

How a Hispanic-Serving Institution Grew Female and Male Enrollment by Over 150%

Host: Donna Milgram, Executive Director, Institute for Women in Trades, Technology & Science

Presenter: Michelle Levine, Interim District Director of Faculty Development, Broward College and Felicidad Archila, Computer Science Professor and Program Manager of Computer Information Technology, Broward College

Interview Transcript:

Donna: Hello and welcome to the third session of the *STEM Success for Women Telesummit*. My name is Donna Milgram, Executive Director of the Institute for Women and Trades, Technology and Science. I'm so glad you can join me, 15 amazing speakers and over a thousand educators for this online conference funded by the National Science Foundation.

Now our guests today are Michelle Levine, Interim District Director of Faculty Development at Broward College in Florida, and Felicidad Archila, Computer Science Professor and Program Manager of Computer Information Technology. They participated in the Bootcamp version of our WomenTech Educators Online Training in November 2015 and their goal was to get more women into computer science and IT at their college. **They started out targeting the Introductory Computer Networking courses and were able to increase female enrollment from a baseline of 5 women to 15 women and increased male enrollment from 43 to 110 males in computer networking after one regular semester.**



Michelle Levine

Even more exciting was that they looked at the enrollment numbers for the associates degree program **in their Computer Science and IT department** as a whole and they were able to see large increases between 2015/16 school year and 2016/17. **Female enrollment went from 149 to 226 women, an increase of 77 female students. And male enrollment also increased too from 751 to 1009 male students in IT, programming, web development, networking and cybersecurity AS programs.** Welcome Michelle and Felicidad and thank you both for joining me for the *STEM Success for Women Telesummit*.



Felicidad Archila

Michelle Levine (Michelle): Thanks. I never expected to be here.

Donna: Great. I want to just start out before I go on to our first question by recognizing your colleges clear commitment to diversity and the impressive work that both you and your WomenTech Educators Training Team have done to increase female participation and growing your programs overall. And I know that your retention rates were high from the start and went even higher. I'm sure everyone listening is excited in particular to hear how you got those increases in female enrollment. **Can you begin by just telling us a little bit about the average female students that you're recruiting into your computer science and IT department programs?**

Felicidad Archila (Felicidad): Donna, we have two basic types of students. We have students that are coming straight from high school who are prepping to be in the IT department or in the IT world who are not sure what they want to do. And then we have adult students who are coming back to retrain, either

they are in different fields and they want to get into technology or they're already in the IT field and they want to update their skills. So the basic part of our student body will probably be the night students or the adult coming back students, and the morning students will be the high school or younger students.

Donna: Great and can you just give me some sense, is it like half and half? **Is there more of the older student? How does that play out in your school and community?**

Michelle: I believe that the average age is 28 across the college but we have such a diverse population. We do have more part-time students than full-time students. Over half of our students are more on the adult side but we definitely have a non-traditional type of students.

Donna: Okay. Great. I know that you're an HSI. **What percentage of your students are Hispanic?**

Felicidad: We weren't really able to get the exact percentage but it's a large percent. Not just Hispanic but we have a very diverse population especially in the IT field.

Donna: Okay. So that diversity is also within your department programs?

Michelle: Yes definitely.

Donna: Great. I know that you used multiple recruitment strategies to get these kind of increases and in fact the research shows that having multiple touches are what's most effective from a marketing and outreach perspective. **Can you describe your recruitment tactics for our listeners who would love to be able to see if any of them might fit with their schools as well?**

Michelle: Sure. We definitely take a really multifaceted approach. So one of the things that we do to try to recruit students specifically into our computer science programs is we have a PowerPoint presentation that we show in all of our computer literacy courses, which is the required course across the college. So in that PowerPoint presentation we talk about all of the great things in the technology field and try to have a lot of strong female role models within that PowerPoint to really encourage students and get them excited about the field. And then hopefully they go after their instructors more and they turn them over to us in computer science to find out more about our program.

