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(captioner standing by).

>> Okay. Everyone, can I have your attention. Can I have your attention.

Okay, so it is my pleasure to introduce to you guys our third and final keynote speaker, Angela Booker is an Associate Professor at UC San Diego, PhD at Stanford and studies ways that youth, families, and schools make use of media and technology for participation, learning, and community development.

She is particularly concerned with addressing barriers that diminish access to public participation among underrepresented and disenfranchised communities, uses ethnographic, qualitative and designed-based research methods to examine typical and emerging practices where youth and adults work together and at times in conflict. She collaborates with youth, community partners, educators, and scholars to do this work.

So, Angela shared with us some of the things that she is planning to talk with us about today, and if she even only talks to us about a quarter of those things, we are in for a huge treat, so it is my pleasure to introduce you all to Angela Booker.

(Applause).

>> ANGELA BOOKER: Hi, everyone. Thanks for having me. I'm tremendously nervous, like little kid nervous.

(laughter).

Thanks for your patience with me. I used to wait tables and they told us when you start, just tell the table that you're nervous and they're more friendly, so I hope it works here.

(laughter).

So today, I was going to give a talk I haven't really given before. I'm going to think through, hopefully with you, some ideas that I've been trying to work with many wonderful colleagues, and so we'll see where we can get.

I want to add that I want to keep in mind -- I want to keep in mind that throughout the talk I'm focusing on how marginalization, social stratification and ableism persists relentlessly, and that's the place from which I'm beginning.

I'm just going to jump right in because I have a ton to go through. So I thought thinking back to how I encountered ethical questions as a young scholar and as a young person, I would want to think a little bit about the early conversations in the 90s that I was encountering when email was first getting started and Netscape and those kind of things were coming out and I was working at the Elm Prompt, and the conversations were often about the digital divide, and they were also about a kind of frontier, what was going -- a very kind of strong palpable excitement about what was going to happen as people got online and the web emerged.

As I continued to develop in that work and I complete my graduate degree and I started to get invited to panels and people were asking a lot about young people's privacy and things like free tools and Google Gmail and things like that started to come out and people wondered what young people think about when it comes to putting data out there, and certainly with Dr. Noble's talk yesterday it sort of helps us think about where that's gone.

And then, of course, we dropped right into those old tech phobia and Utopia dialogues continue and will continue to develop as we develop the ideas.

And the world of scholarship developed throughout those years about different kinds of literacy, emerging ecologies for young people, and that helps us think about subjectivity and the kind of things that develop, and also helps us anticipate the kinds of power relations that are going to come up and that's a thing that's really central to what I care about.

We also have had to grapple with developmental logic, who is ready for what, when, and under what circumstances, and they've thought a lot about questions of voice. When are youth expressing what they think and what they feel, when we have a lot of undermining of young people by showing in some way that some other person corrupted them or had an idea that they're parroting, right, so we

have these sort of critical issues that come through questions of voice, and then of course many forms of epistemology and transition from thinking of young people as delinquents to assets and as I move forward at the conference we have a lot of conversations about accessibility, transformation, change, and we hear a little less about the digital divide commentary, although certainly, you could apply that logic, but we move more toward the questions of change.

But I want to also offer another perspective young people then and now, and my first research project, I was looking at students who were trying to influence policy in their school district, and a couple years ago I went back and tried to look at what was going on with that, and I found this from 1976 when I was 2 years old, I found this pamphlet of young people who were in the same program in 1976, and this was the agenda they had for their forum, so I kind of want to just point this out to you here and then I jumped ahead to when I was doing my research in 2003 and then again I jumped ahead to what the students were doing in 2015 and these were their agendas.

The things I want to point out to you here are things like bathrooms are still on the list of problems that they're grappling with. They still want a vote on the school board and they don't have it. They were dealing with integration questions in 1976 and they're dealing with desegregation questions in 2015 or today.

So this is a problem of social pattern maintenance and if we're talking about young people having real forms of participation and yet we participate in processes that allow the same problems to persist and allow young people to work on them as if they're in some way changeable, then we have another kind of ethical problem that we want to handle.

