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▼ TABLE OF CONTENTS

▶ SUBJECTS

ORDER AND DISORDER IN THE CLASSROOM

Isabella Paoletti and Giolo Fele

Abstract

The article discusses some aspects of classroom interaction as described in the ethnomethodological literature in particular, and it does so through the analysis of an excerpt from conversational interaction in a classroom. The interactional model described in the relevant literature is an asymmetric system of conversational rights in which the teacher controls every aspect of the conversation: Turn-taking, topic choice and duration, definition of what has been said for all practical purposes The study argues that teachers constantly endeavour to strike a difficult balance between two contrasting tasks: Maintaining control over the class on the one hand, and monitoring the ordered unfolding of activities and soliciting student participation on the other.

Keywords: Classroom interaction, Ethnobethodology, Conversation analysis, Teacher's conversation, Power, Pupils' resistance.

1. Introduction

Classrooms are busy places, not only when problems arise but also when events run smoothly: Turns at talk overlap, different courses of action intertwine, stories, needs and individual priorities intersect, clash and merge with institutional agenda, strategies and priorities. In this article we focus on this complex, interweaving and ongoing flux of classroom activities. By analysing the transcript of a video recording of a lesson, we aim to highlight some features of classroom interaction – in particular its complexity and its elements of tension and conflict – discussing as we do so some of the relevant literature on classroom interaction, and in particular studies which adopt the ethnomethodological perspective.

At school, students are engaged in a variety of activities: Tests, work groups, games, and so on. But a great number of classroom activities is carried out through teacher's questions and students providing answers (French & MacLure 1981; Mehan 1979a)[1].The student's answer is generally followed by the teacher's evaluation. Teacher control over the conversational traffic through the 'question-answer-evaluation' conversation structure is described as a basic feature of classroom interaction in the relevant literature (Gomes & Martin 1996; MacHoul: 1978; Mehan 1978; 1979a; 1979b; 1985; Sinclair and Coulthard

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[1] For a review of the literature on this topic in the German-speaking research community, see Ehlich & Rehbein 1986, as suggested by one of our anonymous reviewers.

1975). Ordinary conversations comprise a binary conversation structure: That is, the interlocutors take alternate turns (A, B; A,B etc.). But classroom conversation displays a ternary structure (teacher-student-teacher, etc.). In particular, the question/answer adjacency pair in classroom conversation performs a different communicative function than in ordinary conversation. In order to clarify this characteristic of conversation in classrooms, Sinclair and Coulthard (1975, 37) provide the following example:

Ordinary conversation	Conversation in classroom
A: What time is it, Denise?	A: What time is it, Denise?
B: two-thirty.	B: two-thirty.
A: Thank you.	A: Very good, Denise!

This does not mean that a students' answer is always followed by the teacher's explicit evaluation in third position. But when there is no evaluation, it is nevertheless implied. The absence of teacher's comments is a noticeable fact, as McHoul (1990: 358) points out: "the absence of a comment, and the immediately consequent redirection of the question to a different student, displays that the initial answer is off the mark".

The teacher's evaluation constitutes a frame for the entire classroom interaction. The teacher asks a question, a student answers, the teacher evaluates the student's answer. The teacher's negative evaluation, a correction, or even the absence of a positive evaluation produce a further search for the correct answer. Mehan (1979a) refers to these as "continuation acts", while a teacher's positive evaluation closes the sequence of adjacency pairs; it represents a "terminal act", and a new question is generally asked.

Teachers formally possess "all the power" in conversational terms (Henry 1984; Young 1980). They have the power to determine who gets the next turn at talk (Mehan 1979a; Edwards 1981). They decide the topic of conversation and the structure of the activity that will be carried out during the lesson (Heyman 1986; Hammersley 1974). They determine when a topic has been exhaustively treated and can be changed (Edwards 1981; Heyman 1986). They define "what has been said" for all practical purposes (Edwards 1981). Teachers exercise their unequal conversational rights while the students try to understand what they are supposed to be doing (Heyman 1986: 40).

Teachers' questions are often problematic for students to answer (French & McLoure 1983). In ordinary conversation, a question acquires its definite meaning in relation to the actual context and to the identity of the interlocutors; it is possible to gain an idea of the reasons that have motivated the question, and on that basis the responder formulates her/his answer. Teachers' questions are different. They are often false questions, questions to which the teacher knows the answer and intended to test the students' knowledge (Baker & Perrott 1988; Mehan 1979a; Edwards 1981). Students are therefore unable to rely on the normal inferential basis constituted by the context, the interlocutors' identities, and the possible reasons for the question.

When a teacher asks a question, he or she has a precise answer in mind; but it is often not the only possible answer, nor is it the only formally correct one (French & MacLure 1983) The 'right' answer for all practical purposes, though, is the one decided by the teacher (Hammersley 1974). Student replies often appear wrong because of the ambiguity of the instructions given to produce an answer (Mehan 1974). Students have

chronic difficulties in answering teachers' questions, not only in finding the 'right answer' but also producing it in the 'right way', and at the 'right moment' in compliance with the rules of classroom interaction. Teachers use preformulators (French & MacLure 1981), which are questions that focus the students' attention on particular aspects of the teaching material or the topic being discussed. By means of preformulators, the teacher defines a field of shared knowledge in which the answer can be found. Contextualization cues (Gumperz & Field 1995) are also employed to guide the student to the right answer. McHoul (1990) describes how teachers use contextualization cues in order to elicit student self correction: The production of a contestualization cue after the student's answer implies a negative evaluation. The answer is wrong or only partially correct, so that the teacher offers the student an opportunity for self-correction.

