Problems Analysing Discourse and Teacher Questions from a Researcher's Perspective

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Abstract
Discourse analysis, especially ethnomethodological approaches, has become a powerful tool for investigating classrooms. However, such analyses run the risk of relying on subjective researcher interpretations of data and of unconscious biases influencing the findings. In this paper, we will present a case study of an attempt to investigate problematic teacher questions which highlights these risks. The main implication of this case study is that discourse analyses must take into account multiple perspectives on the discourse.

Discourse analysis

The term *discourse analysis* was first used by Zelig Harris in 1952, but the discipline really came of age in the 1970s with the publication of several seminal works, especially in the analysis of classroom discourse. In 1975, Sinclair and Coulthard published a functional analysis of classroom language identifying the influential IRF (initiation – response – feedback) pattern of classroom interaction; in 1979, Mehan identified a similar pattern through an ethnographic approach; and in 1977, van Dijk produced possibly the most ambitious attempt to provide a grammatical description of discourse as text.

These three works represent three different schools of discourse analysis (McCarthy, 1991). The work of Sinclair and Coulthard initiated what became known as the Birmingham school of discourse analysis which, based on the work of Halliday (e.g. 1970; 1973), focused initially on functional analyses of discourse (McCarthy, 2001) before broadening into other areas such as lexical cohesion (e.g. Hoey, 1991). Van Dijk's work was part of text linguistics or text grammar (see also e.g. de Beaugrande & Dressler, 1981; Mann & Thompson, 1988) which attempted to address the cognitive processing of written discourse. Mehan was instrumental in showing the applications of a broad range of ethnomethodological approaches in American discourse analysis, including conversation analyses, interactional analyses and ethnographies.

All three schools have produced findings and generated theories of great value, yet they view discourse in different ways and use very different methods of analysis. Text grammarians have largely focused on written texts (for a text grammar analysis of classroom discourse, see Watson Todd, 2005) viewing discourse as language products above the level of sentence; functional discourse analysts have investigated both spoken and written discourse from linguistic perspectives; and ethnomethodologists have taken a more sociological approach and viewed discourse as a dynamic process.

These different views of discourse and different focuses of analysis require different approaches in analysing discourse data. Both text grammarians and functional discourse

analysts often aim to produce generalisable and replicable research. In doing this, research within these two schools often sets up clearly defined and operationalised units and categories of analysis. Ethnomethodologists, on the other hand, are often interested in the intersubjective and context-dependent nature of specific instances of discourse. As such, ethnomethodological studies tend to rely on researcher interpretations of discourse and run the risk of producing impressionistic (Watson-Gegeo, 1988), selective (Stubbs, 1986) and ultimately vapid (Chaudron, 1988) summaries of the discourse data. From the perspective of outsiders to ethnomethodology, these studies may appear subjective and unreliable. The various approaches to ethnomethodology, however, do have strict underlying research methodologies as clear and rigorous as those of text linguistics and functional discourse analysis.

Ethnomethodological approaches
American discourse analysis comprises several different approaches to analysing discourse. Predominant among these are the ethnography of communication, interactional sociolinguistics and conversation analysis.

The ethnography of communication aims to produce thick, detailed, holistic descriptions of social settings and the interactions that take place in them. While the research methodology may be flexible, there are two key aspects that characterise ethnographies. First, they involve detailed observation over a long period of time (Saville-Troike, 1996; Watson-Gegeo, 1988). Second, they often combine emic (insider) and etic (outsider) perspectives with the researcher as participant (Erickson, 1996; Watson-Gegeo, 1988), and therefore lengthy descriptions of the researcher may be necessary (Rampton et al., 2002). The process of conducting an ethnography generally involves noting key features in events, describing patterns, interpreting the meanings of the patterns, and then explaining these within the larger context.

The second approach, interactional sociolinguistics, also requires long-term study in order to create familiarity with the context and often involves emic perspectives (Hall, 2002). It differs from ethnography in that recurrent events need to be identified and recordings made, and these recordings need to be analysed through repeated viewings in order to provide insights into relationships between self and society (Schiffrin, 1996).

Conversation analysis differs from other ethnomethodological approaches in its view of context. Rather than seeing context as a predetermined environment for interaction, this approach views context in micro terms as being created through the interaction (Mori, 2002). Conducting a conversation analysis does not involve collecting emic perspectives; instead, the focus is on the interaction itself. Thus, instances of a certain phenomenon are collected, transcribed and analysed inductively in great detail (Ellis & Barkhuizen, 2005; Hall, 2002). Since each interaction is viewed as unique in conversation analysis, there is no attempt to identify generalisable patterns from the data.