So that's where I wanted us to begin thinking. Now I'm going to jump into some foundations for the ethical and work I do with young people by thinking of a couple of articles, one published and one that's in preparation, where I tried to grapple with some theoretical questions around these issues. So the first is this question of responsibility and responsiveness, and when you do community-based work with young people, you get faced, as those of you who do this know, with a lot of ethical quandaries and questions and challenges but I wanted to think first about the notion of responsibility and responsiveness.

Responsibility, being a kind of timeless thing that we always can look to. It refers to questions of commitment and obligation and how to decide when and how to act or to be silent. And neither are really decisions. Even if we're not saying something, we're making a decision not to say that thing, and sometimes that's productive and sometimes that's really harmful.

And then there is a question of responsiveness, which I think of as being imminent or urgent and refers to new practices that emerge from collaborative efforts when the research is designed and

undertaken in partnership.

And where I've experienced the greatest challenges in negotiating the space between timelessness and imminence, sort of these sort of grand principles that I know to be true or right or morally good in some way, and then the specific rubber meeting the road and how do we handle that.

So a couple of things that I've tried to do is to think differently about developmental relationships and to think about ethics differently, so while I really value those kind of standard statements of ethics, I'm really interested in the emerging opportunities for ethical development, and I have found that they need to be thought through neutrally, so it's not just young people's ethical development but it's our ethical development as well, our learning, our ability to encounter increasingly challenging situations and I can't think of a more urgent time in my lifetime for doing this.

It's also thinking with context specificity, so historically situated conditions are a thing that we have to attend to no matter what we design, and at the same time, our environments are dynamic and changes are coming our way faster than we can keep up with them, so how do we think about that when we're thinking about ethical acts of design.

And then finally for me, I find it really helpful to sort of continuously ask what, where, when, and how is equity available or unavailable here in this circumstance, and we could ask that right now together in this room and think about who is here and who is not here and those kind of things and who is speaking and who is not speaking. We could think about that in all of our work.

I'm going too slowly so I'm going to speed up. So with that idea, I then started to move toward work that I haven't published yet but I've got a draft if anyone wants to kick it around, and I wanted to really think with something that I started with in my graduate work which was situated practice and legitimate peripheral participation which often gets short-handed to communities of practice and the concern that I had with this doing work with young people was that I often hear people, students and practitioners refer to an existing community of practice as of a fore-gone conclusion like that is a community of practice, and certainly that's a valid approach in certain circumstances but I think a more productive sort of energetically powerful approach is to analytically engage the communities of practice.

What I mean by that is something along these lines. If we think about legitimate peripheral participation being that lurking position of a newcomer before we move into fuller participation and become old timers, studies of negotiation on participation in the community provide a fundamental analytical perspective for understanding whether and how youth gain meaningful access to

participation.

There is a narrow understanding of conditions that promote young people's place at the table in organizing the future of the world into which theory merging, and a fixation on emerging digital media is one source of the narrowness, so what I've started to argue is that as we attend so much to the designs of tools, it's hard to think about where people are practicing and what they're practicing in, and it's actually really hard to see, and in fact we don't always even know what we're in as a community of practice, you know, as it's forming or as we're trying to enter into it.

And with that comes the potential of persistent marginalization and so one point that Winger makes briefly in the book is legitimate can also be the persistent marginalization of the group held permanently on the margin. It's not what we think about all the time because the positive version is attractive to us and meets our goals in terms of what we want to accomplish and but this is a real problem and the more likely outcome that we've come to face.

Here I argue the temptation to make emerging technologies a central object of analysis and can match relations of power, obscuring newcomers' ability to establish meaningful participation. And in particular, young people often experience power and influence as concentrated among adult decision-makers, and consequently youth taking to move toward forward participation in the community and orient toward establishing a legitimate and influential voice. Sit with that for just a second because that's going to create trouble.

Yet without an understanding of the dynamics of the community, it's forms of membership, commitment to stability and governing new participant, peripheral participants remain that without any necessary sense of transformation and participations. To make those moves, we have to be able to see, to discern where we're headed, we have to understand, am I in a condition that wants my process to become a fuller participant or am I in a process that's actually pretending or sort of imagining that I might be that but really holding me in a marginal position.

