

Episode 26 - A Conversation Between Kiley Roberson & Nicole Roth

Nicole: Hello, my name is Nicole Roth.

Kiley: And I'm Kiley Roberson.

Nicole: We are going to be talking about our experiences in math. So, Kiley, at what point in your education, did you realize that you were interested in math and science?

Kiley: Point in my education? Well, I was homeschooled. So I was allowed to focus.

Nicole: Me, too.

Kiley: What? No way! That's a coincidence. So I was allowed to focus on kind of what interested me the most and kind of dedicate as much time as I wanted to that subject. And my dad is a computer engineer, so he's always really been into like, math, science, that whole STEM field. And so I think because of his interest, it kind of got me interested in it as well. So in middle school, that's when I like started really digging in with math. And I started doing algebra in eighth grade, I think, and just kind of from there on, just focus on math and science more than anything else.

Nicole: Nice.

Kiley: What about you?

Nicole: I relate to this.

Kiley: Yeah.

Nicole: Well, since my dad teaches math, you know, my parents kind of introduced me to basic mathematical concepts before the average person would want to learn about those things. And it actually did genuinely interest me, wasn't just sheerly copying my dad, you know. It's more of like, Oh, my brain actually works well with this. I'm interested in it. Then I took too much math in middle school and burned myself out for a couple years.

Kiley: Understandable.

Nicole: Yeah. I got back into it in junior year of high school.

Kiley: Cool.

Nicole: Yeah. And I started taking classes at Cabrillo, math classes. And, yeah.

Kiley: And what's your major?

Nicole: Math.

Kiley: Math? Nice!

Nicole: Surprise!

Kiley: There we go.

Nicole: Yeah. I hope to someday teach math. So, cool.

Kiley: What level, like, of math would you like to teach?

Nicole: Ideally, I would like to teach community college. But if not, I'll have a backup plan of teaching high school math. But I would like to teach calculus.

Kiley: Maybe someday you'll be here at Cabrillo.

Nicole: Yeah.

Kiley: Teaching math.

Nicole: Yeah. Cool. So you're a computer science major, right?

Kiley: Yes, I am a computer science major. I think part of why I chose computer science is because while I loved math and science, I didn't want to go into a purely, like, just math field or just physics field. I kind of wanted something that I could combine all of it together and have to take all the classes, but not be stuck in, like, one area. And so I feel like computer science was kind of a good mix of, you know, I still have to take all of those classes, and I can still apply all of it, and it's really creative also, but also still logical and uses that like, you know, analytical math part of my brain. So . . .

Nicole: nice.

Kiley: I really like computer science.

Nicole: It's interesting.

Kiley: Yeah.

Nicole: Soon I'll be getting into that computer science stuff.

Kiley: Yeah, for math majors?

Nicole: Yeah.

Kiley: You have to take some CS classes.

Nicole: Yeah.

Kiley: Yeah. It'll be fun. You'll love it. I'll help you if you need it. It'll be great.

Nicole: Have you ever noticed how it seems like there are very few women in those classes, though, for math and . . . ?

Kiley: Yeah, for sure. Especially in, like, my beginning CS classes. Like my first CS class, there were, like, three girls in it.

Nicole: Wow.

Kiley: Which is kind of intimidating, especially like, for me coming into computer science in the beginning. Like, I knew I really enjoyed solving puzzles, but I didn't know a bunch about programming or computers. And so I was, like, thrown into a room with a bunch of, like, guys who were talking about, like, this program that they built or how much memory they have on this device. And I had no idea what they're talking about. And it was kind of, you know, disheartening at first or a little intimidating. But I think, like, I don't know, it definitely increases your confidence when you find out that you can, like, that you're up there with them. And you can figure it out just as well as they. But what about you and math? Do you like . . .

Nicole: Yeah, I've definitely noticed that there are way more men than women.

Kiley: Yeah.

Nicole: . . . in the math field. In my current class now, there were 38 people at the beginning of the semester and only 8 of those were women.

Kiley: Oh, wow.

Nicole: Yeah. But now the class has kind of dwindled down to about 11 people that regularly show up.

