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Frameworks for transcribing and analyzing discourse of the classroom

Proposal for presentation at ARE2003  
Paper number 641.00

Abstract
Classroom discourse, which includes the interactions of teacher with students, students with teacher, and students with students, may reveal much about learning and teaching. Frameworks for recording, transcribing and analyzing classroom discourse are widely used in second language acquisition research. These frameworks may be used more generally in any classroom-based research which investigates, for example, roles of teachers and/or of learners, or collaborative behaviors of learners. This paper describes some of these frameworks, focusing on one used in a recent study of adult ESL classrooms. Patterns of interactional moves were identified in ten audiotaped / videotaped lessons.

Aims
In this working paper I have a broad aim to make connections between discipline areas represented in my Faculty of Education by examining an approach to research methodology, classroom discourse analysis, which may be common to research in, for example, mathematics, science, social studies and language classrooms. I am hoping that colleagues in a range of discipline areas may add to my knowledge of how discourse analysis frameworks are being used at present.

I have more specific aims in presenting this paper as well. The first of these aims is to understand better the very wide range of methodologies which can be loosely described as analysis of classroom discourse and their applications. In doing so, I ask the question “What kinds of research questions are best explored by using particular kinds of analysis?” The second more specific aim is to locate the methodology used in my recent doctoral research within this range and to give some information about the tools of my study, especially the transcription, coding and counting procedures, and what they were able to tell me about some of my research questions.

“What kinds of research questions are best explored by using particular kinds of analysis?”
A recent edition of the journal Applied Linguistics attempts to consider critically three kinds of methodology in what the editors call “Microanalyses of Classroom Discourse” (Zuengler and Mori, 2002). This offers me a convenient starting point for today, and I will in fact confine myself here to an account of the three studies described in this journal. The authors of the three studies use three kinds of methods in their analyses of classroom discourse, each one of which has a different research focus and a different kind of classroom type. (Table 1)

I will briefly describe the context, methods, and the chief findings for each one of the studies, before going on to talk about my own study methods and findings:
Table 1. Three methods for microanalysis of classroom discourse

<table>
<thead>
<tr>
<th>Classroom type</th>
<th>Research focus</th>
<th>Method for microanalysis of classroom discourse</th>
<th>Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social studies, Year 10, Canada</td>
<td>Language socialization: Co-construction of knowledge, identity and difference</td>
<td>Ethnography of communication</td>
<td>Duff, 2002</td>
</tr>
<tr>
<td>Japanese language, upper level, university, USA</td>
<td>Task design, plan and development (Talk in interaction)</td>
<td>Conversation analysis</td>
<td>Mori, 2002</td>
</tr>
<tr>
<td>Physics, Year 12, USA</td>
<td>Comparison of two modes of presenting meaning (textbook and interactive teacher talk)</td>
<td>Systemic functional grammar</td>
<td>Young and Nguyen, 2002</td>
</tr>
</tbody>
</table>

Ethnography of communication

Duff’s study was undertaken in a mainstream Year 10 Social Sciences classroom in a high school in Western Canada where a high percentage of students were ESL learners. Lessons were based on texts about Chinese masks and the movie *The Joy Luck Club*.

“What kinds of research questions are best explored by using ethnography of communication?”

Duff (2002) suggests that the ethnography of communication approach provides a set of methods for conducting research in the area of language socialization. Language socialization is defined as

the linguistic and interactional processes that mediate newcomers’ participation in routine cultural practices, such as language and literacy activities, and facilitate their developing competence and membership in discourse communities (P290).

She argues that language socialization “provides a helpful theoretical perspective of the construction, negotiation, and transformation of knowledge, identity(ies), and difference(s) in and through educational discourse” (P291). While a number of categories have been proposed for what is broadly known as ethnography of communication, Duff claims that most ethnographic classroom research involves a combination of

- Ethnographic description
- Micro-analysis of events
• Discourse analysis

Micro-level discourse analysis may focus on any of the following:
• Speech acts, turn-taking, repair, cohesion, contextualization signals, thematic / information structure
• Code-switching
• Personal pronouns and their sociolinguistic or discursive functions
• Grammatical particles and their socio-affective content / function
• IRE or IRF analysis and the role of the Evaluation move specifically
• Silence and its significance
• Recurring structures that signal boundaries between / within activities and their functions

In her analysis of the Social Science lessons, Duff uses sections of classroom dialogue to illustrate how

one teacher… implemented an official and personal ideology of respect for cultural diversity and difference, social justice and empathy for others, and also attempted to engage both local and non-local students meaningfully in discussions related to culture. She did so by deliberately allocating turns to certain students and by including specific course content. In several cases described (in the data) however, her attempts to have students make cultural connections based on their own backgrounds, cultures and experiences did not yield the kind of revelations or commentary she sought. That is, the students did not take up the identity positions she attributed to them, or did not produce elaborated or highly personal, introspective responses. Instead, local students often seized the opportunities to talk, in a way that simultaneously revealed aspects of their identities and differences from others in their midst (P310).