Donna: Great. Can I just ask you some questions about that PowerPoint presentation that is in the computer literacy course, so **that's a feeder course and I think I remember that that course is actually within your department is that right?**

Felicidad: Yes. We develop and teach the course. A lot of that PowerPoint presentation that our Associate Dean developed was targeting women, after our Bootcamp that we learnt from you. It's showing that IT is not just tech but there's IT in every field. There's IT in hospitals, in any kind of service learning, in any kind of non-profits. That seems to be a big win for us because a lot of times people think IT is only tech but IT is really infused in every field.

Donna: So you were showing the diversity of career pathways but also how it helps others.

Felicidad: Exactly.

Donna: I'm sure that our listeners are wondering and I'm wondering. **How long was that presentation? And who gave it?**

Michelle: Not very long. Maybe 15 to 20 minutes, it has a few videos incorporated. I don't know if you're familiar with the You Can Code video but I believe that's in there. They have a class video. So it's some things that really are showing some exciting things that are going on with technology. Every instructor of that course gives the presentation within their course.

Donna: Great. **Did you have a script for them or was the video self-contained?** I'm sorry, I meant was the PowerPoint with video was self-contained?

Felicidad: Well at first when our Associate Dean developed the PowerPoint, we showed it to all the faculty and adjunct, and we did a little bit of a training. "This is how we want you guys to deliver it, this is kind of the method we would like." They took that knowledge and started developing in their classes. It's really more of an individual depending on the professor but we're hoping that all instructors kind of deliver the message that we trained them on.

Michelle: And I want to add to and talk about some of the other things that we've done to promote our programs and get people excited about our field. Everything that we do although we are always considering increasing our female enrollment. We're really trying to increase enrollment in general. So there's nothing that's going to be so targeted to females that the male students are going to tune out and think that it's not for them. We really try to take more of a global approach just making it interesting to everybody.

Donna: **So it had an emphasis on female role models but it also was appropriate for the male students because you were presenting to the whole class?**

Michelle: Exactly.

Donna: Great. **I do know that you did have some female specific strategies that you developed, a Women inTech club. Could you talk about that a little bit as well?**

Michelle: So we have what's called our inTech Club here which is just the technology club for everybody and within that we have a Women inTech sub-team that we really try to focus on holding events that are focused on women. So some of the things that we've done, in fact just this past Friday we had a Women Empowerment Symposium. It was a full day event. We invited speakers from local industry who are working in the field to come in and speak to the students. We had four sessions of speakers and then we had a discussion, had seven people on the panel that was comprised of three of our alumni who are currently working in the field and the rest of the people on the panel are professionals in the IT field.

The students ran the discussion panel, asked all the questions, they helped organize the event, it was really a student-driven event and again even though it was called Women Empowerment Symposium, we still encourage men to come. All of our speakers with the exception of two of our panel members were strong women role models in the field.

Donna: Great. **So this is I imagine those retention events for you current female students and some male students, but also were you inviting prospective female students through this event as well?**

Michelle: We advertise the event college-wide. It wasn't just for IT students. Any students from the college were encouraged to attend. Again, we try to make it general enough that it would be relevant for everybody, but the speakers were all coming from IT field. So we talked about things like career success skills, work place competency skills, professionalism across the board, but the speakers were coming from IT related jobs.

Donna: Great and my understanding is this is one of a number of Women's Empowerment Symposiums along these lines that you've helped. This is part of what contributed to your kind of results. I just want to also point out that you mentioned that you had three speakers that were graduates of your programs.

Michelle: Yes.

Donna: Could you tell us a little bit about them. **I mean that's wonderful because you're now growing your own female role models in the field so to speak and your number one advertisement for the success of your program is that you've got students who are now working in the field. Could you tell us a little bit about maybe their stories?**

Michelle: Another event that we have is something called the Alumni Networking Event. We would really like to bring back alumni to serve as role models for our students and one of the things I always joke with my current students is, "Look at that panel next year, that's going to be you." And pretty much how it usually happens, they're motivated by these students, it gives them an opportunity to talk to people who are now in the field but also to network and maybe to give them their resume and maybe look at internship from that. A lot of times when we have these events, several internship opportunities come up, job opportunities.