And if we think about that student advisory board that I showed earlier, that's certainly a persistent marginal state, right, in terms of being able to act on circumstances.

So, if you're trying to get some voice in a space, you're going to create disruption and so I want to talk about young people as productively disruptive but I don't want to suggest that it just happens because it's an act of mutual engagement. Disruption is just disruption, and like if my 5-year-old was here and mommy, stop doing this and I want your attention, and that probably would be just disruptive and not productive, so what I want to talk about is how productive disruption becomes a site for a productive politics of this participation and that's a design question for communities.

And learners need support and I mean this not just youth learners, but all the learners in a mutual engagement, we need to sort of the ability to discern relevant communities of practice and our relative positions within them.

So there are a set of methods that I've tried to use over the years since I had wonderful mentors and teachers and guides, and some of them are here, they're coming up, but what I'm looking for are methods that can do these things and I want them to be able to honor difference, and at times disruption, and I want them to be able to work with cultural ways of knowing, I want them to remain clear-eyed about power relations and this is a hard one, it's a really hard one especially when we stand in benevolent positions, and then I want us to recognize and really live our roles in those Belmont Principles we have to read when we're ready for human subject research, respect for persons, beneficence and justice. Those are negotiable in terms of our understanding of what the Belmont Report says what they mean and our understanding of what we say they mean but those are critical to the actions we take in research, and I want methods to organize and help us organize for both collective and individual ethical development, so how do we think about this scales of ethical development as is where I'm headed, and then recognizing representation is necessary but not sufficient.

So, representation without engagement with power, and power relations is really shows really critical and I've been working on a piece for this, is Roy here? He was on the list of participants, but there is a volume coming out, a handbook of cultural learning, which I hope will be useful to this group and I've been working on a chapter about this.

Finally, insisting upon reciprocal and mutual learning and change. So I have looked to iterative design, user-centered design, ethnographic and participant observation, youth participatory action research and probably social design experiments, a university/community partnerships in design experimentation, participatory design research, and most recently ontological design in thinking about what Escobar thinks about Latin American organizing movements as a possibility of many worlds existing within a world.

So, this relational question is really important, but as we scale it becomes really challenging, so there are a few sticking points that I think are helpful to cover, and these are in no way an exhaustive list of sticking points but just ones I'm running into as I work through this.

One is the notion of losing sight of power relations as I talked about, another is what I'm calling gays pressure, and I don't know if I should have cited someone for, but pressure, are they always on groups grappling with marginalization, always, always, always on people who are already doing a ton of the work and having a really hard time broadening that gaze, returning that gaze, making a

reflective experience of that, and I find that to be particularly challenging in part because I really like working with young people but often I find in my work that the challenges are not really theirs but ours.

So that's a tricky one for us to deal with as designers, and then I'm talking about also sticky dualisms, the sort of persistence of binary thinking and here I've just given a come of examples like the notion of designers and makers being on one side and having the sort of means of production and circulation and the users, consumers, participants, learners on the other side sort of consuming and experiencing what someone else presents even in an iterative process, we often have a lot of powerful roles sort of on the back end of production, you see at the front, you give some feedback, and then it comes back to you but you're not engaging in it and that's a real question.

Finally, for all strategies, so this notion of doing something for all is an important one, I think.

Because on one hand it's better than some just can't do it, my mom was just telling me a story the other day about an experience she had where she was working with a person in her school and a guidance counselor and looked at a student's grades and oh, I see she's just an average student and just can't really do math, and this was a while ago, but you could imagine that conversation could happen today.

So that is a problem. I like the notion of everyone can do math, right. For all is good in that sense, but the challenge is that it also becomes an easy place to lose sight of historic power relations and sort of default into neutrality and not make those moves that are necessary to actually deal with justice and to deal with equity.

And so, what I'm really heading toward with this talk is a way to think differently about scale. I have a tendency, when I think about the national National Science Foundation in tech, to imagine that things are always trying to be scaled and that comes from just my training and my work on projects, and how do we take the best ideas and just scale them.

