

MATHEMATICS EDUCATION AND APPLIED LINGUISTICS

WORKING GROUP REPORT

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In this session I invited participants to work on issues concerning discourse analysis in mathematics education research, particularly that of reflexivity. Reflexivity concerns the inter-relationship between the analyst and their analysis. It arises as a methodological issue from questions such as: how do I interpret classroom discourse data? What are these interpretations based on? What kind of claims can I make about my interpretations? To what extent is discourse analysis 'objective'? As the basis for discussion of the issues raised by these questions, participants were invited to work on a transcript of students working on a classroom mathematics task.

A TASK

The focus for this working group meeting was the role of reflexivity in interpreting classroom interaction, drawing on perspectives from linguistic ethnography. To provide a basis for discussion, the session began with an extract from a transcript. No information was provided at this stage. Participants were invited to read the transcript (reproduced below) in small groups and consider the following questions:

- What is happening here?
- What can you say about what the two participants mean by their words?
- How much do you need to know about the participants and their lives to be able to approach these question?
- How are you able to see what you see?

Transcription conventions used in presenting this data are given in an endnote [1].

A now which one/ errr if there's a hundred/ if there's err/ if there's ten
 busses/ bus-ses/
50 Z and [(ten) disappear
A [(and)
 no I got ten/ busses ten disappear then there'll be none/ um/ and err
 [eight b- and
Z [and
55 two and a half disappeared
A no/ (both laugh)/ then a half then a half will g-/ half a bus will go
 (sound)/ I can't drive/ oh no/ my back is gone/ I can't even drive/
 busses and um/ and a one bus/ one bus
Z let me do one now
60 A takes/ takes/ takes/ ten people/ no/ one people/ no/ one person
Z that's **addin'**

- A [no-o-o
 Z [(we're doin') we're doin' division
 A yeah ten people/ and and there's about hundred people ab-about fifty
 65 people/ and/ and one bus and one bus/
 [takes about/ fifty/
 Z [that's a (...)
 A fifty people/ one bus takes fifty people/ and there are/ and there are/
 and// there/ are/ there are um *writing*
 70 Z two hundred
 A there are about two hundred and/ fifty two people waiting/ how many
 left//
 Z come on speed up/ look at your writing it's going all wiggly// me do
 one/ ^(...)^/ now what
 75 A err// I know/ pizzas/ (cheese and)
 Z how about how about cheese pizzas/ vegetarian pizzas/
 A yeah no/ um/ how much
 Z cheeseburger
 A alright then cheeseburger
 80 Z no beefburger
 A no that's too haram
 Z no it ain't
 A yeah it is
 Z I eat beefburgers/ I ate/ once I ate ten (Monday) night
 85 A you're you're you're you're you're an Englishman/ and you/ 'cause/
 'cause um/ 'cause me (dad)/ um beef is haram/[it is
 Z [trust me/ I never ate it/
 trust me I never ate it
 A you **little** liar/ (...)
 90 Z cheese//
 RB how many've you done *RB enters*

DISCUSSION

On being invited to share interpretations of what was happening in the transcript, it became apparent that a number of different stories had been constructed. Differences in the stories concerned, for example: the ages of the participants (children or adults?), the genders of the participants, the cultural backgrounds of the participants and whether the participants were writing or solving problems. In considering the origins of these differences, participants referred to aspects of their own experience, including: their experience as teachers, their familiarity with my data, or their familiarity with the conventions of interaction.

One moment which provoked considerable discussion was the use of the word *haram* by A (line 81). During the task, several groups discussed what *haram* might mean. Again, participants drew on their own experience to make sense of the word. It was apparent during subsequent discussion that some were unable to make sense of it. Some related it to the more familiar (to them) word *halal*. Some participants from Muslim backgrounds were very familiar with the word and were able to offer a nuanced explanation of the idea of *haram*.