Kiley: Oh man, rough class.

Nicole: Yeah. And only two people, including myself, are women in the class.

Kiley: That's crazy.

Nicole: Yeah.

Kiley: That's pretty intimidating.

Nicole: Yeah.

Kiley: Do you ever feel like, like, awkward being the only girl in the class or one of the only girls in the class?

Nicole: I would say if the classroom was full and I was one of the only girls in the class, I would feel kind of weird, but since there aren't very many people there anyway, it feels okay to me.

Kiley: Right.

Nicole: It's just kind of a bummer that not as many girls seem to be interested in math.

Kiley: Yeah, yeah.

Nicole: Yeah.

Kiley: Very true.

Nicole: Yeah.

Kiley: What math class are you taking right now?

Nicole: I'm in Math 5c.

Kiley: Okay, cool.

Nicole: Yeah.

Kiley: How are you liking that compared to the other calculus classes?

Nicole: It's definitely been a challenge.

Kiley: Yeah.

Nicole: Yeah. As my math teacher has told us, you know, Math 5a and Math 5b were basically just for the sole purpose of getting you to Math 5c, to the very last chapter in the book, which a lot of teachers tend to kind of worship.

Kiley: Yeah, I remember taking 5c. It was definitely a step up from the other two. Kind of a shock at the very beginning. You got that first test back, and it's like, Okay, this is a whole different game than 5a

and 5b. But it was definitely my favorite of the calculus classes also. Like, it's really cool stuff that you learn in that one.

Nicole: And I love it because once you get to that point, you can kind of use your imagination more, too, because you've learned all these, you know, techniques of solving problems and different techniques of integration and differentiation. And it's like, everything is kind of combined, and you can just fix the problem, however you see that it could be fixed.

Kiley: That's a good point.

Nicole: Yeah.

Kiley: That's really cool. I didn't think about it that way, but that's actually really cool.

Nicole: Yeah. And I like how you can just kind of imagine all those shapes out in 3-space, too.

Kiley: Yeah.

Nicole: Yeah.

Kiley: That was always like a mind game.

Nicole: Like all these functions that they drilled into my head, that I memorized what they look like, now I get to put those into three dimensions.

Kiley: Yeah, that's really cool.

Nicole: Yeah.

Kiley: I'm working right now as a prep TA for the math core. So I sit in on the classes, like, twice a week. And it's really, like, I haven't taken Math 4 for three years, so it's really cool just, like, I don't know, relearning everything and seeing all the stuff that I forgot. And then also, it's really cool, like, seeing the connections between things, like they'll, like, teach us something and you're like, Oh my gosh, like, I know, when that comes in later, like, you're going to need that in 5a or 5c. But like, when I took Math 4 the first time, I didn't know what it was for. So it's a lot. It's pretty cool seeing that connection. I also feel like I sort of go over the top sometimes when tutoring the students because I'm like, Hey, in 5a this. And they're like, we're not in 5a. Math 4 for now. But I'm like, No, no, no, you're going to love it. Trust me.

Nicole: And some of them are like, I'm not going past Math 4. And you just kind of shed a silent tear.

Kiley: You're going to math (undeciphered). You're going to do 5a, trust me. No, but . . . it's been-- Math 4, I mean, the math part has been a really good experience for sure.

Nicole: Yeah.

Kiley: Yeah, it's been fun. It's also really challenging having to write quizzes weekly for them, like.

Nicole: That sounds like a challenge.

Kiley: Yeah, like solving the problem's one thing, but having to come up with the questions, a whole 'nother thing, and it kind of like, really makes me appreciate my teachers who write my exams, like that much more.

Nicole: Like you come out with the answer, and it's, like, 3π . And you're like, how did that come out?

Kiley: Yeah, exactly. Like, it's not easy to make a problem that's challenging, but also, like, comes out with a nice answer. It's difficult.

Nicole: Yeah, that's really interesting. Sometimes I feel slightly insulted when the-- when the problems work out too nicely.

Nicole: Right?

Kiley: You think I'm that weak? Like throw me something a little more challenging, please.