See Appendix1 for extract from the Year 10 Social Science lesson.

Conversation analysis

“What kinds of research questions are best explored by using conversation analysis?”

Mori’s study in the Japanese language classroom focuses on the design, planning and implementation of a task which involved discussion meetings between undergraduate students and guest native speakers of Japanese. The aim of the task was for students to use their Japanese language skills to find out about family relationships in Japan, and particularly, to find out about the relationships that the guest native speakers had had with their parents. Mori’s study evaluates what went wrong with the task…

Mori locates her study in relation to three veins of research, all of which are based on microanalyses of language classroom discourse. The first vein of research is “a series of quasi-experimental studies that have investigated the relationship between task types or the conditions of their implementation and the resulting language performance” (P324). The second vein of research “addresses the variable relationship between the task designers’ intentions and the learners’ interpretations of the tasks assigned to them” (P324). The third vein challenges notions of ‘authenticity’ and ‘naturalness’, based on which task-based approaches have flourished” (P325).
Mori’s study uses conversation analysis (CA) which she defines as “a branch of ethnomethodology established and developed by Sacks, Schegloff and Jefferson and their students and colleagues” and which examines “the fundamental organization of talk-in-interaction, which is recurrently exhibited by participants’ conduct in a wide range of social interaction” (P326). Talk-in-interaction consists of turns and sequences which are developed “in a moment-by-moment fashion”. CA studies have shown how the constraints of institutional contexts such as hospitals, courtrooms and classrooms may alter the organization of talk. This methodology is based on a micro analysis of “the ways in which the participants organize their interaction and accomplish various social actions”.

Mori’s findings. In the pre-task planning stage, the undergraduate students of Japanese “tended to orient to the information transfer aspect of the task” (P339). That is, they focused on what they would find out, rather than on how they would establish a comfortable atmosphere with their conversational partners. In the actual conversations, this focus on getting the information was counter productive. What happened was that the students moved on too quickly from one question to the next. Mori’s analysis of the actual conversations between students and native speakers is based on the Conversation Analysis category of question and answer, known in CA as an adjacency pair. She noted that during the actual conversations, the students tended to ask questions to which the native speakers gave only short answers. Research in CA has shown that in real-life conversations, such an adjacency pair is usually followed by a third part or third utterance, such as an explicit assessment or extended evaluation of the answers. In the classroom conversations however, in response to the answers of the native speakers, the students gave minimal feedback. As a result, the interactions became less like “conversations” and more like a “structured interview”. What Mori found was that the students did not elicit much information from the native speakers about their relationships with their parents. If they had given a longer and more detailed response to what the native speakers had replied to their questions, they might have elicited more information and the task would have been more successful.

See Appendix 2 for extract from the university class in Japanese language. This extract is followed by coding conventions often used in Conversation Analysis.

Systemic functional grammar

“What kinds of research questions are best explored by using Systemic functional grammar?”

Systemic functional grammar concepts allow comparison between spoken and written texts. Such a comparison is the basis of Young and Nguyen’s study. This study was conducted in the Year 12 Physics classroom, and uses discourse analysis to analyse three aspects of scientific meaning making. These are:

- Representations of physical and mental reality
- Lexical packaging (the degree of abstractness or concreteness of the text)
- Rhetorical structure of reasoning

These researchers compared the presentation of related instructional material by the teacher and by the textbook. The topic is reflection in a plane mirror. Two short texts
are examined by Young and Nguyen, who draw on methods used by Halliday and Martin in their book *Writing Science: Literacy and Discursive Power*. The writers summarize similarities and differences between the teacher talk and the textbook in Table 6 (P366). For example, in teacher talk, there are first person action verbs in the active voice, while in the textbook, there are third person action verbs in the passive voice. While technical terms are explicitly unpacked by both the teacher and the textbook, the teacher helps students to understand with visual unpacking (using gestures). While the analysis shows some advantages and disadvantages in both kinds of presentation, the authors note that the students in the class appeared to prefer the teacher’s presentation.

