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Using quantitative ethnography to tell stories that have not been told before

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Abstract

Quantitative ethnography (QE) leverages the computational abilities of automation and precision and the human abilities of interpretation and analysis to tell powerful stories about human behavior and learning. The computational tools highlight potentially interesting findings, while the researcher works with the computer to curate meaningful results and re-examine biases. Working together using QE methods, researcher and computer can reveal findings that may otherwise not have been revealed without QE methods and tell data-based stories from people whose voices have not been historically included in scientific findings. In this talk, I will share an example of how QE is an inclusive methodology that can reveal untold stories about how people see themselves and others in the world. The study examines pre-service teachers in Costa Rica and how they negotiate their identities as non-native English speakers who are teaching English as a foreign language. This example illustrates the use of the QE methodology to directly confront biases and assumptions in ourselves and our tools, visualize data to tell the participants' stories that may not have been told before, and co-create understandings with participants and others.

Okay, welcome everybody to August's webinar from the quantitative ethnography society. I'm Simon Buckingham Shum coming to you start of the day in Sydney and co hosting is Brendan Eagan, in the US. So, we're really delighted to welcome you to this, this webinar. We have got Golnaz Arastoopour Irgens with us today. We're delighted to have gold with us who was one of the keynote speakers at the inaugural conference. And we've asked her to come back and give us an update on her thinking she's gonna be sharing some examples of her most recent work as well. Goals, a former teacher, a former school teacher and computer science and high school art. And then she went to the University of Wisconsin Madison, to do her master's in learning sciences and then a PhD, working with epistemic games grew up there with David and Brendan and others. So it's great to see her with us today and now she's at Clemson University, where she is the director of the IDEA Lab, which is the inclusive digital education and analytics lab. So go if you can put your slides up. It'll be great. We're delighted to have you with us here, and we'll hand it over to you.

Thank you. I'm just going to share my screen, get my slides up.

Okay.

All right. Does that look good and everybody can hear me. Just look for a thumbs up. All right, great. Thank you.

All right, well thank you so much for having me for this webinar series, thank you to Simon and Brendan for organizing this I'm sure many, many people behind the scenes were also helping organize this I think this was a great step towards building this community. And thank you for you all for attending the webinars and attending this this webinar to hear me talk. Today I'm talking about using quantitative ethnography to tell stories that have not been told before, before I dive into that, Simon gave me a very nice introduction but I wanted to just tell you a little bit about myself. For those of you who I have not had the chance to meet yet. So this is me about in 2010 about 10 years ago now, as Simon mentioned I started working with David and Madison, you might recognize this if you saw my keynote I showed this photo, but back then it was known as the epistemic games, not epistemic analytics, and I came at a really great time, I think, in the group's research trajectory where you know David had been thinking about ENA for a long time I'm sure but right when I entered is when we really started to develop, you know full speed these tools, including ENA. So when I started ENA was in an Excel spreadsheet. And now, as you know, we have lots of options for using ENA and it's branched into this whole new field. So it's a very exciting time for me. And I was heavily involved in the development of ENA the tools and starting to create that community which Brendon has taken over and has done a wonderful job. So seven years later, I graduated I made it with my PhD in the learning sciences. And then as Simon mentioned, almost immediately after that I received a postdoc position at Northwestern University which is near Chicago. In the US, in the school of education and social policy. I was there for two years working on a project called CT stem computational thinking in science, technology, engineering and math. And, I mean, they brought me on because of what I was doing with DNA and QE and my work there was largely around, measuring and modeling computational thinking. And so, started to build a QE community they're still collaborating with

people in the CC stem project, working on DNA and QE and measuring computational thinking. Then as Simon mentioned, I got a faculty position as a system professor, a tenure track position at Clemson in 2019 in the College of Education. And here's where I've been able to develop my own research lab called the IDEA Lab inclusive digital education and analytics. The design or digital education part is designing learning environments for young people to export digital ideas computer science, ideas, engineering, math, either using digital or non digital tools, and of course the analytics part is developing inclusive analytics measures rooted in QE to make sense of student life. So I've been very fortunate to do that I've been in Clemson which is in South Carolina in the US for the last year, I live here with my husband and my three year old son. And we have a baby girl on the way so we're expecting her in about a month and a half. And she has been kicking me as I'm talking. So I think she's either really excited about this talk or is telling me to be quiet, so she can get some sleep. Either way, we won't know, but the first. Okay, so that's a little bit about me but what I wanted to talk about today are some important affordances of quantitative ethnography. So similar to my keynote at the last conference. I'm going to touch on some of those ideas if you if you had a chance to see that talk. And I'll describe some of those affordances through an example of a study that we're working on right now in my lab. Before I do that, I want to talk about what I think is at the heart of the QA approach that makes it different from other methodologies. And I think it's the cycle of analytic iterations between observational data and the interpretation, where we're using ethnographic concepts such as theoretical saturation and vague descriptions are also using statistical approaches which include thinking about reliability, validity and statistical significance.

