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Classroom Interaction

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Classroom interaction is studied from a social interaction perspective to unearth the mechanisms teachers and students use to conduct their classroom business. This business varies from teacher-fronted activities to student group work, or teacher–student dyadic interaction, and from mutual consultations among students to students’ work of not paying attention. Language and social interaction research into classroom interaction is concerned with the classroom work participants do together in mutual interactional engagement and therefore focuses empirically on what participants make observable for each other in their interaction behavior, both in terms of how participants want to be understood and in terms of how participants understand each other. This observable character of the interaction process of meaning-making is referred to as “social” interaction. The interaction and the mutual understanding involved are the concern and the result of more than one actor and these activities therefore are studied as a social process rather than as a set of individual cognitive processes.

The language and social interaction concern with classroom interaction comes in different modes and academic traditions and is based within different research disciplines. Microsociological research focuses on the ways teachers and students produce orderly interaction (e.g., Mehan, 1979). Analyses of classroom interaction as a way of reflecting on the role of education within society at large are offered in critical research (e.g., Ehlich & Rehbein, 1986) and in microethnographic research, concerned with language, cultural, ethnic, or gender diversity in the classroom (e.g., Cazden, John, & Hymes 1972). Finally there is applied linguistic research that looks at learning in general and language-learning in particular. All this research takes place within a variety of disciplines such as sociology, psychology, education, and linguistics, and in spite of the disciplinary titles given here to these strands, microsociological research is not necessarily carried out within a sociology department or by sociologists, nor does applied linguistics research involve only linguists and linguistics departments.

Classroom interaction research originated, like all social interaction research, when, in the 1960s, recording technology such as cameras and microphones became accessible for researchers. Recording techniques have ranged from one handheld camera to several cameras on poles, and from researchers sitting or even participating in the classroom, to those who witnessed the lesson on a monitor in an adjacent room, or only saw the recordings afterwards. Audio has been recorded following the available technology and research aims with camera-mounted or separate microphones, or wireless individual microphones on the teacher or on individual students. Recent digital technology has allowed these different streams to be fed directly into a computer where they can be

synchronized with each other and with subsequent transcripts. Sometimes, classroom recordings have been supplemented by interviews of different kinds, and ethnographic information on factors such as ethnicity or social class. Also, additional data have been assembled on school policy or teacher planning, and additional recordings have been made in the school yard, all depending on research aims and researchers' views on methodology and epistemology.

The basic order of classroom interaction

A good place to start the social interaction perspective on classroom interaction is with the basic organizational mechanisms that not only govern classroom interaction, but interaction processes at large. These are the mechanisms by which participants—teacher and students—organize their activities such as teaching, asking, explaining, or assessing.

A fundamental prerequisite—or even a defining characteristic—of any form of social interaction is that those participating in it talk in turns to be able to listen and respond to each other. The question of turn organization in classrooms was framed in some of the earlier investigations in terms of the differences between classroom interaction and everyday conversation. Conversation analysis had proposed a turn organization for everyday talk that consisted of one set of rules for when we consider a turn to be complete and a second set of rules for who is allowed to speak next when it is complete. It is this latter set of rules that attracted the attention of classroom interaction researchers. The three rules were that at the end of a turn-constructive unit: (1) the current speaker has the right to select a next speaker; (2) when the current speaker does not select a next speaker, another may self-select; and (3) when no one self-selects, the current speaker may continue.

In most classroom activities these rules do not apply since a student who has the turn normally does not have the right to select any other next speaker than the teacher, and also the right to self-select is usually restricted for students. McHoul (1978) reformulated these rules in order to capture the turn organization that teacher and students orient to for their classroom business. Rather than taking everyday turn organization as a point of departure the way McHoul did, Mehan (1979) described the techniques whereby teachers select particular students to speak next. Teachers may select a student by addressing that student with a question (“individual nomination”) but they may also invite students to bid for a turn. In Extracts 1 and 2 where the teacher discusses the students' homework we see both techniques at work.