So the three that we had on this panel, one of them was Stephen Orsino and he is actually working for one of our strong female leaders, her name is Karen Marino. Her husband is a software developer and when it was time for him to hire in his company, he came to us at Broward College and asked us, "Do we have any applicants?" Of course we referred Steve, so he was not female but he's one of our graduates. And then the other two were female students. Tangy Fredrick is an amazing story. One of the other events that we do is a Hackathon, we have an annual Hackathon in the fall. And Tangy had come to us for the Hackathon, she wasn't even really a Broward College student yet, two years ago. And she enjoyed the Hackathon so much that she enrolled in some programming courses, fell in love with it and she has since started her own software company. She is now hiring our current students.

Another one of our female students Esther Sims is one of her current employees. And she just wrote a book, it's going to be coming out on what it's like to be a beginner programmer. She's such an amazing story because she loved to give back and she really just enjoys software development so much and it really all happened starting at our first Hackathon.

Donna: Wow, that is amazing. I am just getting chills listening to this story. She just happened to come to your Hackathon, decided try our programming for the first time and now she's got her own software company, hiring your students, wow!

Michelle: She's just an inspiration and she also actually, after she took just one or two classes, she volunteered. Last year she was the president of our inTech Club. She's a leader, she's amazing. But again

really just committed to giving back and wants to pay it forward that's why she's hiring our students. She's only looking for employees. She really wants to grow the community down here in south Florida and specifically coming from Broward College she appreciated the program so much.

Our other student also was not originally a computer science student. Her name is Rash Matamas, she graduated a couple of years ago. She was actually a business major. She took and entered a programming class and again she just fell in love with it so much and she also was a super active type of student anyway. When we told her about the tech club, she joined the tech club and then she decided, "I really love this. This is the field I want to go into." And so she's working for Fort Lauderdale (FTL) now in the IT field.

Donna: How fantastic. Can you just give me some idea. **What kind of salary can students make when they graduate with the AS degree in IT?**

Michelle: One thing that's important to know, we are called Broward College. We previously were called Broward Community College. We were previously a two-year school. We are now a four-year school. But a lot of our students, like you said, are graduating with AS degrees. Even though we know they're amazing and we're teaching them all of the skills that they need to go into an entry level position our biggest struggle has been getting them in the door in some of the local companies here in south Florida. We spend a lot of time personally building relationships with the local industry so that we got to know the hiring managers. We visited a lot of the local industry. We have an advisory board and we really formed a lot of personal relationships so that when it comes time that they have a job opening, they do consider our students.

And so now that we've kind of been doing this for several years, they see the high quality of students that we're producing and how well they're doing on the job, and bringing some skills and a lot of times even somebody with a bachelor's degree might not have their level of life experience or previous hands-on experience. Felicidad and I have both been here for 14 years. Maybe when we first started here, we were trying to place students. We've really struggled with that. And now we find that we're able to place them really well and they're making the salary that somebody graduating bachelors in an entry level position would make.

Donna: I think that's really important to point out, the relationship building. What I'm hearing is that's really related to the two-year degree. But I know that sometimes it can also have to do with employers being a little reluctant around women in the field. It doesn't sound like that's necessarily the case here, but I know that can happen. And what you've described in terms of the relationship building that you've done, I know that's part of what can help overcome that. We'd like to think that would never be the case, right? But knowing that in the real world in fact it can be the case, that they think women can't do the job. I think having that relationship building can be key.

The other thing that seems to be key is that you really seem to be utilizing the relationships with your students. Some of them, of course starting their own company or with their spouses having a company and then hiring because the quality of your students is so good. Just looking to your graduates to hire. I just really want to recognize the importance of the relationship building that you've done.

Felicidad: One of the things that we also implement in the classroom, Donna, is project-based, team-based learning. So our students go through classes in a team and they build their own relationships. So

when somebody gets hired, they're going to remember their team members, they're going to come back to them and look for them. Our now-working students, we can't graduate them fast enough for the industry. Every now-working student has a job already. And they're starting at about \$50,000 and that's in south Florida, which is a pretty high salary. As soon as they get hired and they're in an industry, they know they have an opening, they're coming back looking for the team members and they're coming back to us looking for our new students. I think even though they're not necessarily targeted to women, they are targeted to team building and relationship networking. And I think that's helped out just a lot.