So this is truly a unified qualitative and quantitative analysis. When we do QA in which we're answering one research question, makes it different from mixed methods. And another thing that makes this process unique is the back and forth that typically occurs between human interpretation and computer interpretation and negotiating those meanings. So as you've heard before and QE language, talking about closing that interpretive loop, I just want to point out that sometimes we talked about it as closing that interpretive loop and that's the end or maybe it happens one time, and usually that's what we see in published work you close the interpretive loop once and that's it. But actually this process is very iterative and I think that process isn't really discussed very often. So here I want to discuss a little bit about iteration and QE and some of the other detail processes in QE that support three claims then we're going to make around the power of QE three claims in 30 minutes we'll see. So the first thing I want to talk about is that I think QE helps us directly confront biases and assumptions in ourselves and in our tools. Secondly, I'm going to talk about is how QE lets us tell cohesive stories at multiple levels. And the last thing I'm going to talk about is how immaculee researchers can co create understandings with participants, and collaborators. So I'm going to highlight these three claims to an example a study that we're conducting in my lab. I have two wonderful students right now in my lab, who are both here I think one is cinnamon Bailey, and the second is Hazel Vega cassava, so I'm going to talk about a study that's being led by Hazel right now. So a little bit about her. She's a doctoral student in the Learning Sciences Program at Clemson, and she's a member of the IDEA Lab. She studies pre service teachers identity development and their language learning histories. That's what the study, we'll be talking about today. And this is important to know about her she taught English as a foreign language for 15 years in Costa Rica.

The reason I think that's important to know is because of the ethnographic nature of the work that she's doing. She is interviewing pre service teachers so teachers and training at this institution that she has been affiliated with for a really long time. And so she has an insider status which is which can be really important when it comes to ethnographic work, both in terms of data collection and interpretation. So as I mentioned, the study is about pre service teachers who are teaching English or learning to teach English as a foreign language sometimes referred to as EFL teachers in this higher education institution in Costa Rica. So this particular study is with for pre service teachers and we're just looking at interview data for this preliminary study. So we're examining teachers identity development and trying to understand the formation of their professional identities. And to do this week on this phenomenon that's been recognized in this field of research about a hierarchical dichotomy between a native and then non native speaker. So to be clear the native speaker is a native speaker of English, and a non native speaker doesn't have English as their first language. So, in this particular study these teachers their native language is Spanish and their non native speakers of English. So, what this dichotomy in the literature shows is that the native English speaker becomes this idealized figure for culture and language. And then what that does is characterizes the non native speaker as inferior flawed and sometimes as a non white other. So in many programs, this gets adopted in the native speaker becomes a benchmark for teacher evaluation. This gets manifested in many ways. So, one way is you know not having an accent. When you speak English versus having an accent or being completely error free when you write or speak English versus having some errors in the grammar. And so there's this view of whether you do it right or you do it wrong.

And part as part of the ethnographic investigation in the study was to collect data from the teacher preparation program in the form of course syllabi assessment rubrics descriptions of the program that talks about the program's theoretical grounding the practices and ideal ideologies that were valued and taught in the program. And what Hazel discovered was student work is often expected to be free from grammatical mistakes and include correct sentences, students are expected to monitor the consonant and vowel sounds and make correct use of information. And one other thing, English only policies that restrict English only policies that do not allow students to use Spanish in translation in Spanish like structures were not well received. So when she discovered is that there was a strong emphasis on correctness and non accented English speaking from an English native speaker point of view. This is problematic from what we know about identity development research which is actually a very dynamic process that involves a negotiation of multiple identities. And this depends on the individual and the context that they're in. When we're in different contexts we bring in our multiple identities when we interact with people and the development of our identities as professionals can be fluid and actually full of tensions. So this is reflected from a communities of practice lens that we're using a teacher education program can be viewed as a community where all members share ways of thinking and doing and developing and being a member of that community is developing a sense of identification with them. And what the means of practice framework claims is that there's an ongoing negotiation that happens as new members enter the practice. So, at times, people's identities might have the community might conflict with their own identities and they reject ideologies and practices, or sometimes they adopt the

