The study of classroom interaction: an argument for the use of Conversation Analysis

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There have long been debates around the appropriateness and validity of different approaches to studying interaction in institutional settings. In particular, a less well known methodology, Conversation Analysis (CA) has established itself in a number of areas of study (including the media, health care, and politics) as a methodology which can offer sophisticated insights into interaction. However, these debates are less well developed in terms of research in mainstream classroom contexts. This paper offers a brief overview of some of the main approaches to the analysis of classroom interaction commonly used in educational research, discusses CA as an approach to the study of these interactions, and then offers an argument for the more widespread use of CA. It then explores the possibilities of CA in terms of offering a new perspective on classroom interaction. Examples are given of where different interpretations of the data could be drawn based on the approach used, and the argument is made that CA offers a way of showing participants’ own interpretations of each other’s contributions to the discourse, rather than those of the researcher.

Introduction

There has been a steady growth in the study of classroom interaction, as good quality talk is increasingly seen as central to effective learning and teaching. This is because learning is increasingly being recognised as a fundamentally social process. Mercer (1995) building on the work of Vygotsky (1986) has articulated well the possibilities of ‘exploratory talk’ (participants engaging critically but constructively) and ‘interthinking’ (talk in learning as a reciprocal process) for the collaborative building of knowledge. The role of these types of talk between peers or between children and adults is increasingly being seen as crucial in ensuring the most successful learning possible. The concepts of ‘dialogic talk’ and ‘dialogic teaching’, developed by Alexander (2005), emphasise the importance of genuine questions, and the teacher’s active engagement with children’s answers, questions and ideas. Knowledge is therefore seen not in terms of being transmitted, but transformed through social interaction.

As a result of the growth of interest in this area, decisions have needed to made, and continue to be made, regarding the most suitable methodologies for the study of classroom interaction in order to inform practice. In addition, advances in technology have made data available which are increasingly complex and therefore demand increasingly sophisticated means of analysis and representation. This paper will discuss the contribution that Conversation Analysis (CA) can make in these areas, and show examples of CA in use.

Studies of classroom interactions

Studies have established that there are some linguistic patterns, or structures, which are commonplace in classroom talk between teachers and pupils. In particular, there is a exchange structure which has been shown to be characteristic of classroom talk-in-interaction: the IRF (Initiation-Response-Feedback) (Sinclair and Coulthard 1975; Stubbs and Robinson 1979, in Mercer 1995) or IRE (Initiation-Response-Evaluation) (Mehan 1979), also known as the ‘recitation script’ (Tharp and Gallimore 1990) or triadic dialogue (Lemke 1990). The ‘initiation’ is a question, most often closed and asked by the teacher. The ‘response’ is the child’s best guess at the answer that the teacher
wants. The third move is almost always given by the teacher: ‘evaluating the students’ contribution for its conformity to what he or she considers to be a correct or acceptable response’ (Nassaji and Wells 2000, page 377). This has led to many studies which have used this structure as the basis for developing coding systems for studying teacher/pupil interactions.

Approaches commonly used for the study of classroom interactions include discourse analysis, content analysis, and systematic observations. Predetermined categories are drawn up, with set criteria for deciding when an utterance should be placed in each category. For example, adapted versions of the ORACLE (Observation Research and Classroom Learning Evaluation) Teacher Record (Galton, Simon et al. 1980) have been used to study interactions between teachers and pupils in the literacy hour (see, for example, Hargreaves, Moyles et al. 2003). Other coding approaches have created new taxonomies of teacher talk categories (including, for example, behaviour management and housekeeping categories) (Flynn 2007) or adapted the 1975 Sinclair and Coulthard IRF structure in similar ways to ORACLE (for example, Mroz, Smith et al. 2000; Nassaji and Wells 2000; Smith, Hardman et al. 2004; Hardman, Smith et al. 2005). Often these have broken down each of the IRF/E stages into further possible units. For example, questions (one type of initiation) may be coded into categories such as closed or open-ended. It can be argued that this leads to results which are objective and generalisable in that the same coding system could be related to any data set, even across decades as in the Hargreaves, Moyles et al. (2003) study. However, it relies on the analyst interpreting these categories, and then making subjective judgments about the intent of the speaker (see Scarth and Hammersley 1986 for a full discussion of this issue) or the interpretation of the utterance by other participants. Mroz, Smith et al. (2000) point out that the ORACLE project ‘classified teachers’ questions in terms of their reactions to pupils’ answers rather than the teachers’ apparent intentions’ (page 386). This highlights a fundamental issue: whether to code based on the analysts’ interpretation of the intention of the speaker of each utterance or the meaning taken by other participants. Normally, an utterance can only be placed into one coding category; therefore there is a reduction in the possibilities for recording one utterance as being heard differently by different participants. Items which are coded one way by the researcher, based on the criteria for the coding system being used, may be understood by one or more participants as performing a completely different action (Hauser 2005). This is acknowledged by Nassaji and Wells (2000, page 404): ‘...even participants do not always agree on unit boundaries or on the functions of moves. The same is equally true of observers or coders, since they have no privileged access to what participants intended or understood’. It will be argued that CA, rather than ‘guessing’ what is in the participants minds (and therefore not concerned with ‘intention’ in this sense) can show the way in which utterances are understood by all participants.