*See Appendix 3 for extract from the Year 12 physics lesson.*

We can see from the three studies mentioned here that different approaches to discourse analysis will be appropriate for different research questions. In the Year 10 Social Science lesson, the research questions were about language socialization. These questions about how language is used to construct knowledge and to construct identity. In this case an ethnography of communication approach can be used, which includes discourse analysis. In the university Japanese class, the research sought to evaluate a conversation based task and to pinpoint weaknesses in planning and implementation of the task. Conversation Analysis helps to do this by looking carefully at the structure of the interactions between students and guest native speakers. In the Year 12 physics lesson, the researchers aimed to compare the effect of features of two kinds of text, teacher talk and written text, in helping students to understand the concept of reflection of light in a plane mirror. For their research purpose, a systemic functional discourse analysis was most appropriate.

**Research questions in my study**

And now to my own study, completed in 2002 for my doctoral thesis. The title of the study is: *Corrective feedback to spoken errors in adult ESL classrooms*. I had taught English language to adults for a number of years, in Australia and elsewhere. That’s why I was interested in that context. Why was I interested in corrective feedback to spoken errors? Language teachers during my life time have received different messages from the advocates of different methodologies in language teaching. From about 1980 (and I’m talking about countries like Australia, England and the US), for example, it was thought that correction of spoken errors was a bad thing. The emphasis was on letting students use the language without fear of interruption and without fear of correction. Studies of immersion programs in Canada eventually revealed the limitations of not correcting spoken errors. English speaking children who had completed their education in French showed no disadvantage in terms of their performance across a range of subjects. Their use of French was fluent and could be well understood, on the whole, by French speaking Canadians. Their French was, however, inaccurate. It was understood by the 1990s that correction of spoken errors was important, and the questions were rather when and how to correct them. Meanwhile a whole generation of language teachers here in Australia were used to the idea that spoken errors were fine and mostly, did not need correction. My research questions focused on what real teachers were doing in real classrooms. I needed tools to track patterns of corrective feedback.
**Research methodology**

My own study draws on the first two approaches to discourse analysis. One of the tools of ethnographic communication is the idea of sequences and turn-taking. In Conversation Analysis too, there is close attention to interaction between speakers in sequence. My study also pays close attention to the interaction of two kinds of speaker, in sequence. The two kinds of speaker are the teacher and the students. It does not analyse student-to-student talk. My analysis starts with identification of learner turns which contain items that are not like the target language, English. That means, the learner says something which is linguistically not correct. I count all instances of response by the teacher to these errors, whether the response is to ignore the error or to respond to it in some way. I then look at what the learner does immediately after the teacher response. If there is a third part to this sequence, i.e. a student response to the teacher response, it is counted as “uptake”. Uptake includes repair of the error, but also includes no repair. The sequence is:

- Learner turn with error
- Teacher feedback
- Learner uptake

Each of these stages of the sequence was classified further, in order to track patterns. This was to enable comparison with studies undertaken elsewhere, mostly in experimental conditions. One classroom study (in a Quebec primary school) had used this exact approach previously, so that results from the two studies were able to be compared.

**The coding grid**

A coding grid was devised, which set out the following information for each learner turn which contained one or more errors:

- Class, teacher and date of lesson
- Number of turn
- Line number in transcription
- Error type
- Corrective feedback (Y/N)
- Feedback type
- Student uptake (Y/N)
- Uptake type

**Categorizing corrective feedback**

Following Lyster and Ranta (1997) instances of corrective feedback in the data were categorized according to the following six types: explicit, recast, clarification, metalinguistic, elicit and repetition. Their definition for each of these types is quoted first, together with an example of each type from the data. To make sense of each example, it is located in a complete interaction, which may involve many turns. These turns include initiations, responses or feedback of different types.

**Explicit correction**

Explicit correction refers to the explicit provision of the correct form. As the teacher provides the correct form, he or she clearly indicates that what the
student had said was incorrect (e.g. “Oh you mean...,” “You should say...”) (Lyster & Ranta, 1997:46).
In Lesson 6 below, students are about to listen to a taped lecture on the topic of phobias. During the lecture they will be required to take notes. Before they listen, the teacher checks their understanding of vocabulary items that they will hear.

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**Lesson example 4, Lesson 6, lines 258-271**

**Recasts**
Recasts involve the teacher’s reformulation of all or part of a student’s utterance, minus the error. ...Recasts are generally implicit in that they are not introduced by phrases such as “You mean...,” “Use this word,” “You should say...,” etc. However, some recasts are more salient than others in that they may focus on one word only, whereas others incorporate the grammatical or lexical modification into a sustained piece of discourse. (Lyster & Ranta 1997:46-47)

In the presentation phase of the same lesson, the teacher seeks further student responses to her original question: **What happens to people when they see something they have a phobia about?**
T Now.. um anything else?
FS Goosebump?
T Goosebumps? Okay, get goosebumps. ( Writes Feedback – recast on board. Good word! Goosebumps. What are goosebumps? .. Little...
FS Hair
T [bumps, and your hair stands up, yeah. Ergh!