Michelle: I just want to address something that you said because I have seen definitely a shift in culture in the past few years where, like you said, it may have been that women were not considered so much for the positions. I actually see some of the companies now really deliberately trying to find women to round out their teams. They're seeing the value in having women on their team and because there's not so many to choose from, those jobs are actually filling up quicker if they're open to hiring a woman.

Donna: That's nice to hear. I want to make sure that I understood correctly. Felicidad, **the project based learning that you're doing which by the way is a great retention strategy for all students but in particular female students and students of color. Does that involve doing something with the employers so that they develop a relationship during that?**

Felicidad: We do have a lot of internship programs that we incorporate in the classroom. So many times they're in their internship, doing their capstone course. They are directly working with the industry. We have a lot of projects for non-profits that we do. And in the team building, what we try to do, Michelle and I and hopefully the rest of the faculty, is we're trying to put females in leadership positions. And that builds their confidence. That evens out the group and even the male students like having a female in the group because there's communication. It's soft skills, it's professionalism, it's everything. So we try to do everything in team building. Projects and team building is I think one of the biggest things that have made a change in the classroom.

Donna: Great. **Can you talk a little bit more about the Hackathon you mentioned it earlier. Is it a Hackathon just for women? Is it a Hackathon for everyone? Tell us a little bit about it because it sounds like this has also been one of your recruitment tools.**

Michelle: It's a great event here. We just had our third one this past October and every time we have one we have probably 80 to 100 students attending, which is our capacity right now. If we decide to go larger we actually have to find a new location. So we always fill to capacity. It's not just females, it's anybody. You can come, but you do have to be a student. It's not just Broward College, it can be students from other colleges as well, which is exactly how some students find out about our programs. Sometimes we even offer it to the high school students if we have room for some of the local high school students.

Because it's a 24-hour event, the high school students have to have a chaperone if they're going to stay overnight. But we have had high school teams come as well and I know that some students have joined our programs because of the Hackathon. It's such a fun event. They code all night but then we had raffles going on all night, it's very interactive and we have all kinds of fun things for them to do, but they're also very focused on their projects. And it gives them that opportunity at the end again to practice their soft skills to present. It's such a great event and so many people are coming from other schools that I do believe that we've gotten definitely some enrollment from that event.

Donna: Great. I think there is this one other thing that we haven't talked about that I think I remember you did for recruitment. **Don't you have a Cyber Day?**

Michelle: Yeah, we have a Cyber Day. We haven't gotten to tell you about all the things that we do. So we do our Cyber Day, it's another one. It's called the Day of Cyber. And that one actually allows them to get a certificate when they're finished with the day and another thing that also we do for recruitment that I do believe helps as well is we had Teen Tech Days. So about once a month, once every other month, we'll invite a local high school to come in and we offer some short sessions on robotics or programming or 3D printing and tell about our programs and make sure that the sessions are very interactive and it's just a fun day for them. Again I know for a fact that some students have signed up to our programs because of the Teen Tech Days.

In addition to that we have summer camps. We have for younger kids all the way up to middle school, high school and again it gives them an opportunity to come here to our campus in our department and take classes and be part of the Broward College lifestyle.

Donna: Okay. And has a summer camp resulted in these enrollments or is that more of a career awareness long-term kind of strategy?

Michelle: It's building the pipeline. The age of the summer camps could anything from 9 or 10 all the way up to 14 or 15. So they wouldn't be directly enrolling right after the summer camp, but it's just kind of showing them what we have to offer. And we have been offering them a long enough time now and we also have dual enrolled students. So we definitely have had some students come from the summer camps but it would probably take a couple of more years of offering that to see how much enrollment has increased since they are younger.

Donna: Sure. **What is your best guess as to what is your best pipeline that's gotten you this big increases in female students?**

Felicidad: I also wanted to add on that the Teen Tech and the summer camps and the workshops and everything that we do, our students run that. So we'll organize it as the administration but the little demonstrations and teaching the kids in the summer camp and doing the robotics workshops, those are our students showing the younger students. So it helps both. It helps the younger students get interested but it also helps our students get interested and getting them interested. And I think that's the big help because it's a plus-plus on both sides.