(1) Koole and Berenst (2008, p. 121)

1	TEACHER:	nou dan ga ik eens <u>vragen</u> aan mensen, (.)	
		<i>well then I will just <u>ask</u> people, (.)</i>	
2		wat ze daar <u>neergezet</u> hebben.	
		<i>what they have written <u>down</u> there.</i>	
3		.hh e:[n [da[t wil ik <u>graag</u>] [van Claudia weten.	
		<i>.hh a:nd I would <u>like</u> to know from Claudia</i>	
4	HENNIA:	[↑((hand))	[↓((hand))
5	FABIENNE:	[↑((hand))	[↓((hand))

6 NIRMALA: [↑((hand))
 7 TEACHER: Claudia wat heb je bij vier.
 Claudia what do you have at four.

In Extract 1, we see the teacher announce the selection of a student (“I will just ask people”) in a way that is treated by at least three students as an invitation to bid. They bid by raising their hands in response to the first part of the utterance (lines 1 and 2). Yet the teacher goes on in line 3 by picking not one of the bidding students but Claudia to read her answer to assignment 4. Rather than invite bids for a turn, the teacher thus nominates an individual student. When Hennia and Fabienne lower their hands in the course of the teacher’s line 3, they show that they have recognized that they are not going to be selected.

(2) Koole and Berenst (2008, p. 122)

1 CLAUDIA: en langzaam daalde de- daalde de temperatuur.=
 and slowly the temperature dropped.=
 2 TEACHER: =o↓[kee [dus eh ‘s morgens was het KOUD, (0.8)
 =o↓*kay so uh in the morning it was COLD, (0.8)*
 3 KARL: [↑((hand))
 4 HENNIA: [↑((hand))
 5 TEACHER: apos;s middags >werd het in één keer< wat wa-
 in the afternoon >it suddenly turned< a bit wa-
 6 TEACHER: >Ja.< .hhh [e::h Hennia?
 >Yes.< .hhh u::h Hennia?
 7 KARL: [↑((hand))
 8 HENNIA: [↑((hand))

Extract 2 is the sequel to Extract 1 in which we see the latter part of Claudia’s answer (line 1). In response the teacher rephrases this answer and while he does this, again two students bid for a turn and this time the teacher invites one of these (line 6) to read her answer. In doing this, and in contrast to Extract 1, the teacher here treats the hands as bids, and in retrospect turns his announcement in Extract 1 into an invitation to bid. It is treated as such by the students who raise their hands and by the teacher when he responds to these hands.

One thing we can see in these two short pieces of classroom interaction that is of particular importance for a social interaction perspective is that interaction “rules” such as those for turn-taking, and interactional “categories” such as Mehan’s techniques for turn allocation, do not just guide classroom behavior, but are the accomplishment of the participants. A single teacher invitation (Extract 1, lines 1–2) is first turned into an “individual nomination” and a second time into an “invitation to bid” and this is accomplished not by one of the parties to the interaction, but in the interaction between the different parties. A social interaction perspective is thus primarily concerned with this interaction process.

A further element of the basic order of classroom interaction concerns the activities in which teachers and students engage. After all, the turn-taking that we saw in Extracts 1 and 2 is not done for the purpose of turn-taking, but in order to complete a classroom activity. In the turns participants take or get, they perform an action and together build

an activity. In Extracts 1 and 2 the teacher and students discuss the students' homework and from a social interaction perspective the interest is in how this discussion gets organized in terms of action sequences: actions of different parties that orient to, and follow each other.

The most well-known classroom interaction sequence, which we also see in this homework discussion, is the IRE sequence in which the teacher presents the student with an assignment or question (I), the student responds to that (R), and the teacher then assesses the correctness of that response (E). An example of this sequence can be seen in Extract 3, also of a teacher who checks students' mathematics homework:

(3) Koole and Berenst (2008, pp. 110–111)

1	TEACHER: welke dag hoort bij grafiek nummer een <i>which day belongs to graph number one</i>	Initiation
2	Stahin <i>Stahin</i>	
3	STAHIN: drie april <i>April three</i>	Response
4	TEACHER: drie april <i>April three</i>	Evaluation

The teacher reads the assignment, Stahin provides his answer, and the teacher confirms its correctness by repeating it. By doing this the teacher shows that he knew the answer to his own question, a fact that will not surprise those trained in a western school system, and for this reason these questions are sometimes called “known information questions” (Mehan, 1979).

