I: I want to start this interview by acknowledging that teaching and learning has been significantly disrupted in the past months due to the pandemic. So, for any questions I'll be asking you, please feel free to answer them with reference to your normal teaching practices, your teaching practices adapted for the crisis situation, or even considering both. I would like to start listening, and learning a little bit about your experience teaching undergrads with data and how does your teaching relate to your current or past research?

UCSB1: Okay, well, I teach data analysis and archaeology for undergrads. I also teach it for graduate students, and I cross list them often. And so grad students and undergrads are in there together. In general, well, I consider it one of the most important classes I teach because regardless of what career they go forward with, they need to understand good graphs and bad graphs, misleading graphs, misleading statistics, knowing how to sort of do basic things, and just interpret things they read on the news, where people show them ridiculous graphs, that may not mean anything, and you're like, what? So there is that and I imagine any job they're in, they're going to have to have some statistical knowledge. Just to be conversant with others. So the other thing I would say is, it is a required course, for the archaeology track in our department. But there are other options to fulfill that requirement with it is not the one I teach just to have maximum flexibility. I try to teach it every year, I've actually had to cancel it this year and was going to teach it in winter and I did not feel there was a way I could do it with COVID. So I had to switch out other classes because I was going to do both the grad and undergrad in winter. And now I'm doing something completely different.

I: Okay, so let me just understand, you have this stats class, and you would like to have a combination of grad students and undergrads for a new offer. But have you ever taught this class like having undergrads and grads together?

UCSB1: Yeah, I teach it that way, every other year, because the grad students have a much higher bar in terms of the assignments and what I'm expecting in terms of interpretation, and meaning after they do all the statistics. So there's a higher bar for them [graduate students] to meet. And it is required to the graduate curriculum, but we have fewer grad students. So it's an every other year offering.

I: Okay. And in terms of getting the data that students are going to be working and engaging with, how would you say they usually obtain the data? Do they usually collect and generate the data themselves? Or do they search for and identify some pre existing data sources?

UCSB1: I have all of the data that they get. So there are specific assignments for different types of modules that they have to use. And I provide the data set, because it's archaeological data. And I don't want them working with non archaeological data. Because the whole point is, how to understand like, how we actually learn things from archaeology, that it's not about a find, it's about a large, complex data set that you analyze. And I don't have confidence that any of these students can find appropriate archaeological data to do that, and it's hard enough for them as it is, week by week. I mean, these are anthropology majors, you know. So I mean, of all the

classes I teach, the lowest student evaluations I get is always in that class. And it's the same for any other data analysis classes in our department we have. So we have cultural anthropology, biological anthropology, and archaeology. And they all have their distinct data analysis classes. Then, everyone who teaches them gets lower evaluations than any of their other classes. It's just common and expected.

I: I see. So, you have mentioned that you provide the data sets and data sources, how do you usually share or provide access to these data sets? How do you usually share these datasets with your students?

UCSB1: I upload everything to our UCSB platform Gaucho space, and they download everything from there.

I: Okay, I see, and how do you find and select these datasets? Have you been working with the same datasets for a while?

UCSB1: I have been working with the same datasets for a while, because they produce the patterning I want the students to see. And any other data that I could pull in may not actually produce the patterning that they're supposed to see. So yeah, once I find the data set, you know, it works. And, and then over time, I mean, I know the nuance, I know the meaning and I like to see the students struggle with that meaning, which is pretty interesting.

I: Would you say that it's an easy task, or a challenge to find good datasets in your field, for instruction?

UCSB1: I think there are plenty of good data sets. And various reports, there's no doubt about that there is a lot of data available. And I've scoured those reports. And you know, every year, so I change up one week, as well, to find, you know, new datasets, but these students have never seen these before, it almost doesn't matter how old the data sets are. It's just the basic information that was collected that we're looking at. And so I have to step along with the data set in an assignment sheet. And it is at the top, it defines all of the variables that are listed in the data set, and what they mean. And then there's usually two parts, there's usually two data sets per assignment. And then each part has like step by step instructions that relates to the statistical program they are using. Because they're learning a new statistical program at the same time as they're learning to work with data. And this statistical program, I can no longer use, and I'm actually in the midst of having to learn in order to keep this class going. Because that [referring to the software R] is the future in archaeology and anthropology, in terms of what people are using. So, yeah, so that's gonna take some work for me.

