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A Linguistic Ethnographic Perspective on Classroom Identities and Participation (And Some Challenges for Quantitative Ethnography)

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Abstract

Most quantitative research on classroom discourse focuses on structural and cognitive dimensions of the interaction. For example, researchers have examined teacher questions, student argumentation, sequential structures, and the distribution of participation. For good reason: such variables are central to many of our conceptualizations of effective pedagogy, and they readily lend themselves to systematic observation and quantitative measurement. Nevertheless, more happens in classroom discourse and interaction than is captured in such measures. Students negotiate their own and one another's identities, make sense of lesson content and expectations, manage relationships with peers and teacher, struggle to assert their voices, and find creative ways of passing the time while also staying out of trouble. Likewise, teachers are occupied with managing these student concerns, classroom power relations, and institutional pressures, while also living up to institutional and ideological expectations. Linguistic ethnography offers a powerful set of tools for making sense of such forces and issues, which critically shape learning processes and outcomes. On the other hand, these tools are not well-suited to quantifying variables or working with large data sets. In this talk we will (a) provide a brief introduction to a linguistic ethnographic perspective on classroom discourse analysis; (b) demonstrate this perspective through the analysis of identity, peer relations and participation in a brief classroom episode; and (c) present some of our initial attempts to transform this object of inquiry into a set of variables that would allow us to engage in quantitative ethnographic analysis.

Simon Buckingham Shum

All right. Welcome everybody to July's webinars webinar for the International Society for quantitative ethnography.

Pleasure to have you here. I'm here with Brendan Egan co hosting with me. And today we have Adam left Stein, who is coming from Ben Gurion University of America and Israel and Adam is continuing the theme that we set.

In June, with Mike Phillips, we're still in school, but different kinds of ethnography going on here, linguistic ethnography which may be some new to some of you, Adam is here with his colleagues, so I had our nets around Hakeem and Aviv Orner, and they will no doubt be diving in.

At some point, at least during the q&a. When we we get the chance to discuss the work.

So, without further ado, I want to introduce Adam who is professor at Bangor and University of the Negev, and he's going to be talking about a linguistic ethnographic perspective on classroom identities and participation and some challenges for quantitative ethnography So Adam if you can bring your slides up a reminder, this is being recorded. And, of course, will be added to the growing archive of webinars now on the QE Soc site. So, over to you, Adam we're really looking forward to hearing more about this.

Adam Lefstein
Okay, thank you very much for having me for having us. I especially appreciate that it's not two in the morning, our time, which probably means it's two in the morning somebody else's time, and I appreciate those of you who got up early or stayed up late to be with us. So good afternoon. We're excited to share our work and and we're hopeful that you're going to help us grapple with some problems that we've been struggling with, we have high hopes. Don't disappoint us. Before we begin, just a few words about where we're coming from as Simon said, we're, we're more on the ethnographic side of quantitative ethnography. My background is in western ethnography Darren and vivre coming from the sticks around as a sociologist, we're all working in education, we've been collaborating together projects studying students social backgrounds and their participation in classroom discourse. We'd also like to acknowledge Julia Snell who's here and who's contributed quite a lot to the ideas, we're going to be presenting.

I'm getting a message that I have low system resources but can you all hear me all right?I'm going to take silence as a yes.

Unknown Speaker 3:06
Loud and clear.

Adam Lefstein
Ah, great. So, quantitative ethnography or to be more exact epistemic network analysis, yeah na is very well suited to the study of epistemic and cognitive functions of language, namely what concepts people use and how they put their ideas together. And this is great. I really like it. But we want more language and discourse communication perform additional functions including for example identity work, managing relationships and acting activities opening channels of communication linguistic ethnography offers us a good set of tools for studying these issues, but typically in in rather small, small scale singular few case studies, linguistic ethnographic methods are not well suited for

investigating systematic patterns across large data sets. And this problem is one of the reasons we're drawn to quantitative ethnography. So here's what we're going to do today. First we're going to offer a brief introduction to linguistic ethnography and how we're approaching the study of discourse and identity will then apply these ideas, and an illustrative analysis of a classroom video clip, which will help set the stage for our current research project about social class language and academic performance. We'll share how we're organizing and coding our data in this project, and some initial findings. And finally, we'll conclude with some problems that we hope you can help us address in the discussion, we made the slides and some other materials available you can download them for the link which appears on this slide.

And I've also pasted that link in the chat. I technologically I can't actually see you all as I speak which has great advantages I could just kind of plow on, even if you're disconnected. But if you want to grab my attention then just butt in and say something. And I also can't see the chat. And I've timed this out, I could talk for 24 minutes without breathing. But I actually would like to breathe, or something's unclear you have comments feel free to interrupt me and we have time for that as well. Okay. So assuming you're nodding I'm moving on, linguistic ethnography is an umbrella term that describes a growing body of research primarily in Europe, which brings together linguistic methods for studying language and discourse with ethnographic interpretation of cultural practices. It was to get nog Rafi draws upon concepts and methods from multiple traditions, the study of discourse and interaction, including for example the ethnography of communication interaction associated linguistics conversation analysis and social semiotics, in many cases linguistic ethnography is use these message two methods to enrich and outrigger to so called qualitative research and other disciplines. So for example, my work is in education.

My research primarily focuses on teacher and student learning through discourse and interaction, rather than language or discourse is objects of interesting investigation in and of themselves. There's some tension between the precise systematic approach of linguistic analysis and the more open, allistic, and adventurous nature of ethnographic interpretation. This can be a productive tension with and I'm paraphrasing Ben Rampton here, linguistic methods tying ethnography down subjecting its interpretations to careful scrutiny and ethnographic dispositions opening linguistics up in order to situate its work in the social and cultural context in which we use language. Western concepts and methods are useful because the infrastructure of language of communication reflects a high degree of regularity and predictability and an ethnographic approach is necessitated necessary necessitated by the unpredictability of interaction spaces of particularity creativity, and agency. Think was to add to graphic analyses of discourse and interaction are grounded in a number of fundamental insights about social interaction, meaning making and the communicative order here I'm going to highlight three principles.