The IRE sequence consists of three related sequential “positions” (I, R, E), but not necessarily of three turns. A sequence can be expanded to include more turns, as in Extract 4 where the teacher's negative evaluation in line 3 induces the student to correct her first answer. Only after the student's answer in line 4 receives a positive evaluation (line 5) does the sequence come to a close.

(4) Koole (2010, pp. 201–202)

1	TEACHER: Juist, wat is hier het kleinste getalletje? <i>Right, what is the smallest number here?</i>	Initiation
2	STUDENT: Zes (.) tien <i>Six (.) teen</i>	Response
3	TEACHER: Nee <i>No</i>	Evaluation
4	STUDENT: Tien, tien <i>Ten, ten</i>	Response
5	TEACHER: Tien <i>Ten</i>	Evaluation

The societal impact of interaction processes

Critical analysis

The social interaction concern with the details of interaction practices has not meant that the societal role of these practices has not been attended to. The critical tradition of

education research has a social interaction counterpart in the work of, for example, the German linguists Ehlich and Rehbein. They went into the classroom and analyzed their recordings for ways in which classroom interaction is reproductive of societal relations. Different from researchers in the same era, their question was not how social class gets reproduced, but how schooling and classroom interaction as its basic practice manages to reproduce societal practices such as modes of production. Not only were they among the first to analyze the IRE sequence discussed above but they provided a critical analysis of this sequence.

Ehlich and Rehbein (1986) observe that students treat teachers' known information questions as "assignments" rather than as real-world "problems." By presenting assignments such as the one in Extract 4 school obscures the relation between the assignment and real-world problems. Students thus perform tasks they cannot relate to the larger context in which these tasks are relevant and this prepares them excellently for the societal division of labor in which we are also required to perform our bit without having or needing insight into its societal impact (p. 26).

Other critical classroom interaction analyses take up the migration issue that has turned western world schools into multilingual and multiethnic environments. Rampton (2006), for example, follows Bourdieu's notions of linguistic and cultural capital and Foucault's ideas on the discursive nature of institutions in his analysis of UK students' multilingual practices such as the subversive use of German words in their English, or the indexations of class in their switches to Cockney or posh English.

Diversity in the classroom

Following Cazden, John, and Hymes (1972), a stream of ethnographic classroom interaction research has dealt in particular with multilingual and multicultural issues in classrooms. In the early 1980s two monographs of classroom ethnography were published that are still highly influential. Susan Philips (1983) studied teachers in Indian reservation schools who could not get their students to actively participate and answer their questions. She related these children's classroom behavior to their home behavior toward adults. In the same vein, Shirley Brice Heath (1983) studied the relation between preschool socialization and classroom participation of children from white middle-class and from African American working-class families and found that interaction practices in the classroom, such as the IRE sequence mentioned above in which teachers ask questions to which they themselves know the answers, were equally used in the preschool life of the middle-class children (e.g., mother: "what is this animal?"), while they appeared to be absent in the working-class families. The white middle-class children in her study thus entered the classroom practices much better prepared than their African American classmates.

Also outside the United States, diversity in classrooms has been studied in European and Asian classrooms, as well as in the postcolonial contexts of African and South American classrooms. Hornberger and Chick (2001) studied how teachers and students cope with the colonial languages of English and Spanish that are used as the language of instruction, while many or all students and quite frequently the teacher are mother-tongue speakers of a South African language such as Zulu or an indigenous Peruvian

language such as Quechua. They found that classroom interaction in these contexts is often characterized by what they called “safe talk,” interaction practices that allow students to participate while making low demands on their language proficiency by having the class produce chorus answers in response to teacher questions. An example is Extract 5 from a mathematics lesson on sets.

(5) Hornberger and Chick (2001, p. 33)

```

1  TEACHER:  collect the elements of those two sets
2             and write them together
3             all them they will form a union[set
4  STUDENTS:                                     [set
5  TEACHER:  you can try to list
6             the elements of the union set
7  STUDENTS:  two three
8  TEACHER:  that is two
9  STUDENTS:  three
10 TEACHER:  three
11 STUDENTS:  four
12 TEACHER:  four
13 STUDENTS:  five
14 TEACHER:  five
15             ((continued))

```

In Extract 5, the teacher actively invites students to produce chorus answers. In line 3 she achieves this by producing an utterance to be completed by the students. Then when some students volunteer an answer in line 7, the teacher repeats the first element of that answer (8: “that is two”) and thereby initiates a series of chorus answers, each of which she evaluates by repeating the answer.