ideologies and practices that are meaningful to them within the community. So there's this duality that exists, but it's not a dichotomy. It's a dynamic spectrum that has this middle area of tensions between the two. This, this tension as pre service pre service teachers integrate their personal expectations and those expectations of the community. So this zone of tension as we're calling it has been under explored especially in the area with EFL teachers. So there's still a need to characterize these tensions, analyze how they go notice or unnoticed pre service teachers, and how they're addressed or on addressed in the teacher education programs. So the exploratory research question we have now is how do EFL pre service teachers make sense of dominant native and non native speaker discourses and perceived legitimate practices from the community when negotiating their emerging teacher identities. So this is ongoing work we have one publication right now, one under review and one in progress. So I'll share a little bit from bits and pieces of all of that. So first I'll talk about the codes, all the data was hand coded and all differences were resolved among coders, so this is a smaller well for teachers. A meet small to medium data set. There was inductive coding using the communities of practice framework and deductive coding to explore what teachers brought to the interview. And so as part of the communities of practice framework the identity framework we looked at adoption of practices and ideologies rejection and also tension, something in between. and then regarding the phenomenon of the native speaker we looked at the native speaker as a standard, so whether participants talked about this higher hierarchy of the native speaker as this idealized standard, whether they discuss non native speakers, such as themselves as less legitimate. And then we also discovered there was a lot of reflections on accents, especially from accents. So this was a very iterative process, we developed the codes did the coding, put it into EMR to look at the visualizations went back to the qualitative data to make sense of the data and the story we were telling what those was visualizations went back to developing codes and coding. And this happened several times during this process, it helped us check our biases and our assumptions about the data. So for example, there are codes that we were really interested in, at first and thought that they were going to be game changers. But after visualizing them, analyzing the meaning behind the links of the codes in a broader way, we realized they weren't as important. It didn't bring clarity to the storytelling. And so that's the first point right there is a lot of these. The QE approach helps us directly confront our biases and assumptions in ourselves and our tools.

So moving on to the results of the analysis, I'll share a little bit about that we used a moving stanza window with two lines to capture what the interviewer was saying, as well as what the interviewee was saying, and to capture the recent temporal context. So we have an exploratory research question right now without a hypothesis. We're not looking at differences so we're focused on the network visualizations and qualitative interpretations. So I'll share with you one excerpt from an interview with Alfonso one of the teachers that has aspects of tension and rejection specific to accents, he says, I know that in the context in which I have learned English for teaching, I might have the idea that it would be important, having a very good accent or at least a standardized American English accent. So he's talking about the context for teaching. He kind of has the idea that a standardized accent is important. Then he goes on to say but getting out of the teaching context I think that having a strong accent a Spanish accent means that there has been a really good effort on learning a different language and that is of course

acceptable to me, there shouldn't be a judgement in this case. So what he's saying here is that in the context of teaching, he sort of has the idea that a standardized American English accent is important, but when you go outside of the teaching context. He says there shouldn't be a judgment on people having a Spanish accent, and somebody trying to speak English with an accent is actually a really great effort, they're trying to learn the language. So there's kind of this duality here. I'll show you the end network here and I want to focus on this area right here. Related to this excerpt where fonzo had the strongest connections, again with reflections on accents rejection intention, we go back to that qualitative data again. The part that we see that is actually the rejection part is saying is going against some of the ideologies, in the teacher preparation program, the native speaker or having a perfect English accent is important. Instead he says that actually having a strong Spanish accent is acceptable to me. What's important to note is that he doesn't say this in terms of the teaching context. In terms of the teaching context in his identity as an EFL teacher. He says I might have the idea that it's important to have a standardized American accent, and this is where the tension lies right here. Using this nuance language of might have the idea so he's not fully adopting the practices he's still playing around with them there's other qualitative data to support the story that we're telling.

But here's a way then to connect that directly to what his network says.

So that's just one example of one participant. I'm using an A we're able to zoom in on one participants discourse as you saw to see what the links between adoption rejection tension and a native non native speaker lens looked like and interpret those links but we're also able to zoom out to a middle level, where we grouped alfonzo with one other participant. Laura, on the left. If you remember, on the top there was adoption. On the bottom there was rejection intention that's how we're interpreting the space on the left. If the centroid is on the left students, teachers were connecting more accidents. Their centroid is more on the right they were connecting more with the native as a standard or making general statements about the native as a standard. So we were able to do is see that Lauren alfonzo focused more on accents, although in different ways one adopted a more than the other one rejected more, and then Pablo and Vanessa, we group them as talking more about the native as a standard so this was kind of this middle level. Then we zoomed out even more to build an average network of the four participants. So we have these different levels that we can use in a in this case to look at. So here we see although participants were mainly adopting the practices of their teacher program they also experienced tensions on average across all three categories of practices. And these tensions also occurred with adoption, or rejection. So it wasn't one or the other and many times they were talking about these things at the same time. So these distinctions between and within groups revealed tension at personal group and aggregated levels. The participants experience and allowed us to tell stories at multiple levels of how EFL teachers in training are grappling with their own personal expectations and those are the program. So this is the second point. In this case, it was in a specifically using ENA we could tell cohesive stories at multiple levels.

Okay, so that analysis is kind of old news.