An additional difficulty is that these types of study often use timed systematic coding of observations. For example, the Hargreaves, Moyles et al. (2003) study coded utterances every 25 seconds, and the Flynn (2007) study every 3 seconds. This approach fails to take into account the importance of linkage between utterances, as does any approach which codes individual utterances or units (however these are decided upon by the analyst). Although an extended coding system has been argued for:
‘coding for links between turns rather than for separate turns alone, and perhaps
identifying groups of turns which satisfy certain specified criteria’ (Westgate and Hughes
1997, page 136)

and has been used in terms of grouping turns to code complete IRE/F units, and
computerized systems have allowed each discourse move to be logged in real time
(Hardman and Beverton 1995; Smith, Hardman et al. 2004) this still carries with it the
difficulty that the analyst is imposing theory (in the form of a pre-decided coding system)
on the data. In particular, there is a difficulty with systematic observations, as an
immediate decision has to be made about which category an utterance fits into; as will
be shown, it may not be until many turns later that the action performed by this utterance
can actually be understood. Where transcripts are used rather than live observations,
these have generally been treated in the same way as classroom observations, in that
coding systems are drawn up and then imposed on the data. Finally, these studies tend
to focus on the linguistic content of the utterances spoken, and ignore features such as
pitch, pauses and para-linguistic features (often relying on transcripts which have been
‘tidied up’ to aid reading). Again, it will be shown that these features can form an integral
part of the way that participants orient to each other during interactions.

Conversation Analysis

Although argued by some to be a discipline in its own right (Schegloff 2005), CA is
generally regarded as a methodology which is inter-disciplinary, as resources may be
brought to bear on the data which originate in a number of different disciplines, such as
linguistics and sociology (Hutchby and Wooffitt 1998). Developed from
ethnomethodology, it assumes that: ‘social action is accomplished through the
participants’ use of tacit, practical reasoning skills and competencies’ (Wooffitt 2005,
page 73).

CA is the study of talk-in-interaction, using naturally occurring data, in order to make
these skills and competencies (which have become naturalized to the point that they are
no longer consciously noticed by participants) visible. It assumes that talk-in-interaction
is worth studying in its own right for this reason, offering an ‘emic’ perspective
(Seedhouse 2005).

CA treats the recording of the talk-in-interaction as the data, rather than a transcript.
Using ‘unmotivated looking’, CA takes an inductive, data driven approach to analysis,
rather than being led by theory (Wooffitt 2005). Transcriptions are produced, the
development of which is considered a key part of the analysis, as it involves repeated
listening and adjustment (Hutchby and Wooffitt 1998). When transcribing, decisions
have to be made as to what is included, and what therefore is excluded. This is an
important issue as:

‘even the most minor or apparently irrelevant speech events may be interactionally
significant, and exhibit a previously unimagined orderliness’ (Wooffitt 2005, page 11).

Detailed transcripts also contribute both to the reliability and the internal validity of the
research as it is the means by which an emic perspective is proved. It offers the
opportunity for others to test the validity of the claims being made (Seedhouse 2005).
Commonly used is the Jefferson (2004) transcription technique (for the adapted version
used in this paper, see appendix 1). This allows for detail to be included in terms of
length of pause, para-linguistic aspects and intonation where these are proved to be relevant to the participants' interpretations. Where these are not proved to have a bearing they are not included as erroneous transcription detail is likely to make it more difficult for the reader.