And I've grappled with that because I focused on work that's still relational and how do you scale relationships? And that's a real challenge, and also a necessary question, so I want to pose some ways of thinking about that.

I'm going to tell a tiny personal story, I might get some of the details wrong but you'll get the idea. I started in the field as a single young person and now I'm a 45-year-old mother of two and a wife and a learner and I don't know all these things, and I have now a 6-year-old but the conversation I'm going to tell you about is when she was 5 and we had agreed to go somewhere, I don't know where it was, we had a time pressure had to leave, and she decided

she wanted to play with her dolls and had gotten this great idea and was really excited, I want to do this thing, and I said that's great, wonderful idea, but we've got to go so we'll do it when we come back. She just flipped out. Like just went crazy. I was like, whoa, whoa, whoa, what's going on. My first reaction, and I've certainly done this as a parent is to use my size and power and access to resources and my authority to just say, no. Of the if I need to, I'll pick you up and carry you to the car and off we go.

For some reason, there is a part of me, the little part of me, the little part of me that does this work that says, oh, you're violating your own principles here. So, I paused and I looked and said, what is happening, just I'm like what is happening? Why is she freaking out? I didn't even say no, I said we'll do it when we come back, come on, cut me some slack, kid.

So, something, I don't know where this came from made me say to her, you know, I get a sense that you feel like you have this voice inside of you and gave you this beautiful idea, and then I came in and I said, forget your voice, your voice isn't important and mine is important? Is that what happened? Her eyes got big, she nodded, yeah, that's what's going on. I went oh, okay. That voice is really important and you should trust it and I want to help you learn to trust it because it's going to be your guide in the world. I thought it was a great idea. I'm sorry that I made you think otherwise. Do you still want to go with me because we need to go? (Laughing). Would you be willing to do this later? She said oh, yes. Yeah, yes, I want to go, okay, yeah, we can do it later, we're good, and off we went.

Wow. Okay. So, this is a person-to-person relationship and it's possible because I've known her since she was in the womb and we've been working it out for a long time and it doesn't always go this well. (Laughing).

Number two, if you start to think about scale, imagine now we're teachers in classrooms and we have kids having these meltdowns throughout the day and we take the time to do that with each one of them, you could imagine that that might cause you not to get through all the things you're trying to get through, so there are some real challenges here and so I'm not suggesting that every kind of relationality can scale, but the impetus can scale.

So, I'm going to give a couple of examples now of from my work, I'm going to go a little faster. I do this project called democracy labs, and it's kind of perpetually in pilot mode in my point of view, but the cool thing about it right now is that when I moved to San Diego and started to work there, I inherited a project, a partnership actually, and inheriting an old partnership is tricky because the relationships are at first relying on someone else's relationships and you have to build them fresh.

But essentially what we do is we have a practicum course called

New Media -- wait. We changed the name. It's called New Media and Community Life, so we bring a group of undergrads down every single quarter, 10 weeks, fall, winter, spring, about 20 miles from campus to subsidized apartment complex in Southeast San Diego and essentially it's a learning sent they're is a hub inside of the apartment complex, and the come on the back left that I understand as our partner and there are some folks here I won't go into description but I would note all of the forms of technology from magic wand to computer in this photo, they all have their place.

So, works with experience in daily life, focuses on experiences with tools and practices for imagining, building, repairing our shared life together, and we have specifically focused as a tool on storytelling for a couple of specific reasons. The first is that it's accessible across generations, and our little, little kids who aren't even quite verbal all the way to elders can participate in storytelling of various forms so it's an accessible tool and there aren't that many tools that can get a 2-year-old and 80-year-old together.

The second is if we study the way stories are edited, changed, and circulated, we actually can start to see power relations, we can discern what the relations are in the community, who has authority and influence and who doesn't. That's really important for all of us if we're going to do those things that I talked about earlier, so it becomes a really useful tool for us.

And also, we're in a communication department, we have a bunch of students really interested in media production, so it's a perfect kind of joining up for us.