I'm excited to share this new thing that we just started Hazel just finished collecting data for another round of interviews and I wanted to share a little sneak peek with you all. So I'm excited about this new part and it's related. It's similar to what Mike Phillips was talking about two webinars ago. So, Hazel followed up with our participants to dig deeper into their identity development and ask questions specific to each participant based on our findings and then she shared their end network with them. So in the protocol she first presents them with a quote from their interview. So this is again the same quote just as an example from that we saw earlier. And then she asked follow up questions to unpack the quote, so follow up questions like, if you've done interview research the kind that you really wished you would have asked, after you read your data. And then after she did that. She generalizes the questions to the themes, or the codes that we found in the data. So here she asks in your first interview you referred frequently to the contrast between the native and non native speaker of English, what are the differences received between the native and non native speaker. Then after that, she introduces the network of the participants network with a script socialists just say let's look at a discourse network of your last interview and goes through the network with them. And after she conducted the first interview we met, and we revised the script. Because we realized a few things that I'll share with you. So, when she explained the nodes and the links and the waited network that part actually seemed to go really well. But what we realize is that using, we were using terms that we were very familiar with that teachers have not been exposed to, such as tension. And we didn't see this beforehand but that's not a very friendly word and it means a very specific thing in the communities of practice identity framework, but it can be off putting when seeing it as a central theme, and then analysis about yourself and your identity as a teacher. So we revised the script and explained carefully what we meant by that term. Next we realized that we needed to set the stage to co create meaning together with the teachers, and to ensure that this network is just one interpretation of what they said. And so for the next iteration we invited them to co create meaning with us. So, Hazel asked the teacher what their interpretation of the network was whether it aligned with how they perceive themselves and if they would add or change anything. And here what you're seeing is she actually annotated the network with the teacher during the interview, so this is one example. It's kind of a more simple example, some of them are more complicated but you know you can see she's taking notes and she did this as they were discussing the network. There's a dotted line here between reflection on accidents and rejections because that was what the participant the teacher said that she thought that she, she felt that there should have been a link between those two things. For discourse. So, last, although we encourage them to create co create meaning with us there's still a power dynamic between the researcher and the researched that still needs to be addressed and explored. So we break down those boundaries a bit by inviting our teachers to co create understanding with us, but we still created the network, and the codes without their input, and we still have more experience with the tools and the cueing approach. In this case, both Hazel and the teacher are looking at and closely examining the teachers discourse and the teachers network and not Hazel's so that puts a little bit of a little bit of tension there where the focus is on the teacher. So it's an interesting line of research for QA involving our participants more deeply in the QE process and how that changes our roles and power dynamics and how it influences the meaning making of the data. So as I said, I think I watched

the webinar with Mike Phillips in it, and this sounds like you know this is this is actually going to be an interesting line of research in the hughey community. So that's the last point, researchers co creating understandings with participants and collaborators. So these three things can be done with qualitative research methods, but what I'm saying is that QE allows us to dig deeper do these things in better and in new ways, through the power of competition and the iterative nature of QE.

What this is going to result in or that I've already seen is that QE has the potential for telling these stories that have not been told before, and that's how powerful it is. It's essentially grounded meaningful database storytelling. And if we think about the affordances of this approach, such as the three that I pointed out, we can see how much more of a powerful method it is than just qualitative or just quantitative approaches alone. And it's clear to me why people from a variety of domains and perspectives are interested in, and to use it to augment, not only their own research, but to give a voice to and to involve those in research who have not been involved before, and specifically in ways in which they have agency and telling their own stories. So I think everyone from qualitative feminist researchers to quantitative data scientists, I think especially feminists data scientists can employ QE and reflect about its potential to be a rigorous and inclusive method. So if you want to hear or read more about some of the work that we're doing, you can go to the IDEA Lab website or go to our Twitter account. I'm also happy to answer questions about the study Hazel is here she can answer questions about the study probably better than I can. I'm also happy to talk about some of the claims I'm making about QE, and even just broader about my professional and our professional trajectory with QE. So thank you so much for listening and I'm going to throw it back to Simon.

Fantastic. Goal thank you for that. Let's have a round of applause.

Herbie would indicate that you want to stop sharing goal and then we can see everybody in the crowd. That was fantastic. I thought that was a very interesting discussion starter. I like the way that you gave us a little bit of insight into the process,

especially for

people who are new to TNA understanding the process you went through, you know, looking at the code, looking at the networks, trying to decide whether the links between the nodes actually made sense and represented what you meant them to represent, or whether they were talking back to you as well. That's, that's different from just looking at codes on their own without seeing the connection, the visualization is talking back to the analyst, as a work in progress. Not as just yet, so that was very interesting to see. And then this idea of taking the network diagram, back to the researched the people who have been observed. Seeing that a bit of work. Raising really interesting issues, I think. So, let's throw open to everybody. If you've got a question, then go to the participant panel by clicking. More button to stick your hand up and I'll hand the mic and the camera to you.

Or you can just type something in.

Okay, So we have Z's phone. That's fun.

Mystery mystery z.

Why don't you ask the question.

Hey, can you guys hear me. Yeah, awesome this is x sorry my joined for my phones. Excellent. Yeah, the mysteriously. I went with one letter. Gold thank you very much for the presentation I really enjoyed it. I had one question related to the process of describing the networks to the participants in the study and I'm wondering what what you did to scaffold that process for them. And if it provides any insights into how we might adjust the visualizations for non technical users.