I: That actually relates to my next question about how your students work with data. So how do they manipulate, analyze and interpret data in your courses? And you mentioned that you're transitioning to another program, right? What tools or software that your students are using? And then if they need to have, like, any pre required knowledge to get to your classes, that you expected them to have? Or do you teach them explicitly how to use and manage the tool?

UCSB1: Yeah, I teach them how to use and manage the tool. And that's why there are step by step instructions and the assignments to sort of explain a lot of these things to them. I was using Stata, I used it for years, there was a free student version called My Stata. And our computer labs on campus also installed these. So it was perfect! And then this year, no, it was last year was the winter. So, it was in 2020 right before it shut down. I was teaching the course. And I get into the computer lab by the third assignment. It's clear that they updated the operating systems and about half of the modules no longer worked on that program. That was a really ridiculous semester having to figure out how to do complex things on Excel, but they had access to it. So they learned to use Excel a little bit better than they had already. But it was ridiculous, it was just half [of the intended content]. And you didn't know if, if something was going to work until you got to it. So after the first one [referring to the assignment] didn't work, I went through to try to run every assignment. And at least five out of the 10 weeks, those modules said error will not run. So yeah, that's why I decided it was time to switch to R. At first, I thought I would use data and bought my own version of Stata. But then in talking to all the grad students, they're all using R, they all took my class, but now they're using R and they figured it out. So I can figure this out. But yeah, there's gonna be a learning curve. There's not a lot of time in my life right now, for course redesign. I just finished redesigning one that I'm going to start teaching on Thursday.

I: Yeah, so your classes are highly dependable on the software?

UCSB1: Yes.

I: And...do you face any challenges relating to your students' abilities to work with data? Like, this process of getting to teach them how to use a specific tool, and then also go through the process of working with the data? Would you say it's a challenging process in any way, to get them working with the data?

UCSB1: Oh, it varies. First, it really does. Some of them come in with, you know, more of a math background, or have had statistics classes before some of them come in with an Archaeology background. And so the assignments just make more sense to them. So it really varies, but I work with students closely. This is the class that I have more, one on one officer contact with students. And I have computers in my lab too. And I had a student that couldn't get it because the whole mindset was supposed to be downloadable for students to work on their own computers. But that was also bugging out on them. And so I had students that I had, I have multiple versions, you know, over the years. And so I have a lab computer that has a version of Stata, the full software package. And so I had students that I would say that would come in, and I would have them use one of those two computers, and then they would get through everything and print their stuff. And so I make myself really accessible. And I try to have as many workarounds as possible.

I: Great. So you mentioned in the very beginning that you are concerned about teaching them how to identify misleading statistics, you know, for them to think more critically about the data.

What would say, like specific data skills that you teach, that can connect to these and other ways of thinking critically about the data?

UCSB1: Well, we spend a whole week just looking at tables and figures that I throw up on the screen. I first start by having like a 30 minute presentation to where I'm showing them where we talk about the elements of a graph. So you know, they are not just your axes, but your, your data box, and then you brought a rectangle, the tick marks everything, the placement of everything. And I'm losing my train of thought...so yeah, there's that and then I have all sorts of bad graphs that I have found. I am at the point where I have students that took this course with me 15 years ago, will be at a conference will take a picture of somebody's terrible graph and just send it to me, you know, and so I show good examples and bad examples, some that just have a few mistakes, some that you're like, “What in the hell is that even saying?”... and we go through them. And I asked the students, you know, “What does this mean? Do you know what this means? You know, what is the problem with this graph?” And so through that, they get to see the misleading nature of things. Like, you know, I can only think right now, of course, I'll never have access to this graph, but the one that Trump showed in that Axios interview is a bar chart that meant nothing was hilarious, you know. And so it's those types of things I want my students to leave, see something like that and be like, “What is that? What does that even mean?” That's ridiculous! [referring to the Axios interview episode]. So, those are like the critical thinking skills, I want them to have to be able to assess right away, if you know, some representation of data that someone is putting out there is problematic. And usually, you can tell it's problematic, just by the way, they have graphed it, there are ways to graph things to make the pattern look less clear and to make a pattern that's not there look like an actual pattern. And so we talked about where people place their axes and all of that.

I: Okay, great, yeah, many ways to make them look more closely to the data, and then kind of extract meaning and also to identify some misleading statistics. So I would like to hear your thoughts, about policies or like cultural changes at UCSB, or even like in the field as a whole, that have influenced your ways of teaching with data? Have you noticed, like some cultural changes, or that has impacted your teaching?