Mets and van den Hauwe (2003) found a similar phenomenon in Belgian classrooms with immigrant children where teachers adapt the interaction practice to these children’s language proficiency by asking them questions that can receive one-word answers. As in the South African Extract 5, we again see the use of the IRE sequence with the teacher giving the assignment to name furry animals (line 1), the students respond with one-word animal names (+/- indefinite article), and the teacher in turn assesses their responses.

(6) Mets and van den Hauwe (2003, pp. 55–56)

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1  TEACHER:  wie kent er nog dieren die een pels hebben?
             who knows (of) other animals that have a fur?
2  STUDENT:  koeien
             cows
3  STUDENT:  konijnen
             rabbits
4  TEACHER:  konijnen hebben een pels,
             Rabbits have a fur
5  STUDENT:  kat
             cat
6  STUDENT:  hamster
             hamster

```

- 7 TEACHER: hamsters ja,
 hamsters yes,
- 8 STUDENT: kat
 cat
- 9 TEACHER: een poes, een kat ja,
 a pussy, a cat yes
- 10 STUDENT: hond
 dog
- 11 STUDENT: muis
 mouse
- 12 TEACHER: ein mouse ja,
 a mouse yes,
- 13 STUDENT: een hond
 a dog
- 14 TEACHER: een hond
 a dog
- 15 STUDENT: een cavia
 a guinea pig
- 16 TEACHER: een cavia goed.
 a guinea pig good.

Over the past decades, much ethnographic classroom interaction research in this vein has been carried out in contexts where classrooms have multilingual and multiethnic populations, whether this diversity is indigenous or immigrant, and whether immigration is recent or second or third generation. These studies all use a social interaction approach in which difference or sameness (in students' participation, in learning, or in identity) are primarily studied as phenomena that are observable in the interaction in the classroom and produced by the participants in that interaction. They show the struggle of teachers in dealing with linguistic and cultural diversity by treating students either differently or equally, and thus show the paradox whereby teachers facilitate student participation by reducing the linguistic threshold and thereby possibly also reduce students' opportunities to learn.

Teaching and learning in interaction

From the study of the interaction order of the classrooms depicted above there arose an interest in a social interaction perspective on learning. After all, teaching and learning are the core business of classrooms and a study of classroom interaction should include an investigation of how this business is brought about.

One part of this work is carried out on the basis of the sociocultural theory of learning originally formulated by Vygotsky (1934/1986) who sees learning as a social and cultural process in which the interaction between the learner and other parties — parents, peers, teachers — is the core of the learning process. Vygotsky showed that with the support of others such as a teacher, learners are capable of performing tasks they would not have been able to do on their own. The distance between the task level a learner can perform individually and the level he can achieve with tutor support, Vygotsky called the learner's "zone of proximal development," and social interaction researchers have

been interested in the organization of this tutor support. A concept that has been a particular stimulus to social interaction research of this zone of proximal development is the notion of “scaffolding” that denotes a set of tutor strategies to support learners in ways that are sensitive to the level of competence displayed by the learner. Examples of scaffolding strategies are the ways in which teachers may break up an assignment for a student into different smaller tasks, or the way in which they point a student to the relevant parts of the assignment text.

One particular line of sociocultural research of classroom interaction has been the work of Neil Mercer and collaborators who looked at learning processes in both peer interaction and in interactions between teachers and learners. For peer interaction, Mercer (1996), for example, coined the distinction between three types of exchanges, “disputational talk,” in which students compete with their solutions to a problem, “cumulative talk,” in which students uncritically build upon each other’s proposed solutions, and “exploratory talk” where students respond to each other critically and constructively. Mercer (1996, p. 369) called these exchange types “social modes of thinking.” But Vygotsky’s influence on social interaction research in classrooms is not restricted to psychologists such as Mercer, as is evidenced in explorations of the interface and overlap between conversation analysis and sociocultural theory.

A second line of work on interaction and learning has emerged in the field of second-language-learning, where conversation analysts have criticized mainstream studies of second language acquisition (SLA) for looking at language as a static set of rules, and at acquisition only as an individual cognitive process, and not as a social and interactive one (Firth & Wagner, 1997). This enterprise has produced detailed studies of interaction in language classrooms with implications for the design of language teaching materials, language teaching tasks, and language proficiency testing, and has called for a reevaluation of the role of off-task talk in the language classroom.