While these three ethnomethodological approaches clearly vary greatly in research methodology, each approach provides fairly rigorous and justified guidelines for conducting research. Researchers deciding to follow an ethnographic approach may produce nearly worthless research if they do not follow these guidelines. Examples of poor ethnomethodological research include so-called blitzkrieg ethnographies where the research is conducted in too short a timeframe to allow full familiarity with the context

(Saville-Troike, 1996) and research where "reliance on a few anecdotes [is] used to support the researcher's theoretical point of view or conclusions" (Watson-Gegeo, 1988, p. 585).

In this paper, we intend to criticise a research study taking an ethnomethodological approach. We will then highlight one key danger in conducting such research – the reliance on subjective interpretations of data – by examining our own attempts to identify problematic questions in classroom discourse. By doing this, we hope to be able to draw up further guidelines for conducting effective discourse analyses.

A sample criticism
Before we provide a brief criticism of one research study taking an ethnomethodological approach, we should stress that the majority of articles in the field follow the guidelines for conducting research and are careful to avoid overinterpreting the data. In other words, while such research usually attempts to draw inferences from the discourse data, care is taken to ensure that these inferences do not go beyond what is apparent in the data.

However, in some research a concern on the part of the researcher to find evidence to support a particular theory may lead to an unconscious overinterpretation of the data. As a potential example of this, we will examine a brief extract from Tsui, Morton, Mok & Ng (2004). In choosing this article, we do not intend to question its value; rather, we are focusing purely on the methodological issues of privileging etic researcher perspectives and unconscious bias in interpretation of data in ethnomethodological research.

The article we have chosen to criticise is one in a published collection where two of the article authors are also editors of the book. The book, *Classroom Discourse and the Space of Learning*, examines several different aspects of classroom discourse, especially the importance of discernment and variation in learning and the construction and constitution of spaces for learning, including how teachers and students collaboratively construct meanings through classroom discourse. This last point is important in the article by Tsui et al., which examines how the teacher's use of questions shapes the space of learning.

As an example of the use of questions, Tsui et al. analyse an extract from a physics lesson (extract 5.11, pp. 133-134) which focuses on how a reed relay works. The key focus of their analysis is on how the teachers and students collaborate in the discourse, and, after showing how six of the main concepts in the discourse were introduced by the teacher and five by the students, they conclude that "the understanding of the processes involved was co-constructed by the teacher and the students" (p. 135).

However, looking back at the transcripts (the data analysed by Tsui et al.), the claim that five concepts were introduced by the students is far from certain. In some cases, the students are simply selecting words from teacher utterances to repeat. For instance, let us look at a short stretch of discourse taken from the article and shown in extract 1.

Extract 1
T: Strong light shines on the LDR, I've told you before, and the electric resistance value drops. OK, what effect will it have on the electric current on this side of the circuit?

S: Electric resistance drops.

In this extract, the student's answer which Tsui et al. argue is adding new meaning to the discourse is also a partial repetition of the teacher's previous utterance. In other cases, although the students do add new information to the discourse, this information is given in response to closed teacher questions which control the content of the information that the students add. Continuing the discourse from extract 1, an example is shown in extract 2.

Extract 2
T: Electric resistance drops, the electric current ...?
S: Increases.

While the word 'increases' is introduced into the discourse by a student, it is the teacher who controls its introduction, and the meaning introduced is not selected by the student. Indeed, of the five concepts the authors claim are introduced by the students, only one comes in response to an open question without teacher prompting and this concept is a restatement of previous teacher-controlled student input which the teacher had rejected. Thus, of the 11 key concepts identified by the article authors, it appears that 10 of them were under the control of the teacher. The authors' conclusion that discourse understanding was co-constructed is therefore suspect.

Before we continue, we should point out that our own interpretation is similarly suspect. This realisation leads to two questions. First, why is it difficult to interpret classroom discourse reliably? Second, why did Tsui et al. interpret the discourse in the way they did? The first question highlights the difficulty of ensuring reliability in ethnomethodological research. This is partly due to the multitudes of potential interpretations of any given stretch of discourse and partly to tendencies to privilege researcher perspectives on the discourse over those of other parties and, even when there are several researchers, to provide only one supposedly definitive researcher interpretation of the data. The second question highlights a potential unconscious bias in interpreting data so that it supports a theory the researchers are proposing.