UCSB1: Absolutely. And that's why I've just finished redesigning a course that I'm teaching in the fall completely and utterly. In order to, to address that. In terms of the data analysis class, I have already thought about redesigning that, and I am going to work in graphs in my graph section and, you know, a lot of them aren't about archeological data. They're just examples, good graphs and bad graphs. And in order to understand if they're good or bad, we have to assess what they're actually trying to say. So I am going to work in data and statistics in the future relating to some of these issues that you're experiencing right now related to an equities, Black Lives Matter and that sort of thing, where, you know, I could show a graph of percentage of white people killed by police in this year span and, and you know, just go categorically through that, and maybe show how, if you use the data a different way, it might show no disparity. And so we can go through that. And I'm not engaging in the debate, right, I'm just going to be showing them different ways that these data can be represented to be misleading, and that sort of thing. So that's, that's how I'm going to work it into that in terms of the datasets,

where they're all archaeological. And so that's more difficult. And it's not the type of class where we can get into the more complex interpretations archaeologists have about, you know, ethnic diversity in urban cities, that sort of thing. Because those require multiple lines of evidence of different kinds that are really too complex for me to introduce into this sort of introductory data analysis class. But I'm, I'm still thinking, trying to think of other ways as well to do that. But right now, I'm just seizing on the graph presentation section.

I: And would say that there are like ethical challenges in teaching with data, in your field? And if so, are they important and to which extent?

UCSB1: Let me think about that. So now, if we look outside the field and within academia in general, one thing that is, you're hearing more about. I'm sure it has happened throughout time. But people are actually being more just discovered for falsifying data and patterns to arrive at what findings they want that we've seen happen in the news to professors. And so to that end, I do talk about how serious it is that you represent the data as best you can. And I have a story of a paper I had submitted for publication, you know, I got it revised and resubmitted it, they [referring to reviewers] wanted me to look closer at some of these things. I put it aside for like, a year because I was busy. I went back to the data. And I had a realization about one of the sites and the data sets. And I realized I had to remove this one context, because it was completely and utterly different from everything else. And once I did that, the primary pattern for which the paper was based disappeared into so that's one of those situations where I'm glad I didn't revise and resubmit right away. But at that point, you know, anyone has a choice, right? And an ethical choice. You know, do I just move forward and pretend that doesn't exist? Or do I drop the paper because that pattern doesn't hold up anymore. And I dropped the paper. And there was one other pattern in that paper that was really interesting. And I was able to fold that into a different paper. But yeah, I had to drop that. And, so I bring that up to students. And I think I want to find some of those news pieces about the past five years. I think there's been, I don't know, two or three professors in the sciences who've been called out on this. And maybe I should share those as well.

I: So you basically use that as an example for your classes and for demonstrating to your students how, you know, some things have to be reconsidered when you notice their mistakes?

UCSB1: Yes. And, you know, data analysis is never truly complete. You reach a point where like, okay, I'm ready to publish, but it's never complete. And so you always have to reevaluate things, if they agree.

I: So we are now going to move on to some questions more related to training and support. First of all, I would like to hear a little bit about your interaction with other divisions or if you have collaboration or support at UCSB with other instructors, librarians, teaching assistants, or even people that do in class presentations for your class, for providing extra content related to teaching, sorry, not teaching, but working with data. Do you have this type of collaboration? Does anyone other than you provide instruction or support for your students?

UCSB1: Sometimes, yes. Not always. But yes, sometimes this past year I had. I had an archaeologist from [name of the institution]. And he is one of the issues in archaeology right now is data curation. Archaeologists don't know how to design and use databases. And so it always would cost a lot to find someone to do that, like you have. And I'm talking about every site, every assemblage anyone's ever worked with it. All of it is in like, accessible via integrated data system, I don't know, like access or something. And the argument here is that we need to bring this conversation first to undergrads because they're going to be the future archaeologists. And they need to value the importance of actually maybe training and this sort of thing. And I mean, it's the difference between, you know, saying, “Oh, yes, I have this information on that site!”. And then maybe you have to, maybe you've got folders and folders that you're trying to get through to find it or hard copies, you got to find a site report. And if you had an integrated database, every piece of information would be in there. And you could just click on the site and see what's there, and then click on field files, or this or that. And it was really illuminating. And it's something I cannot take on in my life, because I don't know how to code. But sort of a new generation of students these days, it's all about coding, coding, coding. I mean, there's all these things for our kids, to teach them how to code. They're learning it in elementary school even. And so I think I may keep having him come, or, you know, however long COVID is, I would have to zoom in, because it is a really important topic. And we have to be looking towards the future, if, you know, if we want good data curation.