Donna: It is, and actually there's a lot of models in which female students, students of color, are both helping recruit others but it also helps with their retention. And of course you only need to have a few to start, but you've now really got a critical mass and so it really becomes organic where they can sort of feed back into the recruitment.

Michelle: And actually, one of our partners for the summer camp, Maria de Pena, she runs a non-profit called Code Explorers and they teach little kids from the ages three to 13 or 14. Actually I met her at a Hackathon, which is a great networking event as well. A lot of networking happens from the Hackathon. So I met her at my very first Hackathon that I attended which is the one that made me think, we should be doing this here at our school. She hired our students, our Broward College students to teach her

courses in her Code Explorers, not just the summer camps but also all year round. She holds classes afternoon and on the weekend.

Donna: That's really neat. That's a relationship building piece once again. What I would love for our listeners to have a sense of is A, **in terms of the increases where do you think most of them came from or the top couple. But also what did you do differently that enabled you to have these increases in female students? How is it different from how you're recruited before?**

Felicidad: I think now what we have is we have a strong female team. We're lucky to have four full-time faculty females and our Associate Dean is female. So we have a good team. And now our main focus is always diversity and inclusion. We also created a training for all faculty and staff of diversity inclusion to make sure that we improve our classroom climate. So that's helping in the retention definitely and also it helps us with being inclusive in hiring and being inclusive at the faculty and at the staff level. And the focus is a point of conversation all the time everywhere. And that's kind of moved over to the whole entire college.

I think the students talk. The students talk and they know and they come to us. Michelle is well known in the college. I'm well known in the college, so when people are thinking of a career or actually needing advising in general they come to us. And little by little I think it's building those relationships. I think being human and being very generally interested in our students is probably the most effective thing we've done. We can hold a lot of events but our students really know that we care for them.

Michelle: I want to share a story that I just absolutely love. Our two strongest females just helped with the Women Empowerment Symposiums. The way that they met is actually so funny. Karen, the one I told you whose husband hired another one of our students, she was on an Uber ride with her husband. Erica was the Uber driver. Felicidad's mouth is opening up because she didn't even know the story. Erica was the Uber driver and she was talking about what she was doing and how she really wasn't liking it and she wanted to switch fields. And so Karen's husband was already in software development and Karen had just recently started our program. And she said, "You should come to Broward College and do the computer science program, they're amazing there, I love the program."

Ever since then, the two of them are inseparable, they're both going to be graduating this semester and they're leaders in our program. Again it's just organically happening where the word of mouth is getting out and just by seeing other women who are doing it then that encourages women who may not have thought that it was for them to go ahead and take that chance.

Donna: So what I'm hearing is that it's become organic and it's part of the fabric. I also heard some other things that because you get to a critical mass, and the students start referring each other, and they see other women and it's visible. So you have the kind of beautiful situation you have now where actually former students, graduates, are now in the workforce hiring students. And so that's wonderful and this is a part of everything that you're doing. And you've done professional development for faculty. And so it's always a part of the picture in terms of including women. **But I'm curious, did you for example do those presentations that you talked about the PowerPoint presentations to all of the intro, computer literacy classes. Did you do that prior to the WomenTech Training Bootcamp?**

Michelle: No. So one of the things that we were able to take away from the Bootcamp was number one, it gave us an opportunity to really get together as a team for a dedicated amount of time which is

really difficult for faculty because we all teach at different times. So it really gave us the time to get together as a team and collaborate and to come up with a deliberate plan of how we were going to do the recruitment. So we formed some goals and we tracked those goals. And so we really appreciate the Bootcamp and your time that you gave us because it really helped us to kind of see the big picture and think about what are some things that we could be doing that we could scale. So that PowerPoint came as a result of the Bootcamp. That was one of our strategies.

I would say things like just kind of being more aware of our promotional items. We started looking at our promotional items and we realized that they really weren't all that diverse or that necessarily attractive to female students. So it really just gave us an opportunity to collaborate as a team and to really do some deliberate marketing and recruitment.