Yeah, that's a great question. So, I'm gonna address it and then I'm gonna throw it to Hazel, if that's okay with you is

because she's the one who actually went through the protocol with participants so she can give you a more detailed answer to your question but I'll tell you when we develop the protocol. One thing I'll point out is that we're not looking at centroids we're not explaining the mathematics right. It's an interview so we're just reflecting on the discourse it's not being used them to make decisions or making moves in the moment. So it is kind of a simplified situation, compared to potentially other other research situations. So we

wrote a protocol out,

which I didn't share but I mean, we'd be happy to share that with people if they're interested. Interviewer knew immediately you know what back to kind of hopefully in their memory, what they were discussing grounded that and what they said and then we showed them visualization. So I'm gonna throw it to Hazel, I'm going to unmute her if that's okay. And maybe she can add, because I have the power to yeah

okay just in time.

So I think the script was very very important because it kept me focused, and it allowed me also to build in some space or questions that students may have, and also pause.

And it also helped me to keep like on track with the language, again to use like the words, that would be more related to what they said. And also another thing that we did with the, with the script is to personalize it to each participant so I would use specific examples from each of the interviews. One difficulty that we had is that the first, the very first interview was very far removed from the last one, we had three interviews.

So that was like a year ago, almost so they didn't remember much of this. And that's why I needed. That's why I messed up in the first interview, because I didn't have like, you know, quotes. But again, grounding that quotes in qualitative data first, because we discussed that for over 30 minutes, we really went deep into this quote, I ask them a lot of questions they ask. I have, I have to say I have wonderful participants who jump on board with me, and really reflect and think about these things and if they don't have an answer they say I need more time later. So this is sort of like special.

I try to create that sort of like a bridge from that first interview to both, and I think anybody who would be doing that would kind of have the same or a similar challenge, because there's some time between the first interview data analysis creation of the DNA and the state camp or the follow up, interviews, so there should be that that scaffolding of going back really to what they said before and that really helped. that really helps them to explain better what they want to say about the connection so they so in the DNA, and it really takes time to feel that traction. You know, it was relatively easy for them to understand the science behind the DNA, but it took a little bit of time to really click and say, Oh, this is what it means for me, and have that aha moment for them so you have to sort of like right, ask the right questions, and also give it some time, because they will get there, most of them will get there but they need a little bit more time to get to that deeper interpretation.

Right, Zach did you want to come back on any of that.

I think that's, that's very interesting I think it made me think, okay, let's imagine QE in five years time, or even sooner. What if we could end a session. And then, Almost. The next day, or even sooner. Go back to the participants and say, play them the clip of the video.

Show them the DNA diagram, because the technology and the methodology has moved so fast. If we did that thought experiment, would that actually be good and helpful methodologically, or is there actually value in not going back so far so just in terms of thinking about the research agenda for the field, you know, would we want to prioritize accelerating that closing of the loop process as fast as possible.

Okay, yeah, I had one sorry I had one follow up I couldn't get it quickly enough but the system. Just quickly, I think it's really interesting they approach you guys took as in a lot, a lot of our work, we tried to show DNA representations or kuna representations to.

I guess we could say non native users of the tools that we've prioritized and simplifying the visual representation, but it's. You guys are taking another path in which you're starting the qualitative interpretation and then go into the visual representation at least first. And I think that's a kind of cool. Flip and it might be something that we try in our systems later, after all is how we tend to write up our projects we start with the quality and then go to the visualizations but we haven't done that so much.

I thought I saw somebody's hand go up.

Mike,

your hands gone down again Mike stick your hand up and

go golf, Hazel thanks so much for sharing this it's a really interesting and exciting development, and I've been doing a similar sort of thing and had the same question or nagging thought about the time difference between when you first talk with somebody and then you get the opportunity to show them a network map.

And I also had the same challenge in terms of developing a shared language or shared understanding of certain terms that are evident in the research literature, but in my case I was working with in service not pre service teachers, and then they just don't talk in the same way that the research that he does. So, what I ended up doing in an attempt to solve both of those challenges was I actually created a short video, where I explained what the terms were.

So, when you see this this is what we're talking about. And it then gave participants a chance to have a bit of a think about what those sorts of components might mean in terms of their own teaching practice. And that sort of gave me a bit of time to create the network map before taking it back to them. So maybe in the short term, Simon that's one way that we can breach that that temporal challenge is to have some kind of intermediary step. That will still keep participants connected with the research that allows us time to generate the representations.

Yeah.

I think that I think that one of the things that I think both WebGL and Hazel have shared what Mike was just saying, related to Simon's point is in this temporal aspect of developing the networks and kind of doing the iterations refining, I think is intention with that speed because if you are doing an analysis for the first time, it might take you time to validate your coding for instance because we're imagining that we have automated coding going right. And on top of that, we might want to be might be developing new theories or something and need to engage with other folks and kind of feel that we have a fairly good grip on some phenomenon, for instance, and so I could see kind of affordances of doing the real time when that was the first one of the first steps I had to, but also there could be some, we might have times where we need to have a delay and gap right and there could be even some benefits in terms of looking at someone's longer term trajectory of learning to look back if you're working with someone I know some people are trying to look into using QA over much more QE over a much longer time periods. So I think this is a this is a really interesting tension in and of itself to explore.

Absolutely.