I: Great. So, to your knowledge, are there any ways in which your students are learning to work with data outside their formal coursework? For example, online tutorials, internships like we have the carpentry workshops on campus. Do you know if you're like looking for these external resources and like to learn how to deal with data?

UCSB1: Yes, some of them definitely are. So let me think. So I have other upper division classes I teach. And the students in my class that have already taken my data analysis class, like if they have a project, where they have to analyze the data set in that in, in the non data analysis class, I have a different set of expectations. You know, I told students, if you have not taken my class class, then here are the basic things you need to do. Those of you who have taken my class, I'm expecting this and this and this, in addition to those other things, because I know you guys know how to do that. I want you to push it. So there's that. Also, the guy I told you about that came to my class in the winter, he recruited two of my undergrads as interns to learn that, and to help him continue the database construction and curation at the [name of the institution previously mentioned] He's the archaeologist for that so it was really cool. Students do senior theses, and those that are doing them in archaeology, well, definitely, my students have already taken that class. And so they can hit the ground running with their data analysis, and I don't have to be with them every second, basically, which is what I want. And let's see, oh, yeah, and of course, the class in terms of graduate students, that takes them a step further, towards actually being able to put together good publications where they, where the arguments they make from their data are believable.

I: Nice. So, from what you have mentioned, I can tell you encourage this kind of extracurricular learning activities, correct?

UCSB1: Yes.

I: And how do you usually approach that? Like, do you mention these things in classes? How do you stimulate or encourage your students to look for other ways of learning about data and about tools to work with data, and so on?

UCSB1: Oh, let's see. Okay, so I'm in these other classes I have, you know, if I throw something up on a slide, and I'm like, What does this mean? And then nobody responds, I will say 'Okay, come on, those of you who are in my class, you know, the answer to this, "what is it and how do you know it?". And so I will call them out to share that information, which demonstrates other students the value of having taken a data analysis class more broadly in their education. So there's that, in terms of grad students, I have to tell you, I know you're interested in undergrads. But every archaeology grad student in our department has taken this course. And all of my students, it's clear they're using their skills. But I might get to like a dissertation of some other student, of a student of some other faculty who's taken this class, you read through the whole thing, and they haven't done any data analysis. They like, give you a table with numbers, and maybe some percentages, and they're making complicated arguments from these sort of basic things that are just stepping stones. And, you know, at that point, I'm hard pressed when the student comes to talk to me to not get really annoyed. I'm just like, you know, your PhD, you've taken it to the point where I'm like, "Do you remember taking my quantitative analysis class?". You know, it's just, it's astounding. Oh, one other thing that I do too though, because for me, it's really about learning and understanding the connection between the pattern and the meaning, that the students do every week, there's an assignment, and it's due the next week. And it requires that you show all your statistical data that you present things and tables, that you write up your results and interpret them. And it's the last part that students often don't really engage with, which is the whole point.

I: Right.

UCSB1: I've taught this.this is the whole point, we want to understand the past. So you've got to push it, my students can rewrite their assignments until they get an A, if they want to do it four times, that's fine. As long as they're all turned in, by the last day of class, all the rewrites. And some of them, I go through three or four with them. And then, I get more contact facetime office hours with these students than any other students to take any other classes. So I know these students, by the time they leave, I know a lot about them. And so that's another thing I like about it is that I really get to know the students. I mean, I think it's that interpersonal interaction, that can create the excitement they see. I'm excited about it.

I: Right.

UCSB1: So, in that regard, the class also becomes less daunting, and they can perceive it as you know, something they can accomplish, that they can get through. It's not scary. Because of

you know, you think math fears people to go into ANTH [referring to the class]. I didn't even when I was an anthropology major, I did not have any math or requirements.

I: Oh, okay.

UCSB1: So these kids are afraid of math.

I: Yeah. And that connects actually to my next question which is...I would like to hear a little bit about your own training...so...if you have received any training for teaching with data, other than your graduate degree, let's say, if you participate in workshops, if you had some help from peers...it doesn't have to be formal training, like more informal too, how have you acquired your skills?

