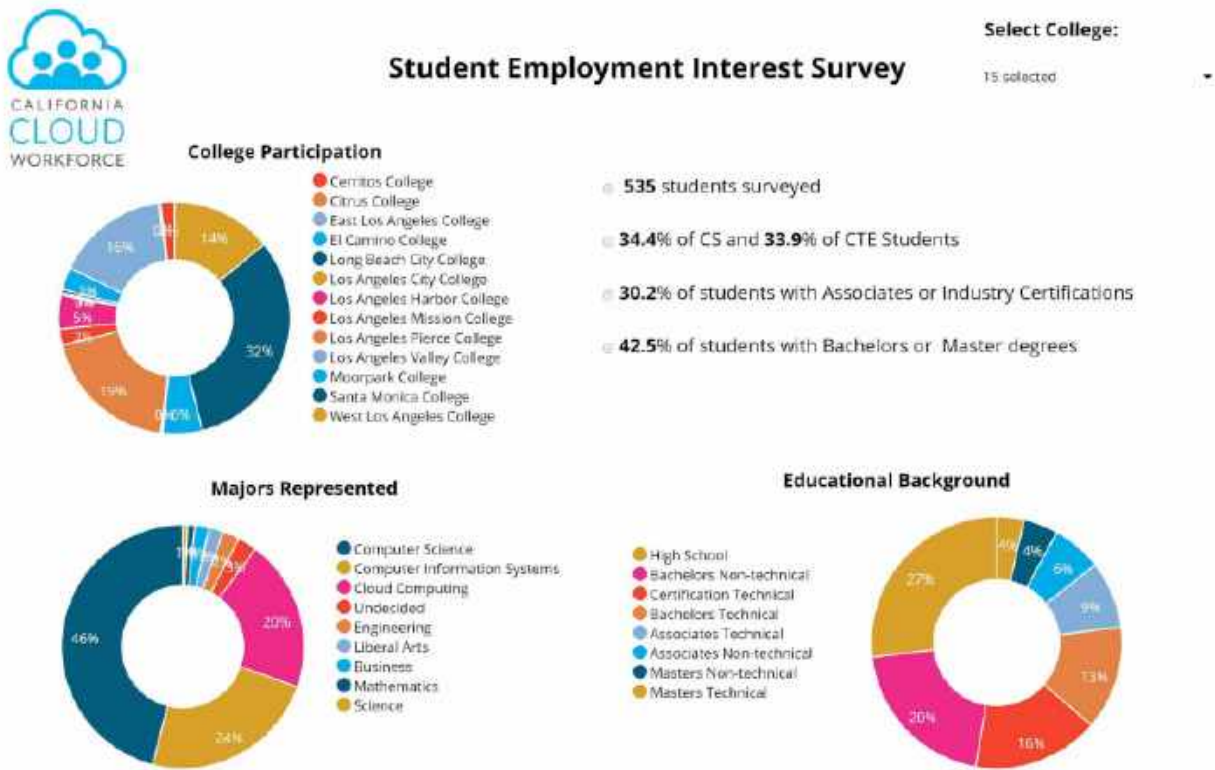


For those of you who have implemented a career pathway model, this may look familiar. This is the work experience continuum that we reference in terms of how we're guiding students in our programs through this continuum of work experience.

Cloud Days, which you've heard mentioned here a couple of times, are really industry visits, guest speakers, career fairs, hackathons... They're on the sort of the beginning end, where employer engagement is pretty much one to many at a very large scale.

We're trying to move it up in this spectrum that you see here as we're trying to reach the internship level. However, internships, although they are useful for those students who get it, it's very difficult to scale. Personally, I've worked with many colleges, over 40 at this point, in trying to develop this, and there's a lot of energy involved with just pairing employers and interns.

Now, I know they're very valuable, and those who get it are, obviously, qualified and useful to them, but we wanted to run this up to be much more, let's say, democratic with a small 'd' to get folks to experience real-world problems.