Man, if I jump inside yeah yeah go, go for it. One thing I mentioned very briefly was how will this change our roles with our participants, can we make the research partners. So, one way, Mike as you're saying you know have an intermediate step, why not involve them in some

situations from the beginning to co create that research with us. So why not involve them, developing the codes interpreting the data, even if it's their own data and it's not their own data, I mean these are interesting things that we can explore that then break down a little bit of the, of the kind of roles that we have as researcher non researcher, right. Obviously we have different levels of expertise. I'm not saying that we don't that needs to be acknowledged. But what does that look like when they are involved from the beginning in the research process and helping us interpret those are those.

Yeah, yeah so work on participatory research and and really empowering.

Non specialist scientists is going to be relevant here. David throwing it to you you have a comment, which might be relevant here.

Yeah I think so I mean so one thing I should just point out is is probably a lot of you know, there actually is an entire field or meta field of participant engaged research where people have thought a lot more about these, maybe not maybe not more than you have but certainly more than I have about what it means to engage participants in the research process, regardless of what technique you're using. So, I wouldn't I mean I'd love to see a QE PR mashup right. We could come up with a better acronym maybe.

My question is actually sort of along those lines, although maybe less than, less than what Mike was saying.

So like when you, when you said you know we use the word tension. And that meant something different and actually a little bit off putting to the, to the participants. Like, it's interesting because that's a discourse immediate term right and and I'm wondering both, like, Why choose an edict term and not anemic term or something like that. If it existed or invented or figured out.

But also, there's another side to this, you know you said at one point, you're talking about the teachers network, not the researchers network and that creates a power dynamic, but the use of the edic terminology also creates a power dynamic I mean one of the nice things about forcing yourself to use EEG terminology, at least in when you're when you're affiliated with participants, is you're actually playing on their field rather than the other way around so it strikes you this this sort of that point is gonna get really interesting however one goes with this

girl did you want to respond.

I'm sure yeah that's a great point. I think that it'll be interesting to explore what that looks like. So does that mean there's like, you know, a negotiation of terms then because you are bringing like a QE perspective, you know, and there's QE language too. And, you know, I've just, it's a great like thought experiment and well down the line real experiment of what that negotiation process looks like I think this is, this was a, this is very new, as I mentioned for us we just collected this data and just thought about doing this I think if we had thought about this ahead

of time we would think about bridging, you know that time and think more deeply about involving participants, but I think it's, it's nice to hear what the community's thinking about this and sort of what some next steps are.

Yep. Yep. Okay. Peter twining and Newcastle Australia, throwing you the mic. Yeah, I can write a comment in the chat, asking about the extent to which people share their transcripts with participants anyway and ask them to either. Confirm they're happy with them redact bits of them or add to them.

Before you then get into the interpretation and now. Further interpretation and analysis, and whether that might be another way to help bridge that gap between the time when you do that, the interview, and you've done the analysis that you can share.

I'm just interested in practice gauging.

Throw that gaze first and then other people also want to come in on his own did you go back to participants at all in between that time period.

I unmuted. Yep.

Okay.

So, yeah, I, for some of them I went back with them, and I gave them a little bit of heads up that I had something to show to them.

That was created based on what they said in the first interview and they were very interested in. So my approach there was more of creating like an interest towards the end, so I said I have something cool to show you and we're going to talk about that in the last interview. So to create that sort of excitement, have something to say about the etic terminology, and probably what the next steps would look like in this project because actually when I allow participants to modify to make modifications to the DNA, and I annotated they edited some of the terms in, I guess, this is just my impression they felt a little bit more comfortable in saying so one of the participants said okay not tension but maybe 50/50, because I feel that this is, this is something that I'm not sure. And that's you know that's part of the language that I used with them. This is not something that I'm, I'm not completely sure so let's say it's 50/50 like I'm 50% sure and 50% unsure, and so that that opportunity of giving them that space of editing. Some of some of the quotes than we had useless researchers, and I guess the annotation was a powerful tool into making them feel that they were empowered and taking ownership of of that tool.

Again, I think there are things we could, we can learn from from the work David was referring to about how we engage participants more fully. You know, look people say stuff. And, you know, then we analyze it to death. Right. And when you come back to them, they're like, Well, what I really was getting at was, you know, and we have to be careful that we're not reading, you know, 25 million layers deep into some parsing comment, they might say, so being able to

come back to them in a way in a way that's structured and scaffolded can be extremely powerful.

Okay, we've got a question from Daniel I'm going to just read it out because he can't talk right now. Okay. What do you think the next step from the joint researcher research reflections are from the network diagrams.

How do these practices change research and practice and the teachers.

He wants to take on.

We got plans for how you want to take that engagement further.

We're just talking about it now I mean we're excited to dive into the data for. We haven't, we haven't actually done any of the analysis, just wanted to share with you some of the data that we do have so you know we haven't really talked in detail about what the next steps are.

Hazel is continuing this work by starting to design an intervention next so that is a next step that's like related to this line of research but not in terms of showing network. So, we haven't really talked about it but there could be an opportunity then after the intervention to revisit some of these participatory design research points and working with her participants to look at these networks pays off throw it to.