So, we work in critical and reflexive takes on production and notions of co-production and we try to address mutual development for all of us. A couple things I'm just going to click through some photos to give you a feel, and a couple of things that happened that let me think about relational work at different scales is that we have to build relationships with one another, we have undergrads coming in for usually just 10 weeks at a time and then we have people like myself and my colleague Dr. Campian who have been having this relationship, and for me it's 6 years and for her over a decade, and so these relationships exist across the community center and across the campus, and so they get us into institutional levels of conversation and right down into nitty-gritty.

And a couple of examples that I want to sort of point to are in dealing with these ethical questions, and A, we started to notice that in production, it's easy to get the kids in front of the camera and to get the undergrads behind the camera. It's easy for the undergrads to continue to hold all the knowledge and carry it with them back to campus and to their dorm rooms about post production and about the decisions that actually shape the political messages and kinds of communication that come out and it's easy for the kids

to be the representational phase of that process and so how do we deal with that? How do we get that more open? Open that sort of hidden box of those kind of decisions and practices and skills inside of the community is the thing that we're asking a lot, and how do we do it in relation to tools that people actually have on hand whether we're are present or not. So, if we're not there the activities if people are interested, can continue.

That's sort of one level of local scale of relation. At the same time, there is this other thing that's happening which is that this is a subsidized housing complex, which means it has owners who don't live there, which means it has funding from housing and urban development at the federal level, which means it has people who have to qualify to live there and they have to show paperwork that their income is just in that sweet spot of enough to be subsidized and not too much to get kicked out.

That's a very, very narrow space to live within and it creates a lot of precarity and while we work on this project, a lot of issues have come up with that and I won't go into great detail but what I'll say is we've learned being there and having a relational presence means people like me and Dr. Campian can be invited into experiences with people as people who can support and work on things that I think Democracy Lab should be about. At the same time -- let me go back. At the same time, the undergrads are only there for 10 weeks at a time are not really invited into that. People, would you feel comfortable inviting somebody for 10 weeks for a class into the sort of deep challenges of health or housing procuracy, et cetera?

So these are things that are all part of the project and we have to think our designs through those kind of scales to try to understand, where do we find a practical place to deal democratic work, so not the big scale institutional and governance level, and not the philosophical level, but the day-to-day practice inside of environments that are typically actually structured in a more authoritative, authoritarian way, and how do we get into that?

Given that, there are also competing narratives, so this point about storytelling is one of the things that I wanted to hint at. We do all kinds of projects as a group and we don't really worry about who did what and for what purposes, but storytelling is a thing that gets leveraged.

So, this is an example of the non-profit that runs the learning center, so the non-profit is independent and has to be of the owners and the developers and also the apartment managers, and as a result, we have the university telling stories and the university means me, I tell my version of my stories but also means that sometimes I catch messages from the chancellor, right, little sort of here is what's going on at the university, or I catch other kinds of packaging that we do for other kinds of purposes, and those are circulation and power examples.

This is an example, we got an email about a project that Dr. Campian developed and organized and there is no mention of USC it's sort of what they're doing at the non-profit, look at this wonderful thing and we thought it was great, yes, this is really cool, but also an example of what parts of the story are tell and what doesn't get told and for whose purposes.

In this process I mentioned the housing procuracy and the students got moved and the learning center got moved and everyone in the apartment complex got moved and I want to raise this as an equity point because from the standpoint of developers, this was a circumstance where the stories of people, the murals on walls they created, the relationship sustained, even when people moved out and came back, were not central. The relationships with neighbors were not central. They were like you should be grateful, we're going to renovate, you're going to move, too expensive to move you back, so you'll have new neighbors and whole new ecology and when the residents were upset, they felt confronted by that. Right. This is a problem of storytelling and communication and relationship having a big problem at scale and these are happening to people, these situations all the time, and so how do we enter into that with our tools and technologies and design is the question that I'm asking.