CA places a strong emphasis on the linkage between utterances, a key point if knowledge, understanding and context are seen as socially constructed. However, clearly decisions need to be made over the units isolated for analysis, bearing in mind that:

’an exchange that appears to have clear boundaries could continue hours or days later, or be a resumption of previous exchanges – the researcher cannot know all parts of the exchange’ (Flewitt 2006, page 34).

In particular, where data collected are part of a sequence of sessions, it is likely that talk-in-interaction at any given point (especially in relation to routine tasks) will be a continuation of previous exchanges.

A premise of CA (and interaction analysis in general) is that knowledge is produced through social interaction; the study of talk-in-interaction can make this knowledge accessible to the researcher in the same way that it is understood by the participants (Jordan and Henderson 1995). A key point, however, is that assumptions cannot and should not be made about the intentions of the participants; only where intentions and motivations are displayed to other participants, and are ‘proved’ through other participants’ recognition of them as such can they be brought into the analysis (Jordan and Henderson 1995). ‘Next turn proof procedure’ (Hutchby and Wooffitt 1998) is the mechanism by which the analysis can be proved through the data. Therefore, whereas other approaches provide the analyst’s interpretation of each utterance, CA provides the participants’ interpretation of these.

Participants in talk-in-interaction are using language to perform actions; every utterance sets out to achieve something (Schegloff, Koshik et al. 2002). Rather than participants in talk-in-interaction passively playing out structures imposed by the context, CA is based on an assumption that participants are active in orienting to and showing recognition of each other’s ‘actions’, and therefore the context, although influenced by structural norms known by participants, is locally created and negotiated, or ‘talked into being’ (Heritage 1997; Hutchby and Wooffitt 1998; Seedhouse 2005). This is particularly important when analysing talk which is recorded in what might be considered as highly structured organizations (such as classrooms), and has led to a form of CA referred to as institutional (or applied) CA which ‘studies the management of social institutions in interaction’ (Heritage 1997). This is distinct from ‘pure’ CA which focuses on the structures of interaction in their own right (although the two types of CA clearly have some common interests and therefore overlap in many ways). The basic features of institutional talk, presumed by applied CA, are that participants normally orient to goals based their institutional roles (ie teacher/pupil); that possible contributions may be restricted by these roles; and that specific procedures linked to that institution may play a role in talk-in-interaction. For example, in the case of classrooms, it is suggested that turn-taking may be highly regulated because of the large numbers of participants involved (ibid).
However, it should not be presumed that these kinds of asymmetries only exist in institutional settings (Heritage 1997), or that within institutional settings such as classrooms these role given asymmetries are rigidly adhered to: ‘not all teachers assume such rights and few live by such rules all the time’ (Cazden 2000). Ordinary conversation may be used in this institutional setting for a range of purposes. Therefore:

‘… the default analytic orientation needs to be to address ‘institutional’ data in much the same way as one addresses talk in unspecialized contexts, while being alert to modifications best understood by reference to participants’ orientation to the particular circumstances and constraints of the occasion…’ (Schegloff, Koshik et al. 2002, page 12).

This does not mean that the analyst should not be aware of the context of the interaction, simply that that this context should be seen to be being created by the interaction, rather than existing outside of it (Drew and Heritage 1992). Heritage (1984, in Drew and Heritage 1992) discusses the need to be aware of both the immediate context of the utterance being considered, and the larger context of the activity that the utterance occurs in. It can be argued that institutions are ‘realised’ by the talk-in-interaction taking place, as the participants orient to the immediate and larger context, rather than institutions constraining the interactions in predictable ways (Wooffitt 2005).

**Conversation Analysis in use**

In this section, a data extract will be used to provide two examples of how participants in talk-in-interaction may recognise the same utterance as performing different actions. The difficulties which these would pose for analysts using coding systems will be discussed, and it will be shown how CA can provide and ‘prove’ the interpretations of all participants. The data is taken from literacy intervention sessions with groups of Year 1 children (5-6 years old). Sessions are taught by a Teaching Assistant (TA) using ‘scripted’ materials produced by the local authority. The children have had 10 previous weeks of 30 minute sessions (across the spring and summer terms). The sessions video recorded were ‘oracy sessions’, where the focus is on the children talking about a book and discussing issues raised. To begin with, the TA reads the book and asks questions. This is then followed by all the children reading together aloud and discussing the pictures. The books are then sent home for children to share with parents. The book being shared in the session is ‘Not me,’ said the monkey’ (West 1987).