Lesson example 5, Lesson 6, lines 274-278

Clarification requests
This is ... a feedback type that can refer to problems in either comprehensibility or accuracy, or both. We have coded feedback as clarification requests only when these moves follow a student error (Lyster & Ranta 1997:47).
In the same lesson as the one in the previous two examples, the teacher refers to her own unnamed phobia. This quickly becomes a game; the students are trying to guess what kind of phobia the teacher suffers from. A problem in comprehensibility arises here.

T There is only one thing I have a phobia about...
and I might tell you later, you might think it’s very very stupid, but I can actually get quite sick.. do you want me to tell you?
Ss Yeah. Yeah.
FS We can guess.
MS (Softly) Of course!
T Okay, guess! Come on.. fifty dollars!
(laughter) Just guess what I’m...
MS Any key words?
T Sorry? Clarification request
MS Give us key words?
T Give you a clue?
MS [Clue
FS [Clue
T Okay.. it’s an insect..

Lesson example 6, Lesson 6, lines 288-302

Metalinguistic feedback
Metalinguistic feedback contains either comments, information, or questions related to the well-formedness of the student’s utterance, without explicitly providing the correct form. Metalinguistic comments generally indicate that there is an error somewhere (Lyster & Ranta 1997:47).
In the next example, the teacher is revising modal verbs from a worksheet.

T  Could you tell me how long I must sit in the waiting room? I wonder how long I’ll..
MS1 Be able to wait for you
T  No no not be able to. Be able means
MS2 [Can
T  [To have the ability to but we’re not asking that. We’re asking
FS  Just how long
MS  Just how long we’re waiting
T  Yeah you’re just asking.. how long do you have to wait for so
MS1 [I’ll..
MS2 I won..
T  I wonder how long I’ll have to wait. That’s the simplest answer. Anything else?

Lesson example 7, Lesson 2, lines 613-626

Elicitation
Elicitation refers to at least three techniques that teachers use to directly elicit the correct form from the student. First, teachers elicit completion of their own utterance… Second, teachers use questions to elicit correct forms. … Third, teachers occasionally ask students to reformulate the utterance (Lyster & Ranta 1997:48).

The example below illustrates the first technique. In this stage of the lesson, the teacher wants students to ask her about different members of her own family, using the past continuous tense. It is interesting to note that this native speaker of Russian repairs her own grammatical error in English (omission of article) in her first instruction to the students. Thus about kids becomes about the kids.

T  You want to know about kids about the kids
FS  What were your kids..? Error – grammatical (incomplete)
T  What were… Feedback - elic
Ss  What were your kids doing?

Lesson example 8, Lesson 5, lines 275-284

Repetition
Repetition refers to the teacher’s repetition, in isolation, of the student’s erroneous utterance. In most cases, teachers adjust their intonation so as to highlight the error (Lyster & Ranta 1997:48).
(to individual pair of Ss) Okay, how does that picture make you feel?

FS  Small spider on your hand.
T   Uh huh, on your hand.. how does it make you feel?

FS1  [Scared  Error – lexical
FS2  [Terrible  Feedback – repetition with rising intonation
T   Terrible?

Lesson example 9  Lesson 6, lines 80-89

**Combined feedback**
Instances of combined feedback were common in the data. Some guidance was provided by the definitions of Lyster and Ranta (1997). For example, explicit correction could be a combination of recast plus metalinguistic feedback:
As soon as the teacher’s provision of the correct form is somehow framed metalinguistically, then the characteristics of a recast, along with its condition of implicitness, no longer apply …this was coded as “explicit correction”(Lyster & Ranta, 1997:48).
In the example of this combination given below, the teacher models an expression of agreement: You can say *that* again.
Lesson example 10  Lesson 10, lines 278-280

Categorizing uptake
Learners may give no sign of noticing corrective feedback, which is coded as *ignore*. When learners have no opportunity to respond, can it be said that they ignore the feedback? If they *do* respond, their answers may need repair or do repair. Uptake which needs repair can take six forms in the categorization of Lyster and Ranta (1997). These are: acknowledgement, different error, same error, hesitation, off-task, partial repair. Three kinds of uptake needing repair occur in the Sections below. Uptake which does repair includes repetition, incorporation, self repair, peer repair (Lyster and Ranta 1997:49-51).