The new learning center is beautiful, right, at a certain level, when we finally moved in it's lovely. At the same time, it's rather sterile compared to the earlier pictures, it's not lived in and homey and very echoey. If you notice up here the walls don't go all the way to the ceiling and they now share the space with the managers, and that means that's a place people kind of try to avoid sometimes especially if they're worried about paying rent on time, so it creates a totally different set of practices that we're trying to deal with and challenges.

And yet, we're still the learning center, it's still the people, it's still the relation, and so I just want to kind of bring these as examples of thinking through these relational forms of work and how they don't perfectly scale, but I'm looking for a theory, a way to work that helps us think through that.

I want to point -- I'm going to go like three minutes over, probably, and I apologize but I think I can do it. Okay. So this is what I'm trying to theorize now and I'm calling it a nodal design and I have a privilege of working on another NSF project with my lovely colleague Victor Mentos in department of cognitive science at UCSC and he designed workshops that he takes into classes and one is called the sound circus and in that he begins with a pipe, he goes up to the front of the room, he holds the pipe, strikes it.

(ding).

Then he walks to the students and hands a pipe. He sees this young woman is holding a pipe and looking like what? He doesn't say a word, he hands them the pipe and then they do this, and everyone

laughs, and they hand it to someone else and they laugh, and they do this, and they don't get the lovely ding, and so what's happen something you have lovely nodes that have the minimal amplitude in the vibration of the pipe and allows the most fluid -- I'm not a physicist so if I got that wrong, sorry, it allows the most fluid movement of the wave and how you get the nice resonance and guitars and violins and xylophones and lovely instruments and it blew my mind because this is the design principle, this is design theory, how do we design things that have form and shape, right? Something new, like a guitar is for something specific. Like we made something, but what you can do with it is so broad, so many different forms of expression can come out of that.

And so I think that this sort of theorizing with nodal design that I'm trying to do offers form and creates a space for emerging practice, yet it strives for the lightest touch, the least limit possible on the flow of our lives, hearts, and minds, and it reckons with historic power relations and hegemonic habits and finally sustains and adapts and responsive and responsible. That's the theorizing work that I think helps us think through the scales of design and relational work.

I'll close with this, totally like the pinnacle of my life, professional and otherwise, two weeks ago before classes started, my colleague and I, he's amazing a professor in the college at UCSD and started talking with me last year about this broader project called Black Like water and we imagined a possibility of a black surf week and we collaborated with resource center and outdoor recreation and approached black retention and recruitment with main purpose of a polarization-based practice of black students with water and metaphor and material to do black place making and the activities are surfing, summer research, training experiences, professional networking, black and indigenous relationship building and design-based process.

And anyone who was interested in these questions of the diasporas and relationships of land and water was welcome. Thing that blew my mind is in just a day divisions of university broke off, staff, faculty, family, friends, everybody welcome, surfers, the rec people, photographer, people bringing their whole selves suddenly to this whole process, and one of our provosts, I'm sorry, one of our Deans of student life is a photographer, Emon took these photos, these are students that participated, we did a photo shoot and I want you to imagine that this is something even when you get to UCSD, that does not happen. I wanted to surf, grew up in Phoenix Arizona, since I was knee-high to a grasshopper got a job at UCSD and said I'm going to learn to surf, then I thought maybe I should get tenure first, I thought I got that, I'm going to take sabbatical and learn to surf in sabbatical and I didn't do it, there is something intimidating about the culture and the space. It's not a hard touch

thing but a thing where you know you don't belong out there somehow and then all of a sudden we belonged and surfed, and we learned, and we were taught, and we were together, and people who were part of the university and people who were part of the community came out to join us, and I think it's a brilliant example of nodal design at scale.

The surfboard itself, moves flowingly across the water but you have to learn to practice and have your own style with it. The culture of surfing is its own thing. I'll close with the quote I discovered during this produces a great 15-minute documentary one tier called surf girls Jamaica and a woman comes from a surfing family in Jamaica and developed an amazing program, she has two quotes, that's not her but one of the students that participated in the picture. I want to share these with you. Surfing can be that one split second where that is your pause, where you're like okay, how am I going to approach my day, how am I going to improve my own life, how am I going to make things better for myself and for everybody around me? It gives you that moment.