Kiley: I feel, I always get like really nervous if I get a nice answer. Like, I remember one of my 5c tests, I got the number is zero as my answer.

Nicole: That's always concerning.

Kiley: Nope, that's not right. Can't be right. And I redid the whole problem, and messed up somewhere and didn't get zero. And turns out the answer was zero. Yeah, so. But those whole numbers sometimes can be scary for sure.

Nicole: I know. It's like, why is there not, like, a fraction or something?

Kiley: Yeah.

Nicole: Back to what you were saying about going back to previous math classes and kind of learning new things from them. I sometimes answer homework questions from my friends in their math classes, right? And I'm always in awe of this, you know, like, Oh, you're going to be using this later in calculus. And they're like, "Okay, but I need help with this right now. Please don't like teach me something new."

Kiley: Yeah, it's hard, like, I don't know. Math is just so cool and big. And there's like so much.

Nicole: Yeah.

Kiley: It's hard to like-- I don't know, once you know what's going on, it's just so exciting. But . . .

Nicole: I often come home from class all obsessed with some concept and talk everybody's ear off.

Kiley: Yeah.

Nicole: They're annoyed with me. But I'm like, once you get into calculus, you'll see.

Kiley: Yeah, it's really cool that-- like to have those friends that, like, understand your love of math and are like willing to talk to you about it. I also definitely have a bunch of friends who are, like, not STEM majors at all, and they're just really into, like, English, and they don't understand as much. Though I don't understand their interest in, like, authors either. So I guess it kind of goes both ways.

Nicole: Kind of like a like a mutual boredom with the other subject.

Kiley: Exactly, you just have to find something besides school to talk about.

Nicole: Yeah, for sure

Kiley: So have you ever, like, as a woman in math, since there's very few, have you ever felt like, people discriminating-- not discriminate, but like, you know, kind of assume that you're not going to be as good at it for being, like, since you're a woman? Or have you felt pretty comfortable and, like, confident as a woman in math?

Nicole: I don't know. It's hard to say. Usually . . . There are those people in the class that are always asking questions and, you know, answering questions and talking a lot in class. And often a lot of those would be males speak, because they just have more, I guess, kind of natural-like feelings of authority or something. But I don't really have any fears of sounding weird or awkward or anything. So I'm often one of those people that talks a lot in class.

Kiley: That's good.

Nicole: So I guess that kind of helps my confidence, because I just, I don't know, I'm one of those people that just voices their opinion more. And so I don't really feel threatened by anybody else that does that. And thus, I don't generally feel threatened by, like, males, like, you know, voicing their opinions more in class.

Kiley: Yeah, definitely.

Nicole: Yeah. And it's always interesting too, I think, at the beginning of a semester, there's always this kind of weird tension, like, who's going to start asking the most questions in class?

Kiley: Right.

Nicole: What if I ask the first question, and then somebody else asks a way smarter question than me later.

Kiley: Right.

Nicole: But I usually find that once I start asking questions about something, other people also start asking similar questions.

Kiley: Yeah.

Nicole: And I mean, of course, that doesn't happen every time, but it's like I've had it reassured in my mind enough times that other people have similar questions to me that--

Kiley: Mhm, you're not the only one lost in that area, like, there's usually a few people with you.

Nicole: Yeah.

Kiley: See, I kind of take the opposite of, like, stance of that sometimes. I'm like, Oh, I'm confused on this. And I'm sure someone else in the class is confused on it also. So I'll just wait until they ask the question, and then I'll get my answer.

Nicole: Then we should take classes together.

Kiley: There we go. Because I'm a little bit more timid about speaking out loud in class.

Nicole: Yeah, for sure.

Kiley: I don't think it's so much like a-- because I'm a woman, and like, I'm afraid of people, like, looking down on me because of that. But it's just like, I don't know, I'm more of a shy person in general.

Nicole: Yeah.

Kiley: So yeah.

Nicole: Yeah. Usually, when I'm in a class, and there are only a couple of girls, I'll kind of go and buddy up with those girls. Because I'm like, Hey, we're the only girls here, like, you know, let's stick together. And often I I'm not usually that friendly with just like random guys. So I guess I just find it a little bit more comfortable to randomly make friends with a girl in my class, then with a guy in my class. So I generally just kind of stick together with the girls in my class.