First, meaning is co-constructed the sequential unfolding of interaction, rather than viewing meeting as residing within individuals minds, listicle, ethnographers traced the ways in which meeting emerges in interaction with give and take, as participants display to one another and to the analyst how they're making sense of each other's talk, and then ratify or repair their conversational partners interpretations, in such a way, meaning is jointly achieved over a series of trends of chalk and therefore can and should be analyzed sequentially by tracing the process of its turn by turn code construction contexts, are created rather than given. It's commonplace to say that meaning depends on context but which context in any given moment. I'd be doing my utmost in this talk to signal to you all that the most relevant context is that I'm an academic webinar. I've probably also given off the impression that I'm a bit technologically challenged. But if someone began heckling me or I started to talk passionately about politics or religion or food, we might very well renegotiate change our joint definition of the situation and send analysis we need to pay close attention to how interlocutors implicitly evoke or explicitly indicate the context roles and identities that they find by

salient context needs to be studied rather than assumed. Finally, for this purpose of this talk. We do multiple things when we talk, we not only use language to convey ideas we also while using language for this referential function for a range of social functions we open lines of communication, we negotiate roles and relationships, we serve identities. We make or extricate ourselves from commitments we take steps to persuade entertain past the time and much more. Typically, though not always consciously, we perform many of these and other tasks at once. Hence analysis of discourse that exclusively focus on its ideational content. Offer rather narrow views what participants are doing and what concerns occupying motivate them.

We are going to share an analysis of classroom identity work so I should say a few words about how we're thinking about identity by identity, we mean the way an individual is recognized by themselves and others as a certain kind of person with your identities is emerging and interactive processes and developing over time, rather than reflecting fixed and stable properties of an individual located deep in their psyche. Stanton Wortham offers a useful framework for studying identities, which traces the way widely circulated cultural and historical identity categories such as good student, or absent minded professor or locally adapted in different communities, for example, being a good student is a source of pride in many primary classrooms, but occurs among peers and many middle school classrooms. These categories are attached to individuals and events of social identification moments of interaction in which we identify ourselves and others either explicitly by describing who we are, they are, as I've been doing for instance by saying I'm a linguistic philosopher and a Ron's a sociologist and a dog and a v4 linguist or implicitly by talking or acting or being addressed in a certain way, for instance implicitly I've been treating you all as people who are coming from a more quantitative background in the way I've been talking about linguistic ethnography.

One such event is not necessarily identify someone as a certain kind of person. But if similar events are repeated over time, the identity begins to stick these processes of social identification have far reaching implications for students social lives and further learning. And finally, to say here that one important particularly important identity category, especially for students learning identities is learners in many schools including these London primary school which truly a smell and I conducted our research a little over a decade ago, is the category of the low ability trial. We work too late I worked with a group of teachers to promote dialogic pedagogy, a form of teaching that seeks to challenge students to think, to verbalize their ideas to reason together and to learn through discussion. Such teaching requires broad participation in cognitively challenging classroom discourse, but these requirements fly in the face of a common ideology is of ability is fixed, indeed in the working class school which we conducted our research whenever we suggested to the teachers to experiment with or dialogic forms of pedagogy, they invariably mentioned their pupils low cognitive abilities and limited language resources, there's reasons why such dialogic teaching is not feasible in their classrooms, we look closely at how the teachers manage these competing ideologies in the article listed here.

I'm going to briefly introduce you to one episode from that study. The episode takes place in Mr. Robbins your five classroom Robbins is a pseudonym as are all the names of students and teachers in this talk, the class are studying Tennyson's poem, the highway man. This poem opens with the line the wind was a torrent of darkness, Mr. Robbins asked the class if they think that means, it was very windy are just a gentle breeze. Almost everyone raises their hand to indicate that it was very windy. Mr. Robbins then calls on you. But we've also raised his hand asking him which word made him think it was very windy. He was considered to be a very low ability student, and it appears that Mr. Robbins was offering him an opportunity to answer a relatively easy question. However, he does not respond. Instead shrugging his shoulders after a rather long six second pause, six seconds in the classroom. Six seconds of silence in the classroom is quite a long time. Asha steps in and answers the question allowing the class to continue. I'm gonna let you watch this, and then say a bit more about

how we make sense of it. You have the transcript here on the slide, which now you have in the handout because I'm moving on to the next slide. So, I'm going to tell you what, what you would have seen. And, and our sense of it.

So, Mr. Robbins appears suspected that not everyone in the class was familiar with the word Tory. So he checked that they understood the metaphor here. He first read out the line in the poll, then drew their attention to the key word torrent and its meaning. and having basically given them the answer asked for a show of hands about the meaning of the first line. Most people's including you raise their hands. Mr. Robbins, it seems, seized on an opportunity to let you shine in class by serving up an easy question, which were provided to you which are the candidate words by repeating the wind, and also repeat the question you however did not cooperate and shrug his shoulders after a full six second, wait. A similar dynamic laid out on multiple occasions over the course of the year. Mr. Robbins offered you an apparently simple question, which other people's easily answered, indeed, bid to answer, but which was unable to answer correctly or in this case at all. Consequently, he was identified publicly in the classroom.