The focus of the analysis is repair sequences. It will be shown that an initial change made by the TA to the ‘script’ provided leads to the need for a repair sequence, due to the different interpretations of this by participants. The detail of how repair is achieved will be described, showing that both verbal and non-verbal features of interaction can make clear how the participants are interpreting each others actions. It will also be shown that there are links between the participants’ differing interpretations of the ‘turn taking’ system being employed, and the requirement for repair sequences. Throughout, the emphasis is on the way in which a trouble source can be recognized differently by different participants (Robinson 2006).

Repair is the means by which participants deal with trouble sources in order to maintain a ‘socially shared cognition’ (Sacks, Schegloff et al. 1978). It is defined as the ‘practices for dealing with problems or troubles in speaking, hearing, and understanding the talk in
conversation’ (Schegloff 2000). Jordan and Henderson (1995) point out that repairs in ordinary talk are often done without participants being aware that they are doing them. It is through the analysis of the data that the mechanisms for achieving repair can be seen. However, when looking at talk-in-interaction which is in an instructional context, it has been shown that the adult participant is actively looking for troubles and is conscious of the need to repair them (McHoul 1990; Macbeth 2004; Radford, Ireson et al. 2006).

**Page shot:** “Not me,’ said the monkey’ (West 1987).

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“Who keeps walking all over me?”
“Not me,” growled the lion.
“And not me,” said the monkey.
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**Script**

In the materials the following instructions are given for the TA:

TURN TO THE DOUBLE PAGE ‘Who keeps walking all over me?’
“The snake is looking very upset. He was asleep in the sand and when he woke up and looked at his beautiful skin he saw horrible, black, muddy footprints.” (this information is to be read from the script; it does not appear in print in the book)

How do you know who did this?

**Transcript**

The key points for analysis are the repair sequences in lines 5 to 6 and 6 to 8. However, the difference between line 1, and the details given above regarding the script provided to the TA should be noted, as this will be shown to be key to the need for the repair sequences under discussion.

Transcript conventions are given in appendix 1.
1 TA ↑Who keeps walking over me (.) hiss:ed the snake
reading from the book-------------------------------------

2 TA (0.2)
TA [turns book to children
S [hand up

3 TA o::[h have a look what can we ↓see in the pic.ture
[looking down at picture-------------------------------------
S hand up--------------------------------------------------------

4 that gives us a clue[: about who it might be
---------------------------------------------------------------------
S hand up---------------------------------------------------------------

5 J [monkey::
pointing at the monkey---------------------------------------------------
TA ---------------------------------------------------------------------
S hand up---------------------------------------------------------------

6 TA but what can we ↓see Sally
looks up at S---------------
S hand up-------------------
J hand up-------------------

7 S the monkey I saw something
TA looks down at book
J hand up-------------------

8 TA yeah we can see the monkey but what can we see
looking from side to side of picture---------------------
J hand up----------------------------------------------------------------

In line 1 the TA reads from the book. The script next instructs the TA to read aloud the statement which would give the children additional contextual information (such as the event happened whilst the snake was asleep and it therefore would not know who did it), and draw their attention to a specific aspect of the picture (the footprints). The scripted question ‘How do you know who did this?’ would therefore be designed with the intention of the children linking the footprints with the monkey.

The silence in line 2 could be construed as a transition relevance place (TRP), hence the bid for a turn by child S. However, the TA begins another turn by drawing the children’s attention to the picture. It can be shown that child S in line 2 has heard line 1 as a complete turn construction unit (TCU), a question; whereas the TA has not heard line 1 as a possible question, but instead as a statement of information, in preparation for a follow up question (in lines 3 and 4). She therefore continues the turn, with the pause giving the opportunity for the children to look at the picture (the ‘o::h’ whilst looking down signaling that the picture is the focus). This, as will be shown, leads to the insertion of
two repair sequences based partly on the participants’ different hearings of the purpose of the opening turn in line 1.

**Repair sequence lines 5 and 6**

In line 5, child J says ‘monke::y’ and points at the monkey, overlapping the TAs turn. In terms of the question asked by the snake in line 1, the monkey would be the correct answer. It would seem that the child is responding to the turn in lines 3 and 4 ‘what can we see in the picture that gives us a clue’ as a question, predicting that the word ‘clue’ will be the end of the TCU. Again, the word ‘monkey’ would be a pragmatically appropriate answer in this context. Although these have been the only two possible questions asked, the TA requires the answer to the question in the script ‘How do we know who did this?’ The TA therefore initiates a repair sequence, in terms of ‘the monkey’ not being the item required in order to move the interaction on.