Kiley: Yeah. And it was kind of sad because I did kind of, like, briefly make friends with the girls in the beginning of this class. And then, like, six of them dropped out. And I was like--

Kiley: Oh, wow.

Nicole: --okay. Yeah, there's only one more girl besides me now. And we chat it up sometimes.

Kiley: Nice, good. Gotta stick together.

Nicole: Yeah.

Kiley: That's awesome.

Nicole: Yeah.

Kiley: I think that for me in computer science with group projects, it can sometimes be sort of difficult. One, just because I'm not as much of an outgoing person in general, but then also, I tend to be a lot more soft-spoken than a lot of, like, the male people that I'm working with. So sometimes when you're working on something, and you have-- or like for me when I voice my ideas, I've definitely experienced being talked over--

Nicole: Yeah. (Kiley --before, which is, you know, it's a weird feeling. But--

Nicole: It is, yeah.

Kiley: But I don't know, I think it's good to kind of like, gives you-- or it's given me the experience, like I need to speak up more, be more assertive about my thoughts and opinions, and not just kind of, like, sit back and let everyone else take charge. I definitely will do that sometimes.

Nicole: For sure.

Kiley: So, but yeah, group projects can sometimes be a little bit tricky.

Nicole: Yeah.

Kiley: Yeah.

Nicole: I find it easy to kind of take one of two stances in a group project. Either take charge and be like, "Okay, everybody, can you report to me, please?" Or just like, sit back and, like, do the behind-the-scenes work.

Kiley: Yeah, exactly.

Nicole: There's not really much of in be--

Kiley: Like on the side fixing everything.

Nicole: Yeah, like everybody send your edits to me or something, I don't know.

Kiley: Yeah, but . . .

Nicole: I don't know. Sometimes it's like, it just feels weird to take charge of a group. But if nobody's doing it, then I'm like, Okay, I guess fate has it that--

Kiley: Yeah, exactly. I will step up and do it.

Nicole: Yeah.

Kiley: Yeah. I joined the robotics club this year.

Nicole: Oh, cool.

Kiley: And that's been a really good experience. There's me and one other girl, Ali. She's the vice president of the club. And we did a lot of the coding together for the rover-- rovers for the NASA Swarmathon competition.

Nicole: Oh, sweet.

Kiley: Yeah, it was really fun. And it was really cool working with her and having, you know, a lot of other girls in the club kind of showing that representation of women in STEM. And we actually went to Florida for our competition. We didn't win, but we didn't lose either. Like we didn't get last. And we learned a lot from it. And, but there were six of us that went, and three of us were girls. So it was really cool. Like it was-- it was an even split.

Nicole: That's cool.

Kiley: I also got really good experience again working kind of like with the-- a developing team, where I mean, even though there were a lot of girls in the club, it was still mostly men. So yeah, it was mostly like a male dominated area. But you know, I got good experience, kind of like you, speaking up. And also Ali and I both had like lead positions in that club. So we kind of got some experience, like leading a group of guys. Like no, no, listen to me.

Nicole: Yeah.

Kiley: I'm talking right now. Technical Lead. So that was that was really fun.

Nicole: Yeah.

Kiley: it was good.

Nicole: That's cool.

Kiley: Yeah.

Nicole: Yeah. Well, for a career choice, I'm looking into teaching, like I mentioned to you.

Kiley: Right.

Nicole: Yeah. And my concern for going into that field is that because I'm female, and I'm like, 5'2" tall, my students will have trouble respecting me.

Kiley: Yeah.

Nicole: And that's a good argument for teaching college level.

Kiley: Right.

Nicole: Because the students, by that time they're paying to be there--

Kiley: Exactly.

Nicole: --they're more interested in the class.

Kiley: Right. High school would be a lot more brutal.

Nicole: Yeah. But I don't know, maybe I've got to just have a take-charge attitude.

Kiley: Yeah.

Nicole: You better listen to me.