In the context of Tsui et al. (2004), these two issues, while problematic, are not so serious that they devalue the research findings. In other contexts, however, privileging researcher perspectives and unconscious biases in interpretations could have such a serious impact on the research as to render it meaningless. We will next give an example of such a context by looking at the preliminary stages of some research we tried to conduct into problematic teacher questions.

Background of the study
The research into teacher questions originated in the teaching practice of one of the authors (TB) when she was studying a Masters degree in Applied Linguistics with the two other authors as her tutors. Towards the end of the semester, she became concerned about the quality of her questioning, specifically why students did not respond to some of her questions. These questions to which no reply was given she termed problematic.

Since there was little time remaining in the semester to record her lessons, we decided to start examining problematic teacher questions using published extracts of classroom discourse. To this end, we chose ten extracts of eliciting taken from Watson Todd

(2003). These extracts came from various lessons on first-year undergraduate English language courses at a Thai university with four different teachers. Since the extracts focused on the eliciting stage of the lessons, there were numerous examples of teacher questions for us to analyse. In total in the ten extracts, there were 163 teacher turns which included questions and 276 questions in all (including repetitions).

Using these extracts as the data, we aimed to conduct an analysis to see if we could identify any patterns in the reasons why students found certain questions difficult to answer. In taking this approach to identifying the causes of problematic teacher questions, we are working within a framework of functional discourse analysis. If we were fortunate, we hoped to be able to use the extracts to identify the causes. A more likely outcome was that we would be able to identify potential patterns in the data which could be used to guide further research into questions involving teacher and student perspectives in addition to the researchers' analyses.

Our preliminary research, then, did not follow an ethnomethodological approach but did involve examining and interpreting discourse from the researchers' perspectives. Also, while we had no theory we were trying to support, our individual concerns could guide our interpretations of the discourse. So, although we were not taking a purely interpretive ethnomethodological approach, it appeared that any issues in conducting research that we encountered could shed some light on such an approach and on discourse analysis in general.

Identifying problematic teacher questions and their causes
To start our analysis of the extracts, we needed to identify the problematic teacher questions. Working separately, we each drew up lists of problematic questions and then met together to compare our lists. It quickly became apparent that we were using very different principles to identify problematic teacher questions. One of us was identifying any question which did not receive a response from the students as problematic; another was basing her identification on whether she had difficulty understanding the question irrespective of whether it received an answer or not; and the third took a more interpretive approach by identifying those questions which needed to be repeated or paraphrased or which did not receive an answer but which she also found interesting in some way.

Clearly, we needed to agree on what we meant by problematic teacher questions. Starting from the initial reason for conducting the research, we came up with three main criteria for identifying problematic teacher questions:
- Questions which elicit no response from students.
- Questions which receive an incorrect answer, where incorrect means that the response is in a completely different semantic field from that expected.
- Questions that need to be extensively paraphrased or translated by the teacher before they receive a response.

Having set up these criteria, we then separately reanalysed the extracts to identify problematic teacher questions by applying the criteria. This time, there was more agreement, but still a surprising amount of difference. Of the 49 questions that at least one of us identified as problematic, all three of us agreed on only 13 questions, with a further 16 questions being agreed upon by two of us. Even attempting to follow the

criteria, 20 questions were identified as problematic by only one of the three researchers.

On further discussion, we found that we could agree that 26 of the questions could be identified as problematic teacher questions. We therefore decided to try to identify why these 26 questions were problematic. To avoid the problem of using completely different criteria to identify the causes of the problematic questions, we first attempted to posit some potential causes and came up with five possible reasons:

- The language, especially lexis, used in the questions could be difficult for students to understand.
- Long complexly phrased questions could be more problematic.
- Divergent questions could be more problematic than convergent questions (Orlich et al., 1998).
- Referential questions could be more problematic than display questions (Lynch, 1991).
- Questions which are conceptually very broad could be problematic (Watson Todd, 1997).

Bearing these potential causes of problematic questions in mind, working separately again, we analysed the 26 questions and their contexts to attempt to identify why they were problematic.

Even though we based our analysis on the five possible causes, we still found many further possible causes including a lack of context and a lack of clear purpose for the questions. Nevertheless, from our analysis, most of the problems with the questions appeared to be caused by either difficult language or excessive broadness of the questions. However, there was still a lack of agreement in our three analyses. We totally agreed for only 4 questions; two of us agreed on 16 questions; and for the other 6 questions, we each identified different causes.