UCSB1: Even though my degree, my BA did not have a requirement for math, I nevertheless took a statistics course for Anthropology that was offered. And that was really key, but I didn't really know how to really apply that to archeological data. Oh, I also took just a regular like a sociology stats class too as an undergraduate, I did both of those things. And I did them because I thought I would need to for archeological data. But it wasn't until I finished my BA when I was actually working on a conference paper. One person who was also in grad school sort of looked at it and he's like, “So you really don't show a pattern and there's a way you do it. And here's sort of an index you might use in order to control for sample size, different sites”. And so I was like, and when I did that, yes, the pattern emerged, and it was incredible. And that was right before our first year of grad school started, we'd already moved there. And then we had a graduate required course as well. But before I took this graduate class, I think it was in our second year, we had to take it. I had done a research project the first year. And I had used my statistical skills before the grad school class, to find a pattern. I was reanalyzing a data set that was already published. And I found a pattern that called into question this person's entire thesis, basically, what they thought was going on. And I was able to show a correlation between the number of food species people ate, and the amount of soil that was excavated, right, so more soil, more diversity, more possible diversity in terms of what you find. And so I brought that paper, you know, to one of my professors who was not my advisor, but he also taught the quantitative class and my advisor told me to go to him, he reads the paper, and he says, "You need to use this module, [interviewee’s name]! And you can actually demonstrate statistically the sample sizes, the reason for this!” And it was this old program, that archaeologists have created, well, in the 1980s or something, I still use this. And it's hard on these new operating systems. But I learned now, once I learned, that I can create a whole new module that does the same thing. So I'm really excited about that. But in any case, and it was that that sort of clinched for me. And it was really hard to use, because it was so old, it was hard to make sure you set up the data data file, right, you'd have to do it as a Word doc and save it as a txt file, and then change the extension, and all of this, and sometimes it works. And sometimes it didn't. So, I became really good at using that program. And it really changed. Sort of, it sort of brought me to the next level in that moment, and then, in the following year, taking the stats class, and that was all, again, archaeological data sets, problem sets. So we're learning statistics, while we're

learning how to use them. And that is how I base my quantitative class on that class that I took there.

I: All right, so would you say that you learned it by yourself in most cases, because you were triggered by curiosity, and then you kind of explored these tools by yourself? Or would say you went through some kind of other training? What about some help from your peers?

UCSB1: Oh, yes. I mean, oh, when we took that class, all of us, like, first, I don't know, like two cohorts of archaeologists got together. We had a computer lab for the archaeologists, and we would all basically sit there in the same room while we were working on it. And when someone encountered a problem, like, "I can't get the program to show me this!" And we're supposed to see this, somebody else figures it out and says, "Okay, here's, here's the button, you press or here's the thing you go into!". So, it was very collaborative in terms of learning the program and how to do it. We all of course, you know, dealt with our interpretations and all that independently. So there was a lot of collaboration. Absolutely. And that collaboration continued throughout grad school, in terms of reading each other's papers, checking out each other's patterns, seeing what we think all of that. It was a very, from my understanding, rare experience in grad schools, from what I understand, but it was impressive. So I had formal training, I had a sort of collaborative interaction, which pushed us all further. And then I had sort of my own initiative based on specific things I was working on. So all of those three things sort of came together.

I: Okay. Yeah. Nice. And I see that you're kind of applying some of these concepts to your classes as well, like when you engage students with data, for them to think critically...

UCSB1: Okay, so another thing I also tell them, I say, “You guys can work together, as long as you don't work on your write ups together”. Okay, work on the analysis and figuring things out”. So yeah, it's not that they don't have to do it all by themselves. Because no one does this all by themselves, really, in the real world, you know, we work with groups or partners.

I: Yes. Nice. And you mentioned in the beginning that you usually provide the data sets [for your students], and that you have this collection of data sets that you believe are good, like examples for your classes, because you know them thoroughly and you're, and they're good for like, things you want to explain in some of the skills you want students to develop. But in terms of like assignment plans, or syllabi, or even other instructional resources that you might, you know, apply to your teaching plan. Do you usually find external materials from other schools or do you share with, you know, other faculty those materials on how to put together a class that involves instruction with data?