The task required participants to interpret a transcript with no background information provided. The detailed interpretations which resulted demonstrate the extent to which analysts draw on their experience of the world make sense of data. Analysts can be said to ‘read themselves’ into their data. This ‘reading-in’ was felt to be unavoidable. Nevertheless, a question arises concerning the extent to which, as researchers, we read ourselves into our interpretations without being aware that we are doing so. That is, that aspects of our interpretations are based on assumptions which derive from the background information that we have. Do we read girls’ participation as different from boys? Or Asian students’ participation as different from middle-class white students? Should we? And more fundamentally, what are the limits of our interpretations of the words of people whose lives we do not share? How much can we say, for example, about the ‘beefburgers’ exchange, if *haram* is an unfamiliar word for us? Or equally, if we *think* we know what *haram* means? Or equally, if *haram* is a concept which informs our daily lives?

REFLEXIVITY

The final part of the session involved a discussion of issues relating to the idea of reflexivity. A definition and a quotation were offered as a stimulus for this discussion. Johnson (1977) defines reflexivity as:

the mutual interdependence of observer or knower to what is seen or known (p. 172)

Duranti (2000) suggests that:

If one of the basic ethnographic questions is ‘Who does this matter for?’, we must be prepared to say that in some cases something matters for us, that *we* are the context...But such a recognition – and the reflexivity that it implies – cannot be the totality of our epistemological quest. Other times we must decenter, suspend judgement, and hence learn to ‘remove ourselves’, to be able to hear the speakers’ utterances in a way that is hopefully closer to – although no means identical with – the way in which *they* heard them (p. 9).

The discussion which followed focused on several different aspects of Duranti’s words, including:

- the idea that as analysts we can ‘decentre’,
- hearing things as participants hear them,

Decentring

Participants in the working group considered the extent to which, if at all, it is possible to 'decentre' or 'remove ourselves'. In working on the transcript task, interpretations seemed to draw extensively on the interpreters' experience of the world, even their experience of activities as basic as talking. It is difficult, therefore, to envisage 'removing ourselves'. On the other hand, Duranti likens decentring to 'suspending judgement'. Laurinda Brown drew a distinction between being aware of a judgement or interpretation, and acting on it. She argued that whilst judgements or interpretations are irrepressible responses to a situation (nevertheless based on prior experience), it is possible to 'hold' these judgements in abeyance, in order to await further information. Thus, whilst a reading of the above transcript might suggest that the two participants are from minority cultural backgrounds (in the context of the UK), on being aware of this 'judgement', it becomes possible to 'hold' the interpretation, and so allow for alternative possibilities. Perhaps the data comes from another part of the world. Perhaps the participants are both from a majority cultural background. Indeed part of the discipline of research is, arguably, developing awareness of the 'judgements' we make as analysts and taking them into account as we develop interpretations and analyses.

Hearing things as participants hear them

The point Duranti makes in the quote is not that we can hear speakers' utterances in the way that they themselves hear them, but that in our interpretations, we can aim to get closer to that goal. This position is similar to the idea of ethnomethodology (see Garfinkel, 1967), an approach to research which seeks to explore how people make sense of their world. Clearly, it is not possible to hear words precisely as others hear them. 'Outsider' status, however, limits the interpretations that are possible. Julian Williams gave the example of undercover research into drug-dealing cultures. The researcher was interested in some of the language used by the dealers to describe their activities, but was unable to ask them what various expressions meant, as this would mark them as an outsider and compromise their position within the group. This suggests that sometimes we can *never* hear things as participants hear them. Adult researchers, for example, can never become children again. A white researcher cannot become black or vice versa. On the other hand, we can base our analysis on the words participants themselves use, rather than on implicit assumptions of our own. In this sense, we can move "hopefully closer to" the readings of the participants.

CONCLUDING REMARKS

A key point to come out of the working group discussion was the idea that, in interpreting interaction, analysts are inseparable from their analyses, which are filtered through their own experience. This is not to say that analyses are entirely constructs of the analyst. As Johnson's definition suggests, analysts and analysis are *interdependent*, not identical.

NOTES

1. Transcript conventions: **Bold** indicates emphasis. / is a pause < 2 secs. // is a pause > 2 secs. (...) indicates untranscribable. ? is for question intonation. () for where transcription is uncertain. [indicates overlaps.

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