Again, it was apparent that there was a lack of agreement between the three researchers even when we were using criteria to guide our analyses. Although we could have continued working by discussing our different analyses in an attempt to reach a consensus, we were aware that our personal interpretations of the data were having a large effect on the findings. From this, we decided that it was not possible to conduct a valid and reliable investigation of problematic teacher questions if we were to base our analysis only on the researchers' perspectives.

Discussion

The attempted research we have reported falls within functional discourse analysis, an area which generally involves less interpretation of the data than ethnomethodological approaches. Even within this type of discourse analysis, however, by basing our analysis only on the researchers' perspectives, the effects of personal interpretations on the findings became clearly apparent.

The research into problematic teacher questions illustrates the tendency in discourse analysis to privilege researcher perspectives over those of other parties. For instance, in the 18 issues of the journal *Language and Education* between 2003 and 2005, 15 of the 17 articles which involved analyses of transcripts of classroom discourse relied solely on researchers' perspectives. The problems with such a heavy reliance on the researcher become apparent in one of these articles where, in discussing a short transcript, the

authors write, "On a purely speculative note, it is reasonable to assume that Carl has copied texts before, or that he is known to perform so poorly that his being finished raises suspicion" (Tholander & Aronsson, 2003, p. 217). Rather than making an assumption, why did the authors not try to gain Carl's or the teacher's perspectives? Similarly, in the case of the research by Tsui et al. (2004), it would be interesting to know whether the students agree with the researchers' conclusion that the discourse was co-constructed or whether they believe that the teacher was controlling the direction of the discourse.

Yet, there does not need to be such a reliance on the researcher. In examining genre analysis of written discourse, Swales (2004) suggests that there are four discoursal protagonists whose perspectives could be taken as the principal interpretants: the writer, the readers, an expert analyst or a corpus analysis excluding human informants. In analysing classroom discourse, the parallel perspectives would be those of the teacher, the students, an expert and a corpus analysis.

The paucity of attempts in discourse analysis to account for perspectives other than those of the researchers is worrying. While it may be justifiable on practical grounds within text grammar analyses, from our case study of problematic teacher questions, we have seen how many problems it can cause in functional discourse analysis. In ethnomethodological approaches, where interpretations of discourse form the main body of the findings, the reliance on teacher perspectives is even more potentially problematic. Presumably, this is one of the reasons why guidelines for conducting ethnographies of communication stress the need for insider perspectives (Duff, 2002; Watson-Gegeo, 1988). For classroom discourse, these insider perspectives would be those of the teacher and students.

Taking insider perspectives into account does not mean discounting researcher perspectives. One key argument in favour of privileging researcher perspectives is that people can only identify things they know (so that, for example, in needs analyses in language classrooms, language learners are unlikely to state a need for, say, communication strategies since they may not know that such strategies exist). The greater specific knowledge of the researcher may allow issues in discourse to be identified which would not be apparent if only teacher and student perspectives were considered.

While privileging researcher perspectives may be justifiable (especially if used in conjunction with other perspectives), caution must be exercised to reduce the effects of unconscious biases in interpreting discourse. The lack of agreement in our research into problematic teacher questions illustrates the potential impact of personal interpretations of data, even though we were not trying to find support for any particular theory. In the case of Tsui et al. (2004), their desire to find support for a theory involving co-construction of meanings may have led to the researchers unconsciously identifying co-construction of meanings when it did not really exist. To avoid situations like this, comparisons of multiple perspectives, whether of different discourse protagonists or of more than one researcher, can be used. Where the multiple perspectives match, such comparisons can increase the reliability of the interpretations of the discourse; where multiple perspectives conflict, this suggests that the research procedures need to be revised (as in the case of the research into problematic teacher questions) or that

different equally valid interpretations of the discourse exist. In either case, comparing multiple perspectives can only strengthen the research.

Conclusion
While we believe that discourse analysis has been one of the most insightful and productive approaches to researching classrooms, there are problems with the methodology used in much research into classroom discourse. These problems are most apparent in ethnomethodological approaches, although they can occur in any discourse analysis. The problems are over-reliance on researcher perspectives in interpreting discourse and the possibility of unconscious biases influencing the findings. To avoid these problems, we believe that other perspectives, particularly those of the teacher and students, must be taken into account when conducting analyses of classroom discourse.

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