Yeah.

So, this actually comes from the participants when they looked at the networks, they said, what this could change in a few years, maybe the connections would change or maybe the words would change completely. And they said, Well, if I reflect more if I think more about this, then chances are that this would not look the same. So they would be looking at that as that flexible tool. So just thinking very much head. I would really like to do a more longitudinal study with them, because they haven't been, they're still pre service teachers although they have already graduated from the program. They do to the endemic and everything they, They are not in the classrooms. So they don't have their own classrooms, so it would be very interesting to look at them in different points. So maybe more in their first two years and maybe mid career and some sometime also along the line. I would love to go back to them and see how you know that how they're thinking about these things and how we are creating other networks and what the networks, look like for them. That mean very very interesting, very helpful.

I just had this image of, we can think of VNA as freeze freeze framing, or as a mirror.

If we freeze frame we just kept to the moment in time.

But no one ever gets to go back and say, well there's more to that story than you froze, as opposed to a more of a fluid. There, or something which can be looked at, changed etc. Okay.

One thing that we like to do is sort of step back from this particular example, which is fascinating and just, I wanted to really ask God to reflect a little bit because she's, she's been, Wisconsin, Madison Northwestern now she's at Clemson, let's talk about what does it mean to try and create a QE research lab. What kinds of culture, or people skill sets, is needed to get this kind of thing going. Because that's the sort of thing we're now seeing which is very exciting for the field. Have you got some reflections on that.

Sure, I'd be happy to talk about that. So, starting with my postdoc at Northwestern, I was part of a research lab, you know, a postdoc position is sort of an in between position, you're not quite faculty you're not quite grad students this weird middle ground. You have some power not a ton of power, but I'll have to say at both places that I, both at Clemson and at Northwestern, it's it's not that difficult people are really interested in QE the interest is really not didn't doesn't seem to be a problem. Once you you know once people find out about it and ways that people found out about it was by reading my work by me giving you know Brownback talks and formal talks by just making one on one connections with people, people approaching me.

The interest is there, I think what's hard is the follow through. And part of that is because of the, you know, just that, how in depth, the process is how many different components, it has, and the technical piece, especially from people coming from a qualitative lens. And then also the qualitative piece, but coming from a quantitative lens. And so being able to recognize who your audience is and what piece is interesting to them and what piece you know speaks to them and using that as a jumping off point at Northwestern I have to be honest with mostly graduate students who are so interested. And so I'm still working with a few of them.

And, you know, I think what's really important whether whoever you're working with or what the role is is finding kind of a core group. These early adopters. And once you find them then they start to bring more people in. So for example at Clemson my early adopters are for sure my two graduate students.

So Hazel for example you know it's bringing more graduate students in at Clemson who have been interested in what she's doing so that just has been kind of spreading.

Another thing is different avenues or venues so one is at Clemson we have a quantitative clinic and volunteer that we should have, you know, I can be the expert of the quantitative clinics, so that's just another way to get out there and build that community. I'm also going to develop and teach a QE course graduate course at Clemson starting very soon so that's another avenue to do that. And then, again, I think just building finding people who either have, you know, a strong qualitative or quantitative perspective, and then building on, on what their strengths are, easing them into the other side of it.

Yeah. Is it easy to find people with with the skill set. I mean, people don't walk into labs with strong quant, and qual very, very often right so it's going to be a. It's going to be a team sport.

Yeah, I think part of it then is developing that other side for people again if the interest is there, or if they're part of my lab and they kind of have to do it.

I'm joking, half joking. But, you know, being able to develop that skill set.

So there's there's lots of ways to do that I can give you just one concrete example we just had a lab meeting where, you know, Hazel and cinnamon coated all this data. And then I gave them kind of a live think aloud, of what I would do if I put that data into DNA, and let's step by step unrehearsed, you know, of what my thinking process would be like. so that's an example specific I think to mentoring and to graduate, mentoring, but what that process look like. And you know them being able to answer questions, or ask questions me answering them and us again, that we're co constructing meaning together as we analyze the networks, sharing practices like that could be extremely helpful as people start to want to move into the space. Yeah, Brendan. Yeah, I was just gonna add real quick and then I think as the Anders got a hand up but one of the things that I really liked about both what Goel said in what Simon mentioned it as it being a team sport is that, in my experience when you're trying to kind of cultivate cutie culture, you make an assessment of where people's skills are so that's related to what goals. They're if they have some background or they leave one or the other. And then not only developing their skills but getting them to trust other people and value someone else that maybe could be part of the team that could bring that skill set in, and then they can learn as they go forward you don't necessarily have to swallow all of QE at once. And that's really where we've seen, I mean the COVID-19 data challenge is really good, where you have people that have different complementary skill sets that then can come together, kind of Voltron style, but actually then achieve some of these more complex things, ultimately I think though it's great to see in both of the language to make that kind of unified language.