Donna: I know you want to add something to it. What I'm hearing that was different was, as you say, you created the PowerPoint and that went to all these literacy classes. And the other was you made your outreach materials more diverse and had more female students and possibly students of color. Is that the other thing that changed?

Michelle: Yes. And also just kind of holding ourselves more accountable to being able to track, "These are our goals and are we really doing what we said we were going to do." I think we did.

Donna: And measuring. And so just for our listeners, part of the WomenTech Training is you figure out which courses they're going to target, look at baseline numbers, and average over number of semesters. And then you literally track how you're doing and that's what you're talking about. **What about the Hackathon, was that a new activity as well?**

Michelle: I think we already had the Hackathon. I think we did the Bootcamp in November of 2015 and we had just completed our first Hackathon.

Donna: So that was something you had before but you used as an opportunity it sounds like, **what about that Women Empowerment Symposium, was that new?**

Michelle: That was new. That was developed that year.

Donna: Great and then **the Cyber Day, was that new as well?**

Michelle: That was new.

Donna: And you also did something else that's new.

Michelle: We have Red Chair events. So Felicidad is really an active member with National Center for Women & Information Technology (NCWIT) and we have a Red Chair here, and we have a board with hundreds and hundreds of pictures. We then hold events where people take pictures in the Red Chair and we put their picture up. So you can see hundreds of women in IT if you look at our board.

Donna: Great the reason that I am asking you these specifics is I know that you were saying that "Well, part of it is the students, see how much we care." And I guarantee that it's a really important component. But I would imagine that all of our listeners also really care about their students and that's

why they're here. But there were actually these other concrete things that happened too and they're continuing. You were in the training in 2015 but here you are, you were just telling us about another Women's Empowerment Symposium so you didn't stop doing these events.

And in addition you have more female professors like yourself. You have more female graduates and so it's all building on each other, but just to give some clarity to those who haven't had this success yet. You took some really measurable actions that enabled you to get to the point where it's now word of mouth. And I imagine like the nice thing is it seems like you don't have to work that hard anymore. That your students and graduates are really working on your behalf. And of course, Felicidad, you pointed out, that's actually part one of your principles, is to have the students be in charge and empowered to do a lot of things. **But in the beginning it seems like you were doing more of the development and heavy lifting. Would that be an accurate characterization?**

Michelle: I think we still work pretty hard. Because every time we have an event, Felicidad is actually working on our next Bootcamp. She organized the first Bootcamp last year and I don't know if you want to talk more about that Felicidad.

Felicidad: I want to also say something that I recall from your Bootcamp, Donna. When we're bringing female students in these careers, a lot of them don't have sometimes the confidence and sometimes the skills that maybe a male student would have just from social regular culture. So we do a lot of workshops and I remember that specifically from your Bootcamp. So we have workshops that kind of bring them up to speed or give them some extra help to be successful in their classes. So those workshops at the beginning were faculty-led and were organized. Now those workshops are being led by students, but as faculty right now we teach, but this has become our priority.

Teaching is there so we do that every day, but our priority is making sure that our students are successful with a big emphasis on our female students. So we keep organizing events. We kind of don't just sit back and say, "We're doing okay." We keep organizing more and more. We have an IT Certification Bootcamp now at the end of the semester in May. We have four-day, 12-hours a day prep sessions for them to get certifications in the industry. IT certifications are very, very big and they help a lot in their resume. And again our students are going to help in that but we keep working on that. So my boss, my Associate Dean Annie Myers, she also kind of makes sure that we involved on leadership.

So I'm leading the Bootcamp, Michelle is leading the Hackathon, another faculty member will be leading the workshops. So it's coming from above, it's coming from the middle, it's coming from below. I think we're saturating the department with female role models in leadership. That saturation is huge for us.

Donna: Yes. That is fantastic. And I just want to come back before I go to our closing questions and then take questions from our listeners. So what I'm hearing is that you are providing supplemental instruction because one of the things you learned in the Bootcamp that I run, the WomenTech Bootcamp, was that the female students come with these skills. And now that's wonderful that you've got the female students giving these supplemental instruction workshops. Can you just give us an idea of the topics of the supplemental instruction workshops?