Mr. Robbins tries to mitigate the damage caused by this social identification. Few silent shrug which seemed to us to imply I don't know, as you're not sure. It's interesting also to observe how the rest of the class manage this event, students are expected indeed to follow the action in class discussions by orienting their bodies and gaze toward the active speaker. However, once you is called upon everyone looks away. It seems that they know what's coming and mercifully choose not to bear witness to it. On the other hand, he was left entirely alone to cope with this trial in another classroom in our study of the school pupils step in to support a struggling peer and offer him alternative identities to that of the lability trial. The literature on people identity suggests that he was not alone. Perceived underachievers are less likely to participate in class discussions. When they do participate, they often engage in unproductive interactions, which then identifies them as problematic and or low ability students, thereby Of course discouraging them from participating in whole class discussions that we have this positive feedback loop. But how common is this dynamic truly and I observed in our study other classrooms, which were characterized by more promising and productive interactions, how common are they.

Moreover, perhaps there are lots of perceived low ability children who engage in productive interactions with their teachers, but for precisely that reason we don't even notice them. We need a more systematic way of studying these phenomena and conducting linguistic and graphic analyses of those cases that stand out to us. This was one of the motivations underlying our current study, social class language and academic performance in the classroom. The second motivation is this. We know that student's socioeconomic status and ethnic background are correlated with their academic achievements, the quantitative sociological research into educational inequality has primarily focused on input output variables, treating the classroom as a black box. We aim to open this black box to investigate the ideologies and practices whereby students social background and perceived ability influence their educational experience and achievement.

Specifically we look at variation in students participation and variation in the instruction that they receive from teachers, we're performing ethnographic participant observation in classrooms video recording lessons and using lapel microphones attached to individual students get a better sense of their perspectives are working in schools in a highly diverse Israeli town, serving both middle and lower middle class students, Arabs and Jews native Israelis immigrants, boys and girls, and more. Our analysis includes both linguistic ethnographic microarray analysis of the typewriters demonstrated. But also, also, this analysis does not give us much of a grip on systematic patterns across the data set. So for this reason we're coding and measuring quantitatively the discourse.

Since meaning is co constructed at the sequential full unfolding of the discourse, it's problematic to look at individual teachers student utterance in isolation.

We know that most classroom discourse is composed of three part exchanges between a teacher, and the individual student. Usually, including a teacher initiation a student response and teacher follow up or evaluation, called IRA for initiation response and evaluation, we take this IRA exchange as our unit of analysis coding within each exchange variables regarding teacher initiations for example, if the teacher posed an open or closed question, how students receive the floor for example by raising their hand being nominated or interjecting, the extent to which their responses are elaborated relevant and the nature of teacher feedback with regard to their participation content and their responses and more. You have by the way the, the, not the complete coding manual but most of it translated in English at the, at the end of the slides that handout I, I sent you the link for. We hypothesize that students from less privileged backgrounds will be served less cognitively challenging questions, or receive less encouragement to participate and their responses will be less likely to be incorporated into the unfolding discussion, controlling for the quality of their responses, of course, we also I pass. I pass a size that is less productive for them, exchanges will position the students as lower ability. And with time these problematic identities will come to stick students. We further I prophesize that the reality will be more complicated interesting than this rather deterministic story we began to construct, and we're particularly interested in in probing the inevitable cracks in these patterns.

So, here's what are transcribed and coded data look like. Actually this is not what they look like because they're all in Hebrew. This is a snippet translated in English for this talk. You can see here that we've laid out the transcript according to the three part initiation response evaluation structure. Each row includes one IR exchange, it's kind of like a stanza in NA for those of you know what I'm talking about. The teachers utterances appear in yellow with each student response highlighted in the different color. The color is of course it for your benefit. I haven't read David's book I know we should never use color in our coding system. Each of the subsequent columns includes one of the variables or variables for student background for teacher initiations for student responses and for teacher follow up moves so far Aviva's coded over 1000 exchanges and eight lessons, and what follows We share some of our initial findings. Okay, so first here we have the distribution of participation by Jah gender. This class includes almost two thirds boys who as you can see receive on average more than three times as many turns of talk, and the girls. Note that we haven't performed significance test on this or any of the other tables in what follows here, the difference is so pronounced and we're dealing with a data set of over 1000 observations, so I assume in this case it's also statistically significant. Likewise, There are many more Jewish students than Arab students, and the Jew students dominate the floor, which to explain here a bit about the Israeli education system, which is for the most part segregated into different subsystems a secular Jewish subsystem. A modern religious Jewish subsystem.

An ortho ultra Orthodox Jewish subsisted, a few older Orthodox Jewish subsistence Arabs are systems which are also separated by religion. The language of instruction in the Jewish schools is Hebrew, and the language of instruction in Arab schools is Arabic. There are a handful of Hebrew, Arabic bilingual schools but only a handful. The particular school which we are conducting our study is a secular Jewish school. Three of the four Arab students join the school in this past year following their previous schools closure. This and their emerging Hebrew language proficiency may explain part of the considerable gap between Jewish and Arab student participation, but likely only a part of it. bakhtin writes, I'm moving on to teacher elaboration of student responses. As part of the motivation for this book teens idea that if and I quote, if an answer does not give rise to a new question from itself and falls out of the dialog, many student responses in classroom discourse are precisely like this, they're passed over as the teacher holds out for the answer that she was looking

for, or the answer that will help her push the conversation forward to study this phenomenon we coded for elaboration moves. These are terms in which the teacher either probes the student to elaborate his or her usually hits in this case response or poses an uptake question that is a new initiation incorporates the students answer.