UCSB1: No, because everyone else is clueless, I was hired to do this. And evidently, when they interviewed people for this job, that was one of the key things, so I showcase all my quantitative skills in my job talk. You know, I made sure I had all sorts of things they saw I could do, I didn't spend a lot of time explaining how they worked. I told them, they could ask me that later. But I

would, you know, refer to them. And usually everything was pretty clear. And nobody else had done this, no one else showcased any quantitative skills for a job where they were asking someone to teach these quantitative courses. That's why I got it [referring to the position], or one reason anyway. So at this point, some of my grad students have moved way beyond me. I mean, way beyond me. And that's, of course, why I want to move on to R. So if I'm collaborating with anybody, it is not other faculty members, it is graduate students.

I: Okay, and do you usually share these...your own resources, make available to them if they want to kind of, you know, if they're going to be teaching classes with data, and having the experience of taking your classes...

UCSB1: I, you know, I share all of my course materials with my students that they ask. Okay, they just have to ask, they ask I will share.

I: So considering evolving trends in the field of archaeology, what types of training or assistance would you say that are most beneficial to instructors in teaching with data?

UCSB1: Training us on programs! Training us on new programs! It takes a long time to figure out a new program. And I would love it if there was some sort of, I don't know, three week workshop on how to use R, something like that. I, you know, I rely on my grad students acquire, I will be relying on my grad students to help me with that they've sent me all of the material, like all the books that they think are the best ones, they've sent me the YouTube videos that walk you through it. So I have gotten all these resources from two students who have previously taken my quantitative class and did not know are at that time. So basically, I've taught them, they have gone beyond me, and now they're teaching me and that is the way learning should work even with our children.

I: Nice. Okay. So we are almost at the end. But to wrap up, I would like to ask if there's anything else from your own experience, or your perspective as an instructor, or on the topic of teaching as a whole, teaching with data more broadly, that I should know...something you would like to consider about your experience as an instructor?

UCSB1: Well, I can say that I've deeply dedicated [myself to] undergrads instruction, and undergraduate experience. I've been the faculty undergrad advisor for my department for years, and vice chair on the undergraduate council at UCSB. I was a first generation college student myself. And I interact with students a lot, I have every quarter between five to 10 undergraduate interns working in my lab on research projects with me and my graduate students. They both apply to work with me, but I also invite students from my classes that are high achieving. This is also how I can ensure that I get some racial and ethnic diversity in my lab, I invite people. Most of the people that apply to work with me or are all white, and I think this is changing. I wasn't the faculty undergraduate advisor for a few years. And so now that I'm back to that...I am emailing the students a lot more about any and all opportunities and that sort of thing. So I'm hoping that makes everything seem more accessible to them. And I'm talking, you know, opportunities with

me, opportunities with other faculty. Any sort of external internships or jobs come through, I mean, I, I send everything like that to people. So, I mean, I even have a rule that I don't take any interns in the summer. I mean, this is the only time I can get my own stuff done. And I broke my rule twice, one for a program that was meant to provide some sort of experience to understand the PhD track by students applying to this program. underrepresented students, students of color, in their master's program, and so I accepted a student to work with me. It was summer 2018. I don't know. So a few years back, and then this has not this past summer of 2019. Our classes end in June.

I: Right.

UCSB1: I got this email from this high school kid who is going to be a junior. It's clear from his name that he is Asian American. I just can't tell you how hard it is to find students that are not white in archaeology. And this is, you know, and it's, it's almost too late by the undergraduate period. And so I jumped at the chance. And he came into my lab and he worked every week until COVID. basically like a, like four hours a week. He got to know my undergrads, he got to know grad students, he got to know all of these possibilities for the future. And he was just such a great kid. Right? And I, he just recently asked me to write a letter for his college applications and sent me his materials. And it wasn't until I looked at his materials, I was stunned. He's actually going to major in anthropology.

I: Nice.

UCSB1: Yeah...and I was like, wow, you know, I just, that just is very exciting for me. So I have to say that yeah, I really, I really interact with, with young students, like with undergrad students, I may actually start recruiting some sort of student from high school every year for the summer. We'll see. But that was a really rewarding experience and I just feel like wow, you know, I made maybe one difference here towards you know, diversifying my field. So yeah...

I: It's very inspiring. Great. Oh, thank you so much. I will stop recording but I would like to say a few things before we end this call. Is that okay?

UCSB1: Yeah, that's fine.

I: So it will stop recording now...(the non-recorded portion of the conversation, for about 5min or so, was used to advertise existing campus resources)