In line 4 the TA continues her turn, the emphasis on the words ‘who it might be’ making this clear. The use of the word ‘but’ (a contrastive conjunction) in line 6 would indicate that she has heard child J’s overlapping talk and is initiating a repair, incorporating this into the turn. If child J had given the answer being sort it might be anticipated that the TA would respond to this, rather than continuing the turn. She repeats ‘what can we see’, again indicating a need for repair of the answer given by child J as repeated questions are generally heard as indicating wrong answers (Macbeth 2004); the low pitch to emphasise the word ‘↓see’ also indicates that what child J has ‘seen’ is not the correct item in the picture (Schegloff, Jefferson et al. 1977).

**Repair sequence lines 6 to 11**

In line 6, the TA selects another child (child S) to answer the question, therefore initiating an other repair. However, child S has had their hand up since immediately after the TAs opening TCU (line 1), and gives an answer to the question she had originally bid to answer ‘who keeps walking over me’ (‘the monkey’). This repeats the answer given by child J. It may be that S has not been following the contributions made by other members of the group, but more likely (bearing in mind her persistence at bidding for her turn through lines 2-6) is that she has not recognised the responses of the TA in line 4 to child J as indications of a incorrect answer being given, but as a response to an interruption by child J (as no bidding or selection was involved in J’s turn). If S hears line 5 as an interruption, then the answer could conceivably be right, but not have been accepted by the TA for this reason. There appears to be a difference here in how the trouble source is interpreted by the two participants; the TA hears the difficulty in terms of achieving common understanding (Macbeth 2004), whereas S hears the difficulty in terms of the turn taking system. This issue of the same trouble source being recognized differently by different participants has been previously acknowledged (Robinson 2006). There are therefore two trouble sources framing this repair sequence: different interpretations of the action being carried out in line 1 and in line 4.

**Discussion**

The data presented could not be represented accurately through a coding system. Line 1 in a systematic observation would need to be immediately logged as either a question (based on the fact that a child bids to answer in line 2) or as a statement (based on the presumed intent of the TA, and in relation to the script they are working from). As has
been shown, it is not until line 8 that it becomes clear that the utterance in line 1 has performed two different actions for at least 3 participants (J and S hear it as a question, whereas the TA hears it as a statement). This highlights the importance of the links between utterances, and the dangers of isolating units for analysis. Even if the full sequence was transcribed and considered before coding, the analyst would still need to decide on whether to code line 1 as a statement or a question. Placing it in either category would exclude the meaning heard by at least one of the participants.

In the second example, line 5 could be coded as a response to a question. Which question this would be seen as a response to, however, depends again on whether line 1 has been coded as a question. If it is coded as a statement then line 4 would be seen as the question being responded to. Again, this reflects the importance of linkage between utterances, and the difficulties of isolating units, even if these are units larger than a single utterance (for example, identifying IRE/F sequences). A further issue relates to turn taking systems – is this response not the one being sort by the TA, or is a correct response not being taken up by the TA as it was called out rather than the child being selected to answer (the hearing of child S is that this is the case)? Again, assigning utterances to categories does not allow for the showing of this difference of interpretation by participants. In addition, it is clear that reliance on the linguistic content of utterances would not allow this interpretation to be made. It is the action of bidding (by raising a hand), and the understanding of this system, which is key to the difference in interpretations by participants.

Conclusion

It is acknowledged that CA works within a different paradigm to methodologies based on coding; it would be somewhat futile to claim that one methodology is ‘correct’ in this sense. However, what has been shown is that an analytically robust approach is offered by the use of Conversation Analysis (CA), allowing the interpretations of participants to be shown in the same way as they ‘lived’ during the interaction. This gives a unique moment by moment insight into classroom interactions. As a methodological approach, CA is designed to be able to deal with complex data, is able to show where utterances are interpreted in different ways by different participants, and make explicit how participants co-construct the reality of their interactions. It is therefore suggested that CA should be more widely utilized in investigations into mainstream classroom interactions, either alone or to support studies using other approaches.
References


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