There are other strategies used by teachers to guide students to the right answer (Mehan 1979b). Teachers decompose or reformulate the question by modifying the initial question into simpler or more specific ones, or limiting the number of possible answers by formulating the original question as a yes/no question. Students' answers may be accepted or rejected by teachers not only on the basis of their content but also in relation to the way in which they have been produced. The students must learn not only schoolcontents but also a whole array of interpretation skills in relation to the specific context and school culture if they are to participate effectively in classroom lessons. Moreover, regarding students'participation, Hammersley (1974) observed that they seemed to use the lesson as a background against which they pursued their own ends: Relating to each other, having fun, etc.

The teacher manages the distribution of turns at talk through specific practices. It is uncommon in classroom conversation for students to select the next speaker. Since students have no control over turn taking, they have no control over sense making in classroom conversation: They cannot ask for clarification, nor can they provide it, unless the teacher asks them to do so. Without a right to reply, it is difficult for them to exercise sense making. The teacher is the guardian of the coherence and relevance of what is said in the classroom. In ordinary conversation, formulations are often used to maintain a shared sense of what has been said, and they are often contested and refused by the interlocutors in the course of the verbal exchange as a shared version is actively negotiated. In the classroom, Edwards writes: "occasions when the achievement of orderly discourse becomes a topic in its own right are dominated by the teacher. It is almost always he who says, in so many words, what has happened, is happening and will happen, and who regularly sums up what has been achieved so far." (Edwards 1981: 302) .

The interactional model described in the relevant literature is an asymmetric system of conversational rights in which the teacher controls every aspect of the conversation: Turn-taking, topic choice and duration, definition of what has been said for all practical purposes. Recent research in educational settings (Candela 1998) has highlighted elements of tension and disorder in classroom interaction, or better the negotiation of power in the classroom, "the construction of local power" in contrast with institutional roles (Paoletti 2001). Complexity and disorder in classroom conversation appear to be just as significant as order and control. According to Candela (1998), the question-answer-evaluation conversational structure does not adequately depict what happens in classrooms: Overlaps, confusion, moment of disorder, incoherent communication, and so on, are as much part of classroom interaction as are moments when the teacher is in full control of turn taking and

of classroom communication.

Research on the educational setting, in particular within the ethnomethodological framework, has mostly highlighted the control exerted by the teacher over classroom interaction. Yet there are instances in which problematic and conflictual elements are described: For example, Griffin & Mehan (1979: 202) use the term "negotiated convention" to characterize the constant process of rules negotiation that goes on in classrooms, with teacher and students continuously interpreting each other's behaviour and reacting promptly to the ongoing course of activity. There are rules in classrooms but they do not always apply. For example, teachers control turn taking, attempting to avoid overlapping turns, and they usually do not accept answers that are called out. However, if the right answer to a difficult question happens to be called out, teachers will tend to accept it, thereby encouraging more violations. Hammersley (1976) focuses on aspects of tension in the educational relationship. He describes classroom interaction as the teacher's attempt to maintain the conversation within a bipolar structure comprising the teacher and the student as interlocutor. This structure, though, is very difficult to maintain, given the number of students. The teacher consequently adopts series of devices such as the raising of hands, pre-allocation, pre-selection, in order to prevent the overlapping of student turns. Hammersley (1974) also describes how lessons are often used by students as a background for the pursuit of their own agendas, such as having fun or interacting with their classmates. In particular, ethnographic research has highlighted the conflictual aspects of classroom interaction and the contribution made by students to producing the order that the teacher is attempting to impose (Beynon & Atkinson 1984; Connell 1985; Davies 1980; 1982; 1983; Delamont 1984; Paoletti 1990a; Rosser & Harré 1976)

The aim of our analysis is to focus on the elements of disorder of classroom interaction - that is, the calling out of answers, overlaps, misunderstandings, miscommunications, and the like - not only because these are phenomena that we can witness in school as elements of order, but also because we believe that understanding phenomena of both order and disorder can shed useful light on the nature of a teacher's work. To use the image of an ideal continuum from total classroom order to total disorder, we maintain that there is no learning at either of its extremes; rather, the highest quality learning takes place more or less in its middle. We explore this issue further before turning to analysis of the transcript.

Teachers must deal on a daily basis with a large number of people - their students - whose activity as a group they must coordinate. Maintaining control over classroom order and managing collective action are part of their specific professional skills. A great deal of the work of teachers consists in constituting the students as a cohort (Payne & Hustler 1980). If we consider the classroom, with its rigid teacher control over turn taking, in the light of this institutional exigency to coordinate collective action, its conversation structure seems justifiable and even useful. Teachers are not only required to teach; they must also, and above all, maintain order and coordinate collective action and talk. They are the custodians of classroom order.They cannot simply talk to the class, they must also create an audience of attentive listeners (Stubbs 1976; MacBeth 1992). Sustaining student attention, maintaining control over turn taking, as well as ensuring an equal distribution of turn taking among the students, are constant teacher preoccupations.

The orderly development of the lesson is ensured by the teacher's control over turn taking, but as Edwards (1981) points out, a certain level of destructuration in the classroom

order gives rise to more creative and educationally more useful student participation. It has also been pointed out that if waiting times before and after a reply are increased, students produce more complex and articulated replies. Moreover, the teacher will produce questions that require more reflection and thought, so that the number of student questions apparently increases as well (Hargie 1978: 190). There is no evidence that the question-answer-evaluation conversational structure