These two elaboration moves probes and uptake were relatively rare in 80% of the exchanges, there was no elaboration at all. The teacher more frequently elaborated boys and girls 4% of boys responses were taken up, and the teachers next initiation, compared to only 1% of the girls responses and 17% of the boys responses were probed compared to 12% of the girls responses. Now looking at teacher elaboration of different types of student response, whether a student answer is provoked or taken up or alternatively, not elaborated at all is slightly dependent on the quality of the student answer one measure of quality is what we're calling response structure and reasoning, a variable that we borrowed from Czech researchers Clara Silva and Roman Safar Jakku also building on others who've come before them. This variable distinguishes between a very brief response consisting of a single word or phrase, a sentence and the sentence with reasoning, for example, Mr Robbins asked which word or words told us that it was very windy, the response is torrent or torrent of darkness would be coded as a word or phrase. If a student were to say the word torn means it's very windy, that would be coded as a sentence without reasoning. And if a student were to say, I think it's the word Turin, because it reminds me of a torrential store which is windy. That would be coded as a sentence with reasoning. And indeed, student reasoning appears to be more often elaborated than words, phrases and sentences that do not reasoning.

Since we're particularly interested in individual differences in participation and how the teacher differentiates or teaching for different students. We also conduct analyses at the level of the individual student. Here are the frequencies of different types of responses for for different students. And I'll say a few words about each of them. Shawn is considered to be a relatively weak stream by his teacher. She the teacher says that while he speaks a lot and is active in classroom discussions. He talks a lot of nonsense, he lacks independence he can't cope with academic tasks alone. And, in short, he lacks ability. Now I'm on the only girl among the four is considered to be a good student, not excellent but good. She's motivated as potential works in classroom tasks and participates in classroom activities, you're dead. According to the teachers, the smartest kid in the class is motivated and responsive. Now he suffers from some difficulties related to anxiety. Finally, in the world.

A Jewish student from an Ethiopian background is considered to be a very weak student. The teacher thinks he probably has learning disabilities that hasn't been diagnosed as such, is to quote the teacher, a lovely boy who is somewhat marginalized socially. These assessments are to a certain extent reflected in the data on student responses Sean's verbosity can be seen in the fact that it took almost a turn 158 turns of talk out of 1847, which is about 14% and your dad's academic excellence is reflected in his expressing himself at sentences with reasoning, it over double the rate of the other students in the class. Here we look at the differences between the different students visibly the teachers elaboration of their ideas. We were surprised to find that you're dead. The strongest student in the class according to his teacher engaged most frequently in reasoning was not elaborated apparent appreciably higher rate than the other students. Interestingly, he wrote the weakest of the four benefited for the highest rate of uptake, though. No, of course we're talking about only two occurrences. These are the sort of anomalies that we look forward to investigating more closely through linguistic ethnographic micro analytic methods.

So, we've got to the concluding part I don't know if you're still with me I can't wait to get out of my slides so I could see you all in concluding we want to talk about some problems we're struggling with, and the sincere hope you can help us think through them. First of all, how can we best make

sense of and represent the patterns emerging from our data set. As we demonstrated we're currently using cross tabulations to compare the frequencies of different events and have their co occurrences. This is rather primitive. Ideally, we'd like to be able to bottle the relationships between numerous variables to be able to say something about for example, the likelihood of different students reasoned answers. Being elaborated when responding to open versus closed questions and or after having received the floor by teacher nomination, or after having taken it by force. We could do this through a logistic regression but we bet you have better ideas. We'd also like to be able to visualize and communicate those relationships in an accessible way. We're very interested to hear how your ideas about how to do justice to this data set. We're also interested to hear what you think about how to best account for this control nature, nature of discourse in interaction. The organization by exchange offers us a partial solution to this issue. But what about the relationship between exchanges are the temporal trajectory of an individual student's participation over the course of a lesson, or a year. What about the drawbacks of organizing the data set by IRA exchange, does it impose upon the discourse a teacher led structure that may not always be appropriate. Furthermore, we'd love to hear what you think about how to combine our ethnographic and quantitative perspectives on this data set. And finally, it's a little late to ask but I'm a little concerned with is this quantitative ethnography. So, thank you very much. And stop sharing so I can see you. Alright, over to you.

Simon Buckingham-Shum
Thank you, Adam. Let's have some virtual applause you can use your reaction button at the bottom there to add some virtual hands out there. Just imagine Wembley Stadium, you know in uproar Adam. Thank you very much. Okay. All right now. You've asked us some interesting and challenging questions here this is going to be more of a sort of throw it to the audience for some answers, kind of session, it seems. Now, you did have a link for your slides and I do wonder whether it's worth just pasting that in. And then those who want to grab the final slide or maybe we'll put, we can ask you to put your final slide back up as well.

Just to remind people of your questions. Now firstly if you want to. If you want to ask a question, you can just type it into the text chat there. Or you can put up your virtual hand and then you'll join the queue. To do that you need to click the participants button. And that opens up the list of everybody who's here and then you see the three dots that allows you to stick your blue hand off. And you will pop up at the top of the queue and I'll invite you to switch your microphone on.

Okay.

Out of Diggy want to put you at least your last slide up, because that was a front slide for us.

Okay, I'll try. I put the. I put it all on the on the chat, again, for people who joined after it was up to the first time. Let me see if I can. Yeah, because my problem is that when I, when I share my screen I can't see the rest of you. I think that's difficult to have conversation.

All right, well, who wants to kick off with a comment or question, who's sitting on the solution to Adams final slide?

Okay.

So David, do you want to, to kick off and unmute yourself?

Looks like David wrote, he said the host won't latch on.