Michelle: As directed by you we try to identify some maybe challenging parts of the course that might be roadblocks for the students. For example in the networking course, subnetting is really difficult. Now that's not my field. I know a little bit about it, but I do know that that's a roadblock for a lot of the

students. We have subnetting sessions that coincide with the time that they'd be learning that in their class and this gives them an extra opportunity to work either one on one or in a smaller group on these targeted lessons. So that they can get that over that one roadblock, and sometimes that's the only thing holding them back, and once they get over that they can successfully complete the course. So that's just one example but we try to find those roadblocks and target those particular areas in the course.

Donna: That's a great example and I'm curious. **When you developed the workshops did you have an outline of a curriculum? Do you train your student facilitators or do they just do it on their own? How does that work?** And by the way one of our audience questions is about what the topics of these workshops are.

Michelle: So all of the students who teach the workshops have previously taken that particular course, so they're familiar with the courses and the expectations of whatever professor it might be. And the students work in correlation with the professors to come up with the material for the workshop.

Donna: So it's a joint development. That's great. Final question, **what advice do you have for educators that are just starting out really wanting to see the kind of increases that you've seen at your college? Where should they start? What would you advise them?**

Felicidad: I think one of the biggest things that helped us was creating the club. At the beginning right after the Bootcamp or maybe during the Bootcamp that you helped that we took with you, we created the club and it was called Women in IT. And we had a lot of women come, but a lot of the male students thought that maybe they couldn't join. So that's when we changed it to inTech. So Women inTech, Diversity inTech, Robotics inTech, Computer Science inTech. And once that club formed and the students joined, women and men, that helped a lot of our efforts in our workshops. In short, I can put on an event but having that student involvement I think that made the big difference. I think an easy place to start would be starting a student club and getting the students to join and encourage them.

Donna: And the nice thing about that is that normally for most cultures, much of it goes along with the student club as well and the faculty advisors. So I think that's a great place to start. So in terms of the questions, one of the questions I see is, ***"How many active students did you have in the Women in Technology Club in the beginning?"***

Michelle: So in the beginning I want to say maybe five. Not very many. It varies, every year it kind of depends on the student population, but it definitely was a low number. Like I told you, Tangy was a female role model, so definitely it grew when she became president of the club. And even when Steve was the president after her, it didn't seem to affect our female population. So it's growing steadily for sure.

Donna: How many do you have now in the club?

Michelle: I would say maybe 20, 25 something like that.

Donna: So it's not a huge number, but it sounds like they help with the other activities.

Michelle: Our club situation is very difficult because we have such the non-traditional student so finding a time to meet is always a challenge. So meeting late afternoon, you're trying to reach the students who

are here maybe for the day classes but then you miss the night students. But then if you have it too late in the afternoon then you're missing the day students. So it's always a challenge for us to actually hold the club meeting. So it's difficult to say how many people are actually in the club because we have a lot of people attending our events who might not be necessarily be active members of the club, but regulars at the event.

Donna: Okay another question that we have is, ***“How did you get the local businesses to do internships?”***

Michelle: Like I said that's been a really hands-on effort by all of the faculty. We as a team have committed to helping our students get jobs. We've made that a priority. So we spend a lot of time going to conferences, networking, building those relationships within the community. It has to be a very deliberate effort. You can't think it's just going to happen. You have to make phone calls, you have to give your card out at all opportunities. Any time you think something could be a possible opportunity, you have to make sure you exchange information and follow up with that. Most of the relationships we've built have been personally by our faculty.

Donna: It sounds like you've really prioritized that. And another industry related question is, ***“What are the industries that are represented by local companies?”***

Michelle: Like Felicidad said, the networking jobs we can't fill them fast enough. There are a lot of the city jobs, so a lot of our local city agencies come to us when they need positions filled, government agencies, police, the hospitals. There's just an array of companies that are growing down here. We have a company called Synechron that's been very, very active and really a huge game changer for us. They've hired a lot of our students and offered a lot of internships to our students. Our big one down here is Ultimate Software, they're kind of the Google of south Florida. We've spent many years trying to get in the door with them. We've finally had our first students hired there this past year and they're extremely happy with him. In fact he has gotten one of their employees to come over and take some classes here at Broward College. Again that word of mouth, but those are the main companies around here.