Perhaps the most basic element a social interaction perspective has to offer to the study of learning is its focus on observables, which parallels the focus of the participants themselves. The only access teachers have to students’ learning, knowing, and understanding (as well as their not knowing and not understanding) is through what students show them in social interaction. To put it simply, students and teachers cannot look inside each other’s heads. Thus, though knowing and learning is often conceived of as essentially a cognitive phenomenon, for participants in classroom interaction it is primarily a social phenomenon in which growth of knowledge, skills, and understanding are displayed (perhaps even “are displays”) in a process of social interaction. Teachers and students’ practical dealings with learning in their interactions not only show us processes that may or may not facilitate learning, these interactions embody the teaching and learning itself. Classroom interaction is the means for teachers to “install” (Macbeth, 2000) knowledge in the classroom, to make that knowledge observable for the students, in the same way as students make their problems, their understandings, and their knowing observable in classroom interaction. Not only from a social interaction researcher perspective, but importantly also for the participating students and teachers, knowing, understanding, and learning are done in interaction.

Some of these studies have dealt with the activity of learning in between-student interactions, but most studies are concerned with the practice of teaching as an interactional activity involving both teacher and student, focusing on the ways in which teachers elicit responses from their students, the ensuing responses from the students, and the subsequent teacher responses to the students.

The most straightforward way in which teachers install knowledge in the classroom is by telling their students. This may be done in front of the whole class or in response to a request for help as in Extract 7 where a teacher tells an individual student how to do a mathematics assignment (how to read a line graph).

(7) Koole (2010, pp.187-188; extended version)

6 NIRMALA: ik snap c en d niet.
I don't understand c and d
 ((other student interferes))

7 TEACHER: c en d.
c and d.

8 (1.2)

9 TEACHER: .hh ↑KIJK op welke as twintig uur staat
.hh LOOK at which axis it says twenty hours
 hier staan de uren,
here are the hours

11 (0.4)

12 hier staan de ↓graden
here are the degrees

13 (0.7)

14 zie je et?
you see?

15 (0.6)

16 >ergens staat twintig uur< ↑o:h ↑daar
>somewhere it says twenty hours< o:h there

17 (1.2)

18 ja?
yes?

19 (1.4)

20 .hh je zoek in de grafiek
.hh you look in the graph
 het punt wat erbij hoort.
for the corresponding point

22 (1.0)

23 da's da punt.
that's that point

24 (1.4)

25 [((looks at Nirmala))

26 [ja?
yes?

27 (0.4)

28 NIRMALA: ↑o:h ja
o:h yes

29 TEACHER: hoe hoog was de temperatuur (0.8) toen?
how high was the temperature (0.8) then

30 (0.6)

31 sst tweentwintig graden.
 sst twenty two degrees.
 32 (1.5)
 33 zo werkt dat.
 that's how it works.

We can see that the knowledge telling in this extract takes the form of a demonstration in which the teacher goes through the steps of reading certain information from a line graph in a manner that has elements both of this particular assignment (e.g., 16: “somewhere it says 20 hours”), and of the more general procedure of reading a graph (e.g., 20–21: “you look in the graph for the corresponding point”). The telling is designed not only to enable Nirmala to complete this assignment, but also to do similar future assignments.

From a social interaction perspective, a monologue such as the one the teacher produces in lines 9–26 is an interactional phenomenon already since a monologue at least requires the addressee to do the complementary part, that is, remain silent. In this extract, however, this interactional character is apparent from the several occasions in the teacher’s talk where Nirmala is enabled or even invited to respond but does not speak. We see this for example in lines 10–15 where the teacher pauses (line 13) after having explained the meanings of the two axes (“here are the hours, here are the degrees”) and on not getting a response explicitly invites Nirmala with “you see?” (line 14). Though seemingly trivial perhaps, this course of action illustrates very well the argument that for participants in the interaction knowing and understanding must be made observable. For that reason the teacher “does” knowing in his explanation to Nirmala and for that reason he invites Nirmala to “do” understanding.