They're there I got, I got personally invited to unmute myself. Yeah, so this is a this is a great talk, Adam I really enjoyed seeing somebody who really has a depth of understanding of qualitative work and how to present qualitative work presented. It's nice to see the kind of micro genetics, and then stepping back and kind of presenting the, the patterns as you're describing them, and my short answer to the question is this quantitative ethnography is I think a definitive Yes. And I think that not just because there's clearly the quantum ethnographic component, and because you did some counting, but it's actually because you use a systematic structure you're that well formed data table that you showed us to link the two. And I think in the sense that the fact that they're connected in that way is what it's what makes QE that so the question I had actually goes back to that data table and it's following up on on something that you had. You asked yourself. So, like that IRA characterization. I know it's extremely common in classrooms, but some of the most interesting things that happen in classrooms are sometimes not actually following that structure and I guess I'm wondering, like, to what extent are the times when that's not an appropriate structure Black Swans or, or is that mean is that happening with some frequency and if so how do you think about that in terms of not so much the coding of the data but the actual organization of that structure that you that you put on a vivo a dog, would you want to respond, or do you want me to. Oh, you are not hearing me. I was asking for the VA DOD what, I think, is it possible to make it so that people can just unmute themselves Simon? Because I suspect if we're going to have a discussion that might be easier than you having to invite people individually to unmute themselves.

Simon Buckingham-Shum
Sure. Okay, everybody can unmute themselves. Feel free to dive in any of Adam's colleagues.

I'll start off, this is very strange for me because in Hebrew, at least it has never been tried, but losing Adams audio. Oh, yeah.

Sorry. Oh, you come back now.

Yeah, my back. Okay. I said I'll start off to answer the question. And then I disappeared again.

You're back again. Yeah. Keep going.

I apologize for my internet teacher. Oh by the Ask a Question get a whole series of responses from kids, some of them were talking at once. Some of them are responding to each other. And then we have to make a decision about whether we are they still responding to the teacher they're not responding to the teacher. If they're responding to the teacher that was a few months ago was still this question, as the question, respond to it said it's not that rare in this data and partly because we're working with these teachers on trying to promote dialogic pedagogy. So it's, you know, it's something which happens. I'd love it if you would say something about how often it happens, she's done all the coding. Oh, okay.

Looks like she maybe didn't hear you. Okay.

Are you hearing me? Okay. All right.

So, so that such, I mean that that strikes me is kind of probably problematic either from a quantitative graphic or even just from a linguistic point of view as to how you handle those that situation right this is the structure that you're imposing even just as far as your coding goes is gonna drive a lot of the assumptions about about what's going on. From my point of view there. You know, there are two ways I would think about handling that right one of them is in the structure of the data table itself.

A need So you mentioned right, for example,tracking which question, student is responding to,even if it's out of time sequence. And that we could save I guess we could talk more about that if you're interested. The other thing though is if one of my students just developed a version of DNA that tracks order, as well as co temporality. So you can actually see the structure of ground and response. And so you would you would get some information about about that ordering and depending on what the size of your window was right you'll, you'll get. You'll capture more and less of the, of the sequence. When you do that, so that might be a just a sort of technological solution, although I suspect that would mean reformatting your data so that it was no longer i r e but it was pi r e r r r whenever, whatever the sequence was very interested looking at that, that technological and you have the advantage of the students that actually speak.

Okay.

So whether you want to. Otherwise, out of questions in the chat.

Perhaps I think Szilvia on. Less mics we're using, the better. Hi friend, do you want to just read the question? Oh you're on Szilvia so we can hear you. That's fine. Why don't you ask.

Okay. Thank you Adam for a wonderful presentation. I have two smaller questions, or maybe they're complicated I'm not sure you can give a yes or no answer if you want. Are you coding, the IRS at all for content, as in what's going on. While these exchanges are taking place like what kind of tasks or were any other way. And the other question is, are you coding the responses more. Finally, in a more detailed way. Depending on, for example, are these responses. Do they always necessitate reasoning. At the end of the response. For example, you can have a question that that only necessitates a one word answer. And then it wouldn't be the same kind of category, in my reasoning right now to expect to have a sentence, after it or some kind of reasoning. Is that a level that you're interested in?

So, in terms of the content that this particular study that we have we're using the same data looking at it in other ways. And so there's a master student who's looking at content. But it's, I mean it's just, it feels like too much. In fact, already what we're doing feels like too much content, we just explode the possibilities. A, what kind of task we're looking at classroom discussion so it's, we're not looking at discourse around other types of tasks, which are sort of already eliminated that that whole that whole realm of possibilities which is which is incredibly important. That's something that is studied Julia, and I did we, we found that they actually are really good predictor of the character the discourse was the activity that was embedded in. In terms of the responses. What we're, we're coding for the initiation also. So if the if the teacher asks, which character in the book had a stutter that would be coded as a closed question. And then we would expect to see a one word or phrase response. And if, if we didn't get that if we got a response with reasoning, then that would be interesting as well. And that's one of the things we want to try to be able to model places where students challenged the discourse in ways that the teacher wasn't intending.

I can see Julia has her blue hand up, did you want to jump in on this Julia.

Ideally, you want to talk.

You're, you're unmuted so you should be able to talk.

Okay, microphone is not working. All right. Well, feel free to type in the chat that. If you've got some something to drop into the conversation as a shilling.

So I was always wondering. Sorry. Adam. I mean, it's fascinating just even in the, the bit of video that you didn't quite get to show but we could quite, quite clearly see that, you know the the other kids were all looking away or they had their heads down. That was a very powerful photo to show the kinds of behaviors that were going on around that moment when, when the struggling boy was asked the question, I would have thought that by looking at the car occurrence of those kinds of behaviors along with certain kinds of questions and and so forth that DNA would be able to show that, you know, there are strong ties between those kinds of behaviors and those kinds of what's going on in the talk. I don't know what the others have to think about, sorry about that. I would have thought that would be coming up quite strongly and DNA diagrams for example, you're suggesting Simon to be able to map that onto what's going on in terms of the identity work. It feels like almost impossible to go for. But maybe I'm just too narrow minded. Can you say more about why you think it's impossible?