So I like those points, and I've seen that work for a number of different research groups around the world, actually. Do we want to try to add just add to that for a second, like, I also think that that's why this community is so important because God you know goal has been very fortunate in that she came out of with, you know, she was at Wisconsin at a place where there was lots of people talking about QE and now that she's going to new places. she carries enough of that culture with her that she doesn't you know she's not grasping at straws, but there are lots of people, even some people on this call right who are the only person where they are who are doing what they're doing, or worse, they're a graduate student who wants to do this and they're perfect no one other professors know anything about it. And so the fact that this community exists is a real opportunity for people to to leverage that and especially in the kind of these earlier days. I think that's going to be, that's going to be critical. And what I've seen so far is the community's very open to that. But I think it's hard for people to make that ask sometimes.

And I, I hope that the people who have made the Ask feel like they're getting a response that warrants kind of further asking. Right, well the joy of the internet may make it possible for these kinds of conversations to happen, even though we can't all be, Wisconsin, Madison or Clemson Andrews got his hand up go Andrew.

Thanks, I'm sorry I put my hand up a while back every conversation has sort of moved on.

No, no it's totally fine so this may not be as relevant and it may be a little bit big of a question to tackle in one minute. And, you know, God this this approach that you guys are starting to develop as, as I've been super fascinating and it's making me rethink a whole bunch of stuff about sort of the way that we that we might, you know do time left and rapid research and, you know, an acuity framework, but one of the things that also makes me wonder is, you know, what have you guys run across any cases where, like the sort of coke instruction or approach to kind of finding that compromise position actually is compromising in some ways right where like from a research perspective, you actually see something very clearly a participant would maybe fight back against try them and you know in the extreme case imagine you have a participant who's like a Trump or somebody right, you're just not going to be able to work with in that way or who's just not going to accept that, you know, things that they say have particular meanings or, you know, that kind of thing and I'm wondering if you're if you're, you know speeding And so much of this revolves around tension. I'm wondering if you've ever encountered tensions between the two perspectives where they weren't very easy to reconcile or where as a researcher you or maybe Hazel or another member of the team felt very strongly for a particular interpretation that didn't jive well with what the participant really wanted, you know the research to show about them or some, or something, analogous to that.

Yeah, I'll just say really briefly, and then a third of the time specifically about the study but I'll say briefly about participatory research. That's part of the findings right a lot of times when you're talking about that participatory research so you know it's not something to be like feared or anticipated it's part of that process that can then inform future participatory research processes. So just collecting that data recognizing that tension and then analyzing, you know what's what's happening when that negotiation is tense or comes to a halt or there's just no compromise. I mean, that's part of that process that we need to analyze and rethink and and include as part of the research, but Hazel Do you want to talk I know we're running out of time. Do we have time, specifically the four.

Yeah, so I'm not yet. I haven't encountered like that.

And he listened to me. Okay, so I haven't had that challenge yet. Although I opened the floor, and I said you know you can agree with this, or completely disagree with this. I, we want to listen to your interpretation of this network, there are no right or wrong answers here.

I want to listen to what is the meaning that you give to this or if this doesn't make any sense at all. So probably like that use of that language and again that use of that language allowed them to feel, owners of this of these networks in a sense. Um, and so that helped a little bit and they wouldn't when they disagreed. I just make the changes. So I just made a thicker line or made a line where it doesn't. If it was not there. And I just made sure that any modification was, it was grounded in the data actually what they were saying to be added, they would just elaborate, and we would go back to them, qualitative data. So, again, to that loop, we would go back to

that one. And again, I think, like, the reconciliation can be found in the, in the qualitative data in the meanings that they're given that maybe they're not agreeing with certain things, but the meaning of what they're saying they're actually agreeing. And again, we haven't really analyzed, this is just you know what my impressions are of the last interviews that I had with them.

But for the most part, with us participants, they agreed with that and when they didn't agree with something, they would just modify it and they said we'll add this or take away this or I don't feel like that's that's the way it is.

Right.

It's certainly complicates the process, but it could actually give it greater integrity.

I'm seeing, you know, seeing a whole workshop here at the conference, to try and unpack some of these really fascinating questions.

Okay, so look folks we should probably wrap up seems to me like we could all do this for a lot more a lot a lot longer. Throw out real quick Simon before we Yes. Just real quick Rogers was talking about, you know him kind of fighting the good fight by himself at University of Oslo. We're working on the sides working on hopefully launching tools soon kind of like the Slack channel, use during the COVID-19 data challenge so that we can have ways to connect with other people so look for that coming, hopefully, hopefully soon but know that we're trying to build that to beyond just these webinars, have tools and spaces to let people link up. So, just wanted to throw that out there. Thank you for, for sharing that because sounds like we need better collaboration infrastructure around this.

Okay, let's thank Golnaz and Hazel for their contributions one final time. That was fantastic.

Very generative discussions. So, come back and join us on the third of September, the fourth if you're AEDT time, we've got Srecko Joksimovic from University of South Australia talking about where social and epistemic networks meet. Okay, thank you again everybody say well.