However, not only do they produce tokens of knowing and understanding, they also do tokens of not understanding: “I don’t understand c and d” (line 6). A social interaction interest in teaching and learning not only looks at how teachers install knowledge and how students display understanding, but also at the way the student’s problem (his not understanding or not knowing) gets established in the interaction between them. Teachers often respond to displays of not understanding in ways that assume that they know the nature of the student’s problem. We see this also in Extract 7 when the teacher starts his explanation immediately after Nirmala says she does not understand, but the problem to which this explanation is oriented is not the only possible problem a student can have with questions c and d. To name only one alternative, the explanation disregards the possibility that Nirmala stumbled on difficult language in these assignments. Had this interaction taken place not in a classroom but in a call center with the teacher as call taker, Nirmala’s statement of not understanding would typically have been the start of an interaction to establish the exact nature of her trouble. In classrooms, in contrast, it is more typical for teachers to assume the trouble.

A social interaction interest in learning will next be interested in the different ways in which students can do understanding, and the different ways in which teachers can invite such doings. As for the first question, a number of observations have been made that can be illustrated by the interaction between Nirmala and her teacher. Any place in interaction is potentially suited to indicate interactional trouble, and therefore the absence of such an indication can be understood as a tacit display of understanding.

Thus, Nirmala's most basic form of doing understanding is her nonresponding in positions where she could have initiated repair, and we can see the teacher also treat the absence of response as such by proceeding with his explanation. A further observation is that doing understanding can be done either as a claim or as a demonstration of understanding, where a claim can be glossed as saying "that it is understood" while a demonstration shows you "how it is understood." Within this distinction, Nirmala in the above extract produces only claims of understanding. Her "oh yes" (line 28) is a stronger claim than her earlier nonresponses, but it does not show the teacher the content of her understanding as a demonstration would have done.

To study the ways teachers invite students' tokens of understanding, several authors have argued that teacher questions are often designed to favor some student answers over others. Edwards and Mercer (1987) talk about "cued elicitations": "IRF types of discourse in which the teacher asks questions while simultaneously providing heavy clues to the information required" (p. 142). We have seen an example of this phenomenon in the way in which the South African teacher in the Hornberger and Chick data enables her students to produce chorus answers (Extract 5), and we see it in a different manner in the way the teacher in Extract 7 checks Nirmala's understanding with the question "yes?". "Yes?" (line 26) as a question embodies a strong "preference" for an affirmative response and indeed this is the response it gets. As a matter of fact, it will turn out in the ensuing interaction that this explanation did not solve Nirmala's problem.

We can thus argue that on the one hand, the preference embodied in the teacher's question has an impact on the meaning of Nirmala's "oh yes" in the sense that this response may be taken as understanding the normative force of the question rather than understanding the explanation, that is, that the answer may show her interactional, rather than her mathematical competence. On the other hand the teacher does treat it as displaying understanding of the explanation when in response to Nirmala he provides the correct answer to the assignment (lines 28–30) and closes the explanation with the closing statement "that's how it works" (line 33).

Teachers use the projecting force of questions not only when they check students' understanding, but also to guide students. In Extract 8 the teacher comments on a writing assignment the student is working on.

(8) Koshik (2002, p. 1859)

1 TEACHER: are you gonna talk about it? in relation to:
2 de Gaulle?
3 STUDENT: (this) nuh uh. heh:=
4 TEACHER: =not right here, right?
5 STUDENT: Yeah.

The question "are you gonna talk about it in relation to de Gaulle" prefers a no-answer. Not only does the student provide this answer, but the question and its preference are a way of telling the student that he should not talk about it in relation to de Gaulle. This characterizes these teacher questions as knowledge-producing questions since they install knowledge for the student as an alternative to telling the student. Indeed, teachers do not treat the projected answer as a token of understanding since in response to that

answer, the teacher proceeds to explain why that answer is correct. A particularly elegant example of this sequence was recently recorded in a Dutch primary school lesson on the adjectival use of verbs (such as “the painted bird”).

(9) data: Janneke van de Pol

1 TEACHER: maa::r (2.0) is 't hier ook echt
 bu::t (2.0) is it really
2 een ge- een werkwoord?
 a pre- a verb here?
3 STUDENT: oh nee=
 oh no
4 TEACHER: =je kunt van een werkwoord
 you can turn a verb
5 een bijvoeglijk naamwoord maken
 into an adjective