Seems difficult but I said, Yeah. Nothing's impossible. The, the, our multimodal repertoires are so much more variable.

Sorry Adam, your, your lines broken up again.

Do any any of the others in the team want to chip in on this, on the difficulty of trying to code the you know the current currents of those behaviors.

Yes, I'd like to jump in and say a few words. The thing is, as is right now. You've seen a glimpse of, of our coding system and it is quite complex, and we didn't even get into anything that has or hardly anything that has to do with with with things that are non verbal. So we do have a little bit of hand raising but that's about it. Okay, so. So how would we incorporate into our coding system. Additional aspects like the, the interesting point that students are looking down and not facing towards the student who's speaking or the teacher. How could this go into a system that is something that we can. Students are looking down and not facing towards the child, the student who's speaking or the teacher. How could this go into a system that is something that we can still manage?

I don't I don't know about manageability that so that's always a challenging question but I mean the reason I asked him part is that assignment said that it was, it's a really powerful it's really powerful moment. Um, but it was only a powerful moment. Once you pointed at it.

So I actually, you had showed us a little clip of the video before and even when you called up the picture. Like I, I didn't. If I'd been in the room, maybe I would have noticed that I didn't actually see it the kids were their heads down. And I'm irate I'm raising the point because and Adam you and I've talked about this before right but that moment when you're when you're pointing at the video literally you're like you were circling the picture right is that, that, that gestures, is a code. Your encoding, you are encoding the data right there.

And so to the extent that as you're watching it you're noticing things like that, you know, and if you if you add those to the, to the transcript right and I know that conversation analytics has all sorts of tools for doing that although just writing it down is also is also. I mean, so, so that that moves it from the realm of of possible or impossible to, sorry, from being part of potentially impossible to possible.

And Android it's, it's certainly true that we have lots and lots of physical communication devices, but in your ethnographic story there's only a limited set of them that you're going to use because you have to use a limited set you can't use an infinite number and telling us the story. And so once you've determined which of those things are useful, because you pointed them. Now you have a

finite set that you can encode. And now you could mean in theory right you can go back to the video and and add you encode for that on the video aligned with the transcript, again I know how difficult that would be given the sort of technical setup and the scale of your data but that that's the way I would approach it from, you know, from sort of a coding perspective. Let me see if I can you hear me now.

Is there a moment. Okay, well I'm gonna talk quickly, before I kind of break up again. Reasoning the language is pretty easy to identify right there's some keywords that we can say I have, I think, or because of this or this. my justification, it's it's pretty it's pretty regular, but the multimodal ensembles that we use to communicate are so complicated. When, when is the kid looking down at the table because he's bored to tears, with what's going on and what is he looking down at the table because it wasn't like eye contact with us being embarrassed. And it's a whole range of things that in the moment you got to see it and say, Oh, that's what's going on. But, but it feels like an almost infinite set of codes, which of course, except that it's not, you're gonna have a hard time, then bringing them all together. That's possible. Yeah, so I'm assuming that we're not talking about how we would automate that because automation of your coding right okay so we're just talking about identifying. I mean, I guess, I guess I have to throw the question back to you then right if, when you, when you pointed at that video, right, you told us that, that this was that they were looking down to avoid talking to you.

Right.

How did you, how do you know?

I mean, and whatever answer you're gonna give me to convince me that you're right right and you don't have to answer right but whatever answer you would give me, presumably is going to be finite. There's a finite number of things that you have pointed at, in order to make that claim.

Right, which means that in the data set, which is by definition finite because you only have a certain amount of data right there can only be a finite number of things that you're required to use in order to convince me that your interpretations are right now it may be a large number but just empirically, I suspect that it would be a smaller number than your, then you're imagining it would have to be. It's conceivable that every one of these instances would use a different set of reasoning, but my guess is it doesn't because that's generally not the way people make sense of data.

Yeah, I wish Julia's camera microphones are working because I'd be able to ask her how much time because she did that the initial analysis on this. How much time she spent on that episode. I'm guessing it's measured in 10s of hours.

And that's part of your you're absolutely right it's finite. But, but we're talking about an hour long lesson and at the rate that we use to get it this year I think she just wrote Yes, it's, it's something which is I, when we when we think about a coding scheme we're thinking about something which could go through the data at a rate of maybe four hours per hour, or 10 hours per hour.

The type of analysis we do in the kind of micro ethnographic analysis, it feels to be like, it would never be finite. I mean, I would say, logically it's finite but it would it would take it would it would be prohibitive. Okay, I think so we just wanted to jump in on this one so so very good for you. I was reminded of the research initiative that et Hall started back in the 60s 70s, and then that kind of paved the way to the field of proxemics, but he had this amazing array of codes that he used to code human behavior in the space that's around humans not just like the personal space that we all kind of feel but also the physical space. And so it might be worth it to go back and check his actual

codebook because I think that's publicly available. And just to see you know what kinds of codes he developed because that might be useful to you guys.

Okay, interesting point just sort of looking to the future, we've been doing some work on classroom proxemics, and how one could automatically code that.

So we have some papers out, which are talking about that now which I'll, I'll share with you guys, but it's it's fairly kind of future focused but it's a glimpse of where things might go where you could pick up multimodal embodied activity and code those events, of course, that will be tricky in a classroom full of kids.

But just to mention that. Now, because Julia Mike's Jr. Mic isn't working, I just wanted to read out her, her comment to everybody for the record, just so it's, we have that. She says picking up on Adams final two questions on his final slide.

And they were you know how can we best combine our ethnographic, and quantitative perspectives on the data set. And is this quantitative or surfy, right, those are the two questions.