If anyone surfs, you know that this is like a real and deeply felt experience of surfing and then she gives this quote from her father that I think is quite important.

I always hear my dad, a famous surfer, and I always heard my dad, he would say surfing is one of the most positive sports because it takes your eyes from all the negativity and corruption in society and it turns you to the horizon, so it's like a more positive experience, you're looking at the most possibilities for yourself because you're just staring off into the horizon.

So I think this is the kind of relational work that we're doing, equity lives in our relationships with one another, with land, with water, and with the living world, within our systems for living, within our facility for repair, and within our possible futures, and working which requires an ability to think and design across scale and more so than scaling up, anticipating and taking responsibility for the likelihood we will reproduce systemic patterns, clear-eyed and sustained attention across scales and courageously standing for the right to be different and belong, which I borrowed -- and so it's a tall order but could lead to more things like surfing, so I hope that you'll give these things a try and I look forward to talking. Thanks for giving me a few extra minutes, and thanks for the opportunity.

(Applause).

>> Thank you, Angela. That was really inspiring and wonderful. I get to get up here today again to get people to move. Once again, don't move until we're ready to move. We're going to do a picture of the conference because you guys are awesome and we want to remember this day! You know, your mom always made you take those pictures and she's like you'll enjoy them later. We will enjoy

them later, too.

So, we're going to gather, and I think we want to get people up here, but don't move until I say so. We may need to move some of the tables back because this is a pretty -- or should we be here? Here.

After we take the group picture, I want to have the PC members stay, the buddies stay, and the circle educators stay, so we're going to do a couple pictures. We have time and this activity is in place of the legislative visits panel, so if you're following along on the agenda, we're not doing that panel and doing our picture instead. Do you think we can move? We might want the tall people to go to the back and shorter people or people willing to be on their knees in front. Can we organize? Can you guys do it? Let's start the moving process. Don't be shy folks. Come on up.

(captioner break until 11:00).

>> -- because the opportunities of these kids are going if they're AI literate are so much greater than if they are not and this can be for students who are going to be AI experts. But I think almost more importantly, it's for students that are going to be consumers of AI, people who really are going to have AI permeate their lives, the fourth grader of today is going to be the 25 and 30-year-old of tomorrow and what do we need to really have kids at this age kind of experimentally understand. That's kind of a fun algorithmic piece but almost more importantly is the ethics side and these are things I think are super interesting and really thinking about what do we need to do as a community. Be careful about these decisions.

>> TAMARA CLEGG: One thing I've been thinking a lot about as we were kind of trying to pick the theme for this -- (audio cutting out) -- and pick the sessions was really thinking about what are our values and commitments as we bring together this kind of interdisciplinary work and bringing together different kinds of discipline and really thinking about what are the different values of the different disciplines and when they do come together in the different converging research that we're doing, is that going to create additional tension or problem when is we're kind of thinking about that.

So, yeah, every time we start new interdisciplinary partnerships, we need to really think about it as building partnerships and kind of thinking about what are the different values that each person is bringing into that new collaboration and how those might have tensions kind of as you go forward thinking about data-collection issues or thinking about research goals or how you're going to disseminate your results or how you're going to treat your participants in that research, so I think not enough people are having the conversations early on about why it's important for us to do certain kinds of procedures or certain kinds of things where we

involve teachers in a more meaningful way, for instance, and really trying to make sure that the results of it is going to have an actual impact in practice or something like that. I remember having early conversations with some of the speech researchers we were working with where they were like we really want to make sure we get the highest quality data and therefore we need to have the teacher kind of sit in this one position the whole time so we can -- and like that's not going to work because I need the teacher to be able to be a teacher and walk around the classroom and all of these other things, so it's important to talk about like why -- and really balance out the different kinds of things that are important and while we have high-quality data collection in many case, but also making sure the things we're collecting are meaningful and useful to the people that we're going to be impacting and working with while we do that.