We see a teacher question that prefers a no-answer (lines 1–2), the corresponding no-answer (line 3), and the teacher’s follow-up explanation (lines 4–5) to show that she does not understand the answer as a token of full understanding. What makes this a nice example is the student’s “oh” preceding the “no” (line 3) because this treats the question as a “telling” rather than an “asking.” The particle “oh” is used in response to a telling to indicate that this is new information for the recipient and is therefore a response fitted to a telling such as “but this is not really a verb.” The student thus treats the question as knowledge producing and not as knowledge checking.

Clearly, the two latter extracts are both examples of the IRE sequence discussed earlier and, at the same time, these examples show that this sequence can be used for quite different classroom activities, ranging from checking students’ homework (Extract 3) to teaching students that they “should not relate this to de Gaulle,” or that “this is not a verb.” Moreover, it shows that the first position in this sequence, the known information question, should not be equated with “test questions.” Knowledge-producing questions are found in the first position in IRE sequences, and as such can be characterized as known information questions, but instead of testing the student, these questions teach the student by installing new information or knowledge.

When teacher questions within the IRE sequence can do more than test students’ knowledge, and the corresponding student answers can do more than display what they knew before the question, it follows that also the third position in the sequence can do more than assess the correctness of the answer. Studies of classroom interaction have shown some debate on the status of this third position. Some treat the way teachers evaluate student answers and bring them to change their answers as a repair-practice, and study it using a procedure similar to the one with which he investigated classroom turn-taking (McHoul, 1978), namely by confronting the organization of repair in the classroom to its organization in mundane interaction. Others object to this analysis on the grounds that the purpose of repair in mundane interaction is to guard and restore mutual understanding while teacher evaluations may look similar but do very different work and therefore warrant a separate analysis. Moreover, teachers do not evaluate undifferentiated student answers but select different objects to assess the answer as a

token of either the student's "knowing," "understanding," or "doing." An example of the latter type of evaluation focusing on the practical accomplishment is an assessment such as "that didn't go very well, did it?"

Conclusion

In one of her accounts into classroom discourse, Cazden (1986) distinguished two research traditions dealing with classroom interaction. One she called the "process-product" tradition and the other the "sociolinguistic" tradition. Process-product researchers code classroom talk into preestablished categories, and research papers in this tradition present tables and numbers rather than extracts from classroom talk, while papers in the sociolinguistic tradition present examples and analyses of classroom interaction and research in this tradition is suspicious of preestablished analytical categories.

What we have called in this article "social interaction" research into classroom interaction, it will be clear, matches Cazden's sociolinguistic tradition. Cazden's distinction is still useful today to characterize the social interaction perspective not only for what it is but also for what it is not. The two traditions are still very much alive, and for the greater part, we may add, they have remained separate, and it has roughly been along the lines drawn by Cazden.

This is not the place to dwell on methodological issues, but if anything, this article has presented not just outcomes of social interaction research on classroom interaction, since many are left undiscussed, but also the ways social interaction researchers think, look, and listen. If social interaction research were not suspicious of preestablished categories, it would never have been able to discover the different activities that the IRE sequence is used to perform, it would not have been able to show, as we did for Extracts 1 and 2, that one single utterance can acquire two different meanings in the interaction that results from it, or it would never have drawn attention to the role of off-task talk in language classes. If one single statement can be made about classroom interaction on the basis of the body of social interaction research so far, it should be that the classroom, as the primordial site of education, is a constant achievement of the participating teachers and students.

SEE ALSO: Conversation Analysis, Applied; Conversation Analysis, Overview; Critical discourse Analysis; Cultural Identity; Discursive Psychology; Epistemics; Ethnography of Communication; Identity Construction; Institutional Discourse; Interactional Sociolinguistics; Language Socialization; Questions and Questioning; Turn-taking

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