And then she says, and David's comment that the table Adam presented clearly shows the coming together of ethnography and quantitative analysis. I'm wondering where the ethnography is in the table is the coding done by someone who has conducted an ethnography on the school and lost their coding is influenced by ethnographic knowledge or could the coding just as easily be done by someone who is listening to a recording of the classroom, but is unfamiliar with the teacher people's social relations, etc.

So a question from Julia to the team then, how much ethnographic knowledge is underpinning your coding is the question.

What are your thoughts. And if you all want to answer.

I just made that general comment that this is, this is kind of classic.

You want to think Simon, you and I were corresponding about was how. So I think one of the questions you posed was how does quantitative ethnography seen in your discipline. It's been in my discipline. And this is kind of a classic case where the minute you bring in a lot of data. And this happened to Julie and me as well and in previous studies. The minute you bring in something which, which isn't that nog Rafi graphic bonafides become question, and I think necessary you know justifiably so because you kind of have to step away from a lot of the ethnographic knowledge to to code reliably, the coding was done by someone who's spent a lot of time in the classroom. And that's a thief of joy they wrote to be clear I'm not questioning the ethnographic credentials of the project now but but we've been questioned on this as you well know, the. So, so the coding was done with a lot of ethnographic knowledge but when you set up these sort of codes that have to be at a level of generality that I think probably someone could code, just by listening, but the study doesn't end with some tables of, you know, cross tabulations or whether a regression analysis or even with some, you know, fancy na with with directionality and sequential ality coded in that data study, as far as I'm concerned, that's a stage where, where we get a sense of the overall picture and then we can start looking at all the different issues that strike us as most interesting, what's going on there with this Ethiopian boy who is his ideas are being taken up even though he's participating very little let's, let's go check that out. Let's go try to understand what's happening those events and that's where I think the ethnography comes in, even more so, please.

I think that part of it is that the codes themselves. Come, have come bottom up, we didn't just take a code system from a different from a different study but we use codes that we found relevant that that Aviv after observing the lessons, and and going through the transcript. Notice that these codes are the ones that are of interest to us, and as you say about the kids looking down to week two, we're open to adding new codes that could be interesting for our analysis. So I think that's also part of the ethnography that might go into the table where we hope, we'd like to see in the table until I can just clarify since my comment seems to have sparked all this.

I actually don't think that the ethnography is in the table, any more than the quantification is in the table. What's in the table is the quantitative ethnography it's the linkage between the two.

And you know that there's a whole bunch of reasons why I why I was seeing that in the table, not least of which is the way the table was structured was actually based on particular hypotheses about the discourse, and the table represented a systematic re representation of the discourse that then made it amenable to quantitative analysis because the because of that systematic representation and that's the role that the table played.

I agree with everything that Adam and had just said in particular this idea of, like, you actually have to close the loop again it's not a one way path from ethnography to that table to the, to the quantification but you should go all the way around. But it's, it's the table that makes that loop possible it makes the bridge between the two.

Right. That really answers Julie's question.

Okay, Brendan were you were you wanting to jump in. Yeah, this is I think that this question is a really important one, and something that it keeps me up at night because I often am consulting with people on their quantitative ethnographic analyses, and I'm usually helping them procedurally use DNA right or maybe encode or something like that to automatically code.

And I off with my own interpretations of something so this is kind of similar to what Julia was talking about with someone who has not been in the classroom and doesn't know the teachers and the pupils and the social relationships right that's often a space that I'm coming into and so when I come up with a model or help someone refine a model. My biggest concern is that I'm showing them a pretty picture that is not grounded in any way, and doesn't have any meaning to either the participants or that the researchers might see. And so I think that what David was just talking about as a key piece is that you can have different people in different tools come in that can be helpful, whether it's a data table or different coding tools or or other types of quantitative tools like the networks and things like that. But I think the key pieces that you need to, at some point, someone has to understand and make meaning with the data that's grounded, that is read the data that is seen the videos that has been in the classrooms. But that doesn't mean that you can't have other people or parts of the research team who don't have that that can still contribute and help bring in other methodologies that can that can make sure that you have you're being rigorous in terms of using other tools that can give you different types of leverage and insights that can be helpful so i i think that that's like a really crucial thing that we need to be asking ourselves is like well when are we checking how are we checking someone else bringing in DNA or the coding or something like that. And what what ways in which are we ensuring that we have theoretical saturation that we're thinking about the decisions that we make. So I think it's a crucial thing. And we just need to be talking about it and saying, Well how far can someone be removed and what what ways in which are we bringing back a loop and I think David's point is the table is one unifying link in that potential chain or that that cycle. There might be others that we need to be talking about, to feel like we're doing justice and fairness to the data.

It's, it's interesting it raises questions about reliability.

And the idea that actually you need to have an ethnographic grounding to do the coding suggests that you know you're not going to get a lot of inner good inter rater reliability, unless all of your judges have spent a lot of time in the classroom.

I'm not sure how for various journal publications. I might push back on that though i think i think the question is, even if someone you hadn't you'd want to make sure that if something is even automated or someone didn't know wasn't grounded that how they rated the data, align significantly enough with the person who is grounded. And then the question is, how much do you need to see right we do that all the time with automated coding is to say, how much does a trained human expert who is grounded in the data need to align with what the algorithm is doing, or another rater who we. This happens all the time with graduate students or undergraduate students are asked to come in that might not have as much experience or rounding and we say but at what level can they get look in and see I think I'm seeing this pattern and pick up on some signal that is is tightly aligned with what we think is is meaningful.

I bring in I love if you, if Simon lets us because we're sort of at time but I'd love to this, this session or some other session, I'd love you to tell the story about how you came to believe that automated coding was possible.