So, just a little bit about how we approached this... So, we looked at the students and where they were at, coming into our program. I think this is a slide I may have skipped earlier, but we looked at their majors and what they represented. We have a diversity of majors, mostly on the CS and the CIS background. We also have a variety of educational backgrounds. We have folks from high school. As I mentioned earlier, bachelor's degrees and master's degrees are 42.5% of our students, roughly speaking. The next big group are actually certified students with technical certification and even associate's degrees, so there's a lot of reskilling and retraining within our student body.



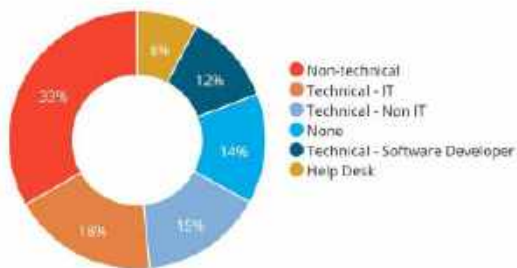
Student Employment Interest Survey

Select College:

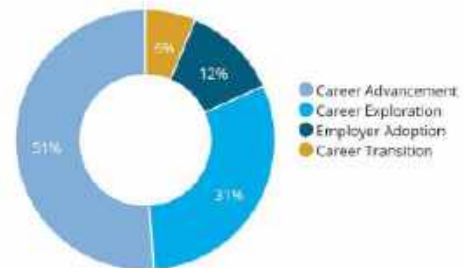
15 selected

- 64 % of students have **NO** background work experience in IT
- 18 % of students are claim reason due to market forces

Previous Work Experience



Purpose for Enrollment



And many of them do not have previous work experience. If they do have work experience, it's not technical, as you may see here. Some do have technical/IT experience, which we would definitely want to leverage and actually find it of some use as we develop our internship program. Even help desk was very useful to know, with no work experience being one of the lower-spectrum ones here.

One interesting point, just to point this out, that employer adoption of cloud in career transition is also quite prevalent within our student body, so these folks are looking to, in a situation where they just need special attention, right? There's some pressure maybe, outside pressures, involved in their life that are leading them to be there, so we wanted to recognize that and assist with that as well while the majority are just for general career advancement.

[00:44:16] Project Outcome #5: Employment Preparation



Project Outcomes 5 of 5

NEW

EMPLOYMENT PREPARATION

Develop a process to orient students to the real-world problems to obtain practical experience and an employer evaluation for resume.

SALOMON DAVILA: So, what did all that mean? Well, we have a new sort of outcome that we adopted for our new project. This is really the main thing, is employment preparation, specifically to develop a process to orient students to real-world problems and obtain practical experience and an employer evaluation for their resume.

We did a pilot last year, and we got some feedback from our students that they needed to discuss their experience in cloud in a way that allowed them to express real practical experience, not just classroom experience.

Team Internships

- Business Negotiation
- Student Orientation
- Pre-selected Cloud Challenges
- 7 Sessions
 - Agenda
 - Exercises
 - Journal Questions
- Defined Deliverables
 - Evaluations
 - Debrief
- [Video of Branded Internship Model](#)
- Use of [Guidebook from CCC Maker](#)



- [Video of Branded Internship Model](#)
- [Use of Guidebook from CCC Maker](#)

So, with that in mind, we are adopting an existing model that was tested by CCC Maker, here in California. This was a \$17 million project implementing maker spaces. And I was part of that team, and part of that project, we had over 800 internships to develop, so it's really a scale problem to do this, and the model that resulted from working with my colleagues in that project is this model of team internships.

Now, team internships is a different model, where you invite an employer to bring to your students a problem or a business challenge, as you may see here in this sort of step-by-step session callout. So, this business challenge that you see there is highly negotiated, first and foremost, by a coach. And this coach could be a faculty member, or it could be a work experience specialist in the college, or as a team working together with the employer to come up with this business challenge.