I think, you know, in general, a lot of the different things we talked about are thinking about like technology and these different tools and they're not just tools but also have values associated with them, how they were designed, who they were designed for, and why. All of those things have values and politics associated with all of them and we can't ignore those things as we go forward with the work and so all of the things we're doing have implications, even if we have not thought the things through or plan for them in the beginning, but they do have consequences and they do kind of have values and politics associated with them, things that we don't necessarily want them to, but they just kind of do by the fact that they exist in the world.

And so thinking about those things kind of early on as you're planning projects, as you're going through your projects, and just making sure -- he would say like at each stage of implementing things and some of the things that you're careful and cognizant of the different kinds of issues that are, like I think we think a lot about like data and privacy issues as well and we haven't really talked that much at this conference about privacy, but I think that is something that we kind of need to focus on a little bit more in general, and thinking about -- just because we can collect certain kinds of data, like should we collect those data or not, and why are we collecting those data, and really kind of trying to think about not just getting the low-hanging fruit kind of data and low-hanging fruit kind of analyses, but really thinking about why we're collecting fruit from certain kinds of data, from certain kinds of populations of students or teachers or community members, and like what that actually means and what kind of -- are there other ways to do that and why are we choosing to do those things rather than other things, because it's easy to do those things or because it's actually the right data that we need to answer the right kinds of questions or to solve the right kinds of problems, and it just kind of pushes everyone a little bit harder to kind of make sure that your values

are aligned with your research as well and that you're doing projects that are actually going to be able to have the right kind of impacts that you want to see in the world.

So, I, for me I was really excited, and I'm continuing to be excited about the theme for this meeting in terms of exploring contradictions. When we were talking with the entire organizing committee and we were brainstorming, what should the theme be for this conference, the thing kept coming up, as James and Cynthia talked about, people were all excited about the new things that we can do with big data, the new things that we can do with AI, all the new things we can do with these technology, and at the same time we're running into these complex challenges that come along with those opportunities are and so just the ability to explore the opportunities and challenges that are inherent in what we're doing is really informative, and the way that I heard that in the different sessions and talks and things like that that I attended at the meeting, has been -- there has been a lot of focus -- I guess the things that stood out to me is the opportunities and challenges inherent with power, so we talked about in our keynotes how we have these great technologies that enable like massive amounts of students to engage in inquiry and things like that, but at the same time, these technologies are not -- they're not power neutral, right. So, they get power and take away power from others, and we have to really begin to understand that. We talked about that in our identity sessions and think being that as well, like if we want to design technology for promoting identity development, then we have to understand that these technologies that we develop, even if they're not designed to promote identity development, they have a role in either inhibits certain identities or promoting certain identities, and we really need to grapple with that.

In another session, we talked about assessment a lot and so we talked about how can we leverage technologies for assessment and what are the specific type of things that we need to be assessing to prepare learners for the workforce? A lot of that in the group that I was in talked about soft skills and how can we leverage technologies to assess and to promote soft-skill development. We kept coming up with the fact that, you know, on the one hand we have these ways that we can use really technology-rich solutions for that, but then there are other things that we could do that were much more analogue that would be much more time consuming, and each of these, you know, each of these solutions on each end have lots of opportunities and challenges, right, associated with it that we needed to grapple with.

And really, for me, the essential thing in understanding those opportunities and challenges are really deeply understanding the context that we're working with them, and so I kind of heard that this morning in the keynote speech as well as in the discussions

on NFS Future of Work Initiatives, so not only that we need to understand technology and what they can do but we need to understand the context which they are entrenched in and for me in my work this is really central as I grapple with new and grapple with the context and recognizing the importance.

>> (Speaking off mic).

>> Hi, everyone, so a reminder that we have the poll everywhere to vote, and we also have a CL Reflections Document that was up there until I switched this, and if you want to type more into that document, that's a good place to do it.

This is a good place to vote, so -- and please do put more ideas into the poll since that's what we've been generating.

Yeah, it's Bit.ly/cl19-reflections. We'll tweet it.

(silence).

>> Thank you, Tammy and Cynthia and James for your reflections this morning and all of your hard work for this conference, and you can go on back.

(Applause).

(session completed at 10:26 a.m. CST)

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