I summarized it in one sentence but there's a there's a line from, from a woody allen movie where he says, you know if everybody went into the same restaurant in the same day and ordered blintzes there be chaos, but they don't. And so to some extent right I think one of the answers for coding is, in theory, it's possible to construct something that you could only code.

If you had that, you know, if you had that deep level of under ethnographic understanding of the data, but in practice, it turns out there's a lot of things that don't require that and maybe many more than we anticipate anyway. Maybe it was Simon's permission, but that's something I got, I think with technical problems today we should stretch a little, just to make up. Brendan. Yeah, go for it. So, when I first joined David's lab I work done a master's degree with a different advisor and I'd done a certain amount of qualitative work, and when I found out that the lab was doing automated coding. Pardon my language but I thought this is bullshit like how, how can you use a machine to identify what I'm going to pick up in all the context I'm thinking about all of the ways of reasoning that I have as a human. This is ridiculous. And so I spent about a month, coming up with all these counter examples of things that I knew based on my understanding of how the automated coding work that the machine would not be able to get and I was really proud of this list. I generate I think I had like 50 or 60 examples. And I felt really good about this so then I bring it back and then David kind of just smiles and said okay well. Now I want you to go back into the data and look and see how often that happens. And it was less than like 2% of the time. And part of what what. And so then, then it becomes an empirical question as to how good you can get it and part of it is I didn't have the expertise at that time of how to actually use say an automated approach to reliably get at stuff. I've also worked a lot on developing statistics to figure out how much do we need to look at to feel confident in these things and I always maintain that's always in the back of my head this kind of that's bullshit concern or kind of skepticism. And I think it's healthy for me I always go. It brings me back but i think it's it's something that when we're working on this stuff is always baked in is to double check. It's one of the reasons we've upped our IRR thresholds, and we've worked so hard to kind of come up with tools that hopefully can be one piece of evidence that speaks to the validity of an approach, and the reliability of the approach.

So one direction this work could go in, is if some text analytics could be developed. That would pick up some of the key kinds of moves that you're interested in studying. I mean, Adam I, I dropped you a note about text analytics to pick up exploratory talk and kneel versus terms.

There may be other approaches that could be developed. I have no idea how mature they are at the moment for your work but if one was able to code, a certain percentage of the significant things you're interested in automatically then of course the quantitative dimensions, open up new possibilities. And, you know, I loved your when you're introducing us to linguistic ethnography you know that the linguistics were to try and tie ethnography down, which was quite an interesting expression, because it sounds like ethnography is sometimes is perceived by non ethnography versus perhaps rather slippery to pin down.

So much interpretation going on, you know, and then the ethnography was to open the linguistics, up. Now we're talking about potentially tying downs and linguistics, computationally.

So there's a certain degree of tying down going on, which will of course trigger suspicion. And, and derision from certain quarters. But for those of us who are fascinated by possibilities, then you know, it allows the quantitative analysis to further tie down. The ethnographic study and grounded more rigorously in.

In, you know, and by being able to point to the pervasiveness of this and a large data set, for example, there just isn't practical for you to do manually.

Yeah, this is a great opportunity just to, to say that whoever is working on letter getting encoder to work in Hebrew, where we're anxious, we're anxious to have that the same students no yes i know i know I wish us every opportunity to pass the message on we'd be very keyed as very impressed with encoder I, I think I still think though there's a there's a kind of a prince I I completely agree with you that that is one of the things I liked about encoder I thought it could it was training me not, I wasn't training the computer, it was training me to make explicit my own sort of reasoning which I was in a. It was an incredible experience and I've just played around with it for once you know that one workshop.

But I do think that there, we make trade offs, when we win when we set a high standard for reliability and we are going to lose it may be that those 50 instances you wrote down, only 2% of your data but they may be the most interesting to present. So I think there's, I wouldn't want to say that whatever we can't get reliability for we won't. We won't look at, because, because I, you know, anyway I suppose it's clear and you're you obviously agree with it so it actually really got struggling. Go I just wanted, where the time that I keep talking and people on my team haven't said anything so if anyone wants to jump in. This is your last opportunity I fear.

I was just gonna very quickly say I think that actually, the point you just made raises a huge and really interesting and important ally of blight of research, you know, so we spend a lot of time in terms of IRR thinking about what a group agreement is between Raiders and, you know, we've, we've, we just we just actually finished a paper talking about like, what, like how should that work and one of the warrants actually looked like.

But as far as I know, there hasn't been an effort to come up with a way of systematically figuring out whether or not the disagreements, the uncertainties are systematically or even just not systematically hiding things that we can't we particularly care about in the data right we can we can we know how to Brandon's figured out ways to determine whether or not your IRR is causing problems in terms of your statistics on the other end. But we don't really have a good way of saying

that the particular places in which we're agreeing are problematic as opposed to just saying how much of them there is. And I think that would be, you know, that that's the flip side to my challenge to you is like how often does this happen, is to be able to say okay well let's find a way of figuring out how often the inaccuracies actually matter.

Okay. So, we should probably wrap up there folks let's just have another round of applause for Adam and the team about for you all as well we've all been working hard today.

Thank you all very, very much.

I am sorry for the technological problems and it's but it's great to see you all and thank you for your comments. If you have more ideas, we'd love to hear from you.

Okay.

This will of course be up for replay so you can point your colleagues to it and of course do send suggestions to Adam. If this has triggered some new thoughts, that's what these, these, these webinars are all about.

Okay, so just before we wrap up then, next, next webinar is on the sixth of August. And we've got one of the keynote speakers from the first quantitative ethnography conference, Golnaz Arastoopour Irgens. Tune in for her.

But until then, Thanks everybody, and. Look after yourselves.

Thank you.