The challenge is presented to students in groups, so this is how we can scale this, and the employer gets asked a lot of questions by the students so that the students essentially develop the problems they need to solve themselves. The employer then provides some feedback about these problems, like which are more important or which are more relevant, those sort of things. Students get to work in groups, and this is where having a variety of backgrounds really helps because some them are more technical, some that are even outside of the discipline, and maybe they're graphic designers or engineers or even nursing or English majors, can assist with just critical thinking and some aspects to the problem that needs to be addressed, especially if the employer is trying to develop something like a marketing campaign where, yes, it involves cloud, but it also involves some marketing as well, right? So, it really works well when you have a variety of students in those groups.

Solutions are developed, and they make a plan for that solution, so really it's just a proposal that's developed. It's not an actual working model prototype, although it can be if you extend the time. This is meant to be roughly about 20 hours that I'm describing here of interaction with students.

At the end, the students propose a solution to the employer, and of course, there are groups so that the employer would essentially have various presentations from a variety of groups. And the employer would then choose, essentially, which solution would work best for them. And at the same time, students are learning about the employer. They're learning about the business itself. The employers as to invite four or five of their colleagues from that company to evaluate the students the day of the presentations, so they work in the teams. They do a little bit of feedback. They get evaluated, and the students get a chance to get that feedback from the employers.

There's a video link in there. I invite you to watch... I think we did that with Sac City quite successfully, and there's a whole guidebook of over 100 pages of how to actually do each one of these sessions and how to prepare for this. So, we're going to adopt this to our cloud project. It's going to look a little different, I'm certain, but we're looking to adopt four or five cloud projects that are very prevalent in the industry, and we're going to promote to the employers, so we can help you in these services, these cloud services, and come to our colleges to get assistance with these services. It's essentially what's going to be the pitch. So, it's going to be a value-added proposition that we're going to put to employers versus essentially asking them for help in an internship. We're going to essentially tell them, "Our students are here to help you, and you're welcome to engage with us."

[00:48:42] Questions & Wrap-Up

- [Implementation Work Plan](#)
- [Team Internship Work Plan](#)
- <http://CACloudWorkforce.com>
- Salomon Davila, CA Cloud Workforce Project Manager salomon@scopewave.com

SALOMON DAVILA: So, that's our next challenge, and I look forward to answering any questions at this point and hearing from anybody who wants to get ahold of us. My email is here at the bottom, and I think I put two links in there, if you want to actually get into the weeds of the actual work plans that were involved at the local college level. I put the links in there so that you can look at all the work that was involved, all the tasks that each college had to accomplish to achieve their regional work. So, thank you very much for having us.

STEVE WRIGHT: That's terrific. I mean, I've been amazed at what you do, Salomon, for a long time, the way you organize this and do the slides and the depth and the focus in looking at all the different implications, how to get the students involved in the testing to see where it's done, your very comprehensive approach.

And these colleges all benefit from that, but I did want to ask Charlotte if she could comment briefly on what other programs are in southern California besides this particular one. We know the community college system is where people love to go maverick and do their own thing. As a matter of fact, I'm surprised you have this many collected doing something similar, to tell you the truth. That is the most amazing thing. But Charlotte, could you comment on some of the other varieties of cloud that you see occurring in the Los Angeles or southern California regions?

CHARLOTTE AUGENSTEIN: Of course. So, going back to Santa Monica, who were the visionaries for introducing AWS, they've actually just brought on the Microsoft Azure platform, so they are doing the database essentials and then the Microsoft 900 series for their Azure Fundamentals. I have a call with Mount Sac immediately after this. They want to bring on Microsoft Azure, too, so we are going to map out their direction that they want to go.

I have to say, you know, we are all a team, and as they all start to get their wings, become comfortable, and expand their curriculum, it's just a win-win for the students and for the employers. So, as Salomon had mentioned, I work closely with the Microsoft channel partners. Many of them do both or multiple platforms. I don't want to exclude any of the platforms. And they are very interested in the pipeline of talent that comes out of the Los Angeles area.

So, we are working more and more closely with them to help nurture that relationship and have a bridge for students to have the opportunity for immediate employment. I'm working on a virtual internship as we're still in this pandemic, where we can get the students emerged not only with the cloud but in the ecosystem of the IT world.