Kiley: Yeah. I feel like if you just walk in with a strong presence.

Nicole: Yeah.

Kiley: No one's-- like, I don't know, I haven't had a ton of experience with, like, being put down for being a woman right off the bat. Like, if you start out with like, Hey, I know what I'm talking about.

Nicole: Uh huh.

Kiley: Like people will respect you.

Nicole: Yeah, that's for sure.

Kiley: Yeah.

Nicole: It's funny. I guess, I just kind of carry myself with this attitude of like, I'm going to get done what I want to get done and I don't really care, you know, what people think of me along the way.

Kiley: right.

Nicole: And I met somebody the other day, and she apparently goes to Cabrillo, too, which I didn't know.

Kiley: Okay, cool.

Nicole: The friend of a friend, you know. I met her--

Kiley: Making connections.

Nicole: Yeah. And I was talking to her, and I asked her how old she would guess I was.

Kiley: Yeah.

Nicole: And she said she's seen me walking around at Cabrillo, and based on the way I carry myself, she thought I would be a professor.

Kiley: Oh my gosh, really? That's so cool. That's like super awesome. Like really encouraging, too, I bet.

Nicole: I was like, well, that's perfect because I want to be professor.

Kiley: Awesome.

Nicole: Yeah, that was interesting.

Kiley: I don't know what you're worrying about then with teaching. Like sounds like you already got it!

Nicole: Yeah. I think I've kind of gained confidence as I've gotten older.

Kiley: Yeah, for sure.

Nicole: Yeah. There's always that kind of awkward stage, like, what do people think of me. Then I've kind of realized, Oh, I don't really care what people think of me.

Kiley: Right? And then at that point, people like you a lot more

Nicole: Yeah, exactly. I mean, if you can handle, like, because you're just casually being yourself. really bad math puns, every other kind of fun there is, then I mean, yeah.

Kiley: Yep, a staple of your personality.

Nicole: This is true.

Kiley: That's Awesome.

Nicole: Yeah.

Kiley: So what are your plans for after Cabrillo?

Nicole: Um, well, I'm definitely wanting to transfer to a four-year university, and I'm leaning towards San Jose State.

Kiley: Okay, cool.

Nicole: Yeah.

Kiley: Do they have a good math program or?

Nicole: Yeah, they do. So in order to be a high school teacher, you need a bachelor's degree.

Kiley: Right.

Nicole: In order to teach community college, you need a master's degree.

Kiley: Okay.

Nicole: And then in order to teach at a four-year university, you need a PhD.

Kiley: Okay, that's a lot.

Nicole: So yeah. So I'm-- my goal is to get a master's and teach at a community college.

Kiley: Cool.

Nicole: But, um, I've heard that it can be difficult to get a job as a full-time teacher, teaching at a community college because they try to hire as many part-time teachers as they can.

Kiley: Oh, really?

Nicole: Yeah. So I'm kind of thinking of getting a bachelor's in math, then working on a teaching credential and my master's at the same time.

Kiley: Right.

Nicole: And then, after getting the teaching credential, I can start teaching high school.

Kiley: Okay.

Nicole: I can at least be employed.

Kiley: Yeah.

Nicole: And then, after completing the Master's, I'd like to try to find a job at a community college. But if I can't get a full-time job there, then I'll probably just go back to teaching high school.

Kiley: Cool, pretty good plan. Very cool.

Nicole: Yeah. But one thing that's kind of neat right now is that with, you know, many of these women's rights movements and everything, a lot of universities are looking to hire more women.

Kiley: Yeah.

Nicole: Especially in the science and math department.

Kiley: Yeah. from last semester, he was telling me

Nicole: So my 5b teacher that he could help me get connected with some teachers to help me accomplish my goal of teaching at a community college.

Kiley: Perfect.

Nicole: Yeah. And he said that they might, you know, want to hire me because I'm a woman in math. And so that's, I mean--

Kiley: Yeah, that's awesome. That's really cool.

Nicole: --worth the hard work to get there.

Kiley: Yeah, exactly.

Nicole: Kind of cool that they want you, you know.