No opportunity for uptake
Lyster and Ranta (1997: 54) comment that “it is evident that the recast, the most popular feedback technique, is the least likely to lead to uptake of any kind”. One reason for this to happen is that the topic may continue after the teacher has given feedback in the form of a recast. When the topic continues, there is no opportunity for the student who made the error to show uptake of the feedback. This is seen in the following example. In Lesson 7, student groups are reporting back to the teacher on their choices for six people to start a new civilization.

Lesson example 12, Lesson 7, lines 594 - 599

Uptake needing repair: different error
In Lesson 6 already cited above, the students are trying to guess the phobia of the teacher.

<table>
<thead>
<tr>
<th>T</th>
<th>You can say that again or I agree. Do you think..</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS</td>
<td>You can say that again.</td>
</tr>
<tr>
<td>T</td>
<td>You can say <em>that</em> again. For emphasis.</td>
</tr>
</tbody>
</table>

Error – phonological
Recast plus metalinguistic = explicit

<table>
<thead>
<tr>
<th>T</th>
<th>Masao, who’s your first choice?</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS</td>
<td>A man of religion</td>
</tr>
<tr>
<td>Ss</td>
<td>Ah! (laughter)</td>
</tr>
<tr>
<td>T</td>
<td>Why? Why did you choose a man of religion?</td>
</tr>
<tr>
<td>MS</td>
<td>Er… he is the only person who can heal our heart.</td>
</tr>
<tr>
<td>T</td>
<td>Okay. The only person who can heal <em>our hearts</em>.</td>
</tr>
<tr>
<td>FS</td>
<td>Maybe he will be very old.</td>
</tr>
</tbody>
</table>

Recast
Topic continuation
There is only one thing I have a phobia about...
and I might tell you later, you might think it’s very very stupid, but I can actually get quite sick...
do you want me to tell you?

Yeah. Yeah.
We can guess.
(Softly) Of course!
Okay, guess! Come on.. fifty dollars!
(laughter) Just guess what I’m...
Any key words?
Sorry?
Give us key words?
Give you a clue?
[Clue]
[Clue]
Okay.. it’s an insect..

Lesson example 13  Lesson 6, lines 288-302

Coding
The male student in this example responds to the teacher’s request for clarification by rephrasing his earlier question. He changes Any key words? to Give us key words? He has understood that there is a problem, but tries to repair the first part of his question, so making a different error. The teacher then treats as an error the lexical item key words, which she recasts as a clue.

Uptake needing repair: partial repair plus acknowledgement
While it is likely that learners’ uptake of corrective feedback is not limited to the time frame of the lesson, it seems reasonable to see it as an operationalization of noticing. The following example of uptake which needs repair demonstrates how the student has become conscious of a new lexical usage.

First of all, where is the husband? What is he doing while he’s thinking all this, where is he?
He is lying over the car
Yes. Leaning against..
Lean. Uh huh.
Do you know leaning against? (Pause 12 seconds while T writes on board). Okay.

Lesson example 14, Lesson 3, lines 267-273

Uptake which does repair
In Lesson example 15 below, the teacher successfully elicits uptake / repair from a number of students who answer in chorus.
Lesson example 15, Lesson 5, lines 275-284

Findings of the study

What did this methodology help me to find out? Here are some key findings:
The data base consists of ten lessons of about 50 minutes each. During these lessons, nearly three thousand student turns were counted, of which over seven hundred contained some error. (Many of the turns without error were one word utterances, such as Yes and No). The group of teachers responded in some way to about 35% of learner turns with error. Is this a lot or a little? By comparison, the teachers in the Canadian study responded to about 62% of learner turns with error. This group of Australian teachers responded just over half as frequently. It seems that we need to train our teachers to respond more frequently.

Within the group of five teachers, there was wide variation in frequency of response to learner turns with error. One teacher responded to 73% of turns with errors, while another responded to only 7% (in any way at all). Interviews explored the philosophy of the teachers about language teaching in general and error correction in particular. There was a broad overlap between their philosophy and their classroom practice, it emerged.

By far the most commonly used feedback type for the group of teachers was the recast (45%). The recast is an implicit form of feedback. It offers a positive model, but also implies that something was not correct. It may not be perceived by learners as a form of correction at all. Much less frequently, other forms of feedback were used. Explicit correction was used 16% of the time, metalinguistic feedback 14%, elicitation only 12%, clarification requests only 10%.

This may explain the fact that students made a verbal response of some kind to teachers’ feedback only 60% of the time. They made no response to teacher feedback 40% of the time. There was a small percentage (16%) of repairs by students when their error was responded to by teachers. However small, this fact is encouraging, since it shows that it is worthwhile for teachers to aim for students to produce correct linguistic forms when prompted to do so.

References