And from that, I believe that more and more doors will open. Salomon's theory is amazing, and I can just see the amount of attention it will get with industry, and I look forward to us just continuing to build the curriculum, have multiple stackable certifications. I'm a very big believer in them getting digital badges to help fill that resume as they start to just expand their knowledge beyond just the basic fundamentals of the cloud. I believe they should all know a little bit of project management. It's just making sure that they have some core foundation skills within the IT world, so they can become a player and get noticed.

STEVE WRIGHT: One of the things we do have that took years to develop is the IT model curriculum. And I know that the IT model curriculum has variations where it can be addressed—cloud, cybersecurity, others. Do you see colleges sticking to the IT model curriculum and cloudifying it? Or adding maybe cybersecurity and following that program?

CHARLOTTE AUGENSTEIN: So, we do have cybersecurity, which has really blossomed. We use NETLAB, and the cybersecurity, it's very, very big in Orange County. In LA, it's emerging a little more. And then just the opposite—cloud is very, very strong in LA, and we're bringing it into Orange County. So, everybody has their own ecosystem that they like to work in, and change is hard, so baby steps, but we're making great steps. But that's it. We have questions! We've got a few minutes left.

STEVE WRIGHT: Yeah. Let's hear from the group. Any questions in the chat? Or anybody want to just go ahead?

AUDIENCE MEMBER: Yeah, if you don't mind, I'll go ahead. First of all, I cannot tell you how impressed and how grateful I am for all the hard work. This is very impressive, and having developed courses and things like this, I know the struggles you've gone through to build up programs, so I'm very, very impressed.

A couple of quick questions... The certification within the institution, is that auto-awarded? I know... So, the certificate, do you auto-award that the students? And is it transcriptable?

SALOMON DAVILA: You know, that's a local decision. We pretty much provide the template, provide everything, and it's up to them. Some of them do have it. Some of them do not. I can tell you that.

AUDIENCE MEMBER: OK, and do any of these courses count for GE? Has anybody done that?

SALOMON DAVILA: You know, Richard is on the line here. We were working with the ICT model curriculum to attempt to get three of these courses—not all four but at least three of them—for the mapping. So, again, it's a local decision. We provide them the resources and work with the statewide RD team to try to get that accomplished.

AUDIENCE MEMBER: All right. And then do you see any gaps in courses? I'm considering data engineering pathway after the cloud because we're starting to see a lot of those. So, do you see any gaps? Like I'm just thinking statistics and calculus that are data-rich environments. So, has any thought been given to that?

SALOMON DAVILA: You know, there were two colleges, Mount Sac and Santa Monica, who have ventured into both machine learning and big data topics. And yes, the faculty, which I'll be glad to forward them your

questions, I have brought these topics up, and they're locally trying to address them somehow. I don't know the details, but you're right.

AUDIENCE MEMBER: OK, and once again, I cannot thank you enough for all of your hard work and really building a great runway for us. I know how hard you worked, and I'm just very, very grateful, and I think our students are going to have some lifechanging income because of this, so thank you very much.

SALOMON DAVILA: On behalf of our team, you're welcome.

CHARLOTTE AUGENSTEIN: Do we have any other questions? Well, then we've done a great job!

AUDIENCE MEMBER: Oh, one more—can we get access to the course outlines and syllabi? Are those up there anywhere?

SALOMON DAVILA: They're not in the slide deck, but I can definitely provide those for you.

AUDIENCE MEMBER: OK, thank you very much.

CHARLOTTE AUGENSTEIN: Well, I would like to thank all of our presenters today. The team does an amazing job, and we look forward to coming back and presenting even more success stories. So, thank you very much.

STEVE WRIGHT: Yes, let me echo that, Charlotte. Thank you and Salomon, Dorothy, and Sherry for a wonderful presentation. Very enlightening. And we should have this recorded and up in about a week, and you can share it with all your friends! Thank you very much. Bye-bye.

DOROTHY PHILLIPS: Thanks for having us.

SHERRY SHOJAEI: Thank you, everyone.

CHARLOTTE AUGENSTEIN: Thank you.