Kiley: Yeah, that's sweet.

Nicole: Yeah.

Kiley: That'd be really cool. And San Jose State's a good school. And you'll still be close by.

Nicole: Exactly.

Kiley: It's awesome.

Nicole: Yeah. I've moved around quite a bit in my life, and I like it here. I don't want to move too far away.

Kiley: Santa Cruz is the best!

Nicole: Yeah. What about you? What are your plans after Cabrillo?

Kiley: I'm transferring this Fall. I'm going to go to Cal Poly SLO.

Nicole: Okay.

Kiley: Yeah, I'm really looking forward to it.

Nicole: that's a good school.

Kiley: Yeah, it's going to be hard. I'm nervous about leaving and sad about leaving all my friends here. But I think it'll be really good experience. It's a good, like, hands-on school. So I'm really excited to get that like, work experience while I'm, you know, not at work yet, so that I know what I'm doing when I need to actually be working for, you know, money.

Nicole: Yeah. Money's nice.

Kiley: Yeah. It would be helpful. Yeah, and they have this really cool program, the 4+1. So you spend four years there to get your bachelor's and then just one more year for your master's.

Nicole: Oh, wow.

Kiley: Yeah.

Nicole: That's pretty sweet.

Kiley: I think that would be a really cool program to take part in. Because you know, just one extra year is not that much.

Nicole: Not bad at all.

Kiley: I think it'd be worth it. Yeah, so I'm really excited. And SLO kind of has the Santa Cruz vibe.

Nicole: Yeah, shouldn't be too hard of a transition.

Kiley: And it's an easy drive from here, so I can come back and visit everyone. The only thing is I hear they have awful food.

Nicole: Oh, really?

Kiley: I'm a little disappointed about that.

Nicole: A beach community with awful food?

Kiley: Yeah.

Nicole: That sounds kind of weird.

Kiley: Apparently, there's like no good Mexican food or anything.

Nicole: It's closer to Mexico ironically.

Kiley: You're right, it is. They should have good Mexican food. Yeah. Anyway, I suppose I'll have to learn how to cook for myself though, so maybe it's good that they don't have good food there. But yeah.

Nicole: That'd be kind of a wakeup call. Now you actually have to cook. Dang it, I heard about this, that college students have to find ways to make food.

Kiley: I'll just survive off of ramen. I don't even like ramen that much. But it's kind of the college tradition, so I guess I have to.

Nicole: Yeah.

Kiley: But, um, my current major is computer science. But I'm thinking about once I'm at SLO actually switching my major to computer engineering because after working in the robotics club, I've gotten a lot more interested in like hardware stuff, too.

Nicole: Okay.

Kiley: So I kind of don't want to just limit myself to only software.

Nicole: Yeah.

Kiley: So I'm kind of interested in like, you know, checking out some computer engineering classes and maybe switching my major.

Nicole: Okay.

Kiley: Yeah, I'm excited about that.

Nicole: Awesome.

Kiley: They've got a lot of cool other classes there, like surfboard shaping.

Nicole: Oh, nice.

Kiley: And like, rodeo classes, which I obviously have to take. Yeah, it's going to be great.

Nicole: If you still have a little more general ed to get out of the way, you know.

Kiley: Exactly. Get credit for riding horses, that sounds fun.

Nicole: Yeah.

Nicole: Pretty sweet.

Kiley: Yeah, it'll be good. [Laughing.]

Nicole: I guess that . . . No? We've had . . . yeah. Why don't we wrap it up? Well, it's been good talking with you, Kylie.

Kiley: Yeah, you too, Nicole.

Nicole: Interesting hearing about your major.

Kiley: Yeah, you, as well. Excited for when you're teaching at Cabrillo. That's going to be awesome--

Nicole: Yeah.

Kiley: --to come and see you working at our old community college.

Nicole: Well, I mean, hopefully I could, you know--

Kiley: Yeah.

Nicole: --probably get my foot in the door here.

Kiley: Oh, yeah.

Nicole: Know a few people. Got connections! Well, it's fun sharing experiences and such.

Kiley: With you, too.

Nicole: Yeah.