Donna: Now I want to go back to the club because there's a question asking, could you talk a little bit more about the club name. Did you start the club for women and then change it to diversity? Do you make all the events open to everybody? **Could you just clarify about what the club name was before and then what you changed it to that made it successful?**

Michelle: So it started out as Women inTech. I don't remember if we were there for one year or two years, it may have been two years. And like Felicidad mentioned, a lot of our male students thought maybe that wasn't for them because it was called Women inTech, even though we told them “Of course come” and “We want you there.” Because it was never about just having just women in the club, it was more about promoting the idea that women are underrepresented in our field and even as men what can they be doing to kind of recognize this and help with the efforts. But because we felt like our enrollment was suffering because of the name, the students actually are the ones that came up with the name inTech.

Donna: inTech is the name now?

Michelle: It's lower case "in" and then capital "Tech", all one word. But we have different branches of the club, Women inTech being one of them.

Donna: inTech is the umbrella name and it's for both males and females. And then one of the branches is Women inTech. And so one of the questions is from someone who said, "Hey I tried it, to get a club like this going but I really haven't had a lot of success." Again, just to revisit, ***"How did you get your first few members and what age group were you doing that with?"***

Michelle: So again it is a challenge. I remember when I had first come on board many years ago, I tried as well and failed. Because it was again very difficult to get students together. It's hard to get that perfect meeting time and so I kind of gave up on the effort for a little while. Actually it was the students who drove the effort to start the club back, and I think that that's a really important piece. You need to find one or two really strong students because it really is supposed to be students led. So while we're there to be the advisors and to help, as a faculty member you shouldn't be running the club. The students should be running the club. And without students who are willing to do that and really passionate and motivated to do that, then it's very difficult to get the momentum of the club going.

So as long as you can maybe highlight one or two students that you think could drive the effort and then slowly announce it in all of your courses. Usually there's at least one or two leaders in every course. So if you just really make good effort to announce it. You can't just put fliers up because a lot of times they don't read the fliers. You have to literally go into the classrooms, have the students go into the classrooms to promote the clubs. We have in our learning management system, we have an announcement module that we've put in every one of our courses that announces all of our events that are coming up to the club. Because we also had a Robotics Club separate from the Technology Club, and a Cyber Club. Cybersecurity is a different club.

We have several clubs that were able to keep pretty high membership, but we promote them very highly and really again it has to be a very highly deliberate effort. You can't just think that because you put a couple of fliers around and tell a couple of people around it's going to just happen. You have to make a huge effort and the students have to be very willing to put in the work.

Felicidad: I would also say, what really helps with the clubs is they're kind of tutoring learning sessions, because they're all interested in getting hands-on knowledge in what they're learning in class. I think that also helps encourage them. They do projects for non-profits maybe they're building somebody's website, maybe they're working on someone's network or they're doing a flier or an independent Photoshop project. So that encourages them because it's not just like a fun club, they're actually getting hands-on knowledge for the information that they're learning in the classroom. A lot of the time it's just that they're studying together. They're studying together and that becomes a club. I think that helped a lot.

Michelle: We tried to make sure that every time the club meets it's not just a club meeting, there's actually something going on during that club. Maybe we'll have a guest speaker or one of the students will do a workshop on coding. There's always an actual agenda or something going on during that particular club meeting.

Donna: So I'm hearing a couple of things. One is that you're not just putting up fliers but you're actually having it announced in the classes, in the feeder classes. And so that's one way. And that there's also

content to the agenda that helps draw the students. And then just a reminder that you don't have huge numbers, you have 20 as you said but you have 20 very engaged students. I guess the other thing I just heard and this is one of retention strategies in the WomenTech Training, that there are study groups as well. And so that gives them another purpose as a club. I think those are some really good suggestions that others could implement for starting the club.

So thank you again Michelle and Felicidad and to all of our participants.

Michelle: Thank you.

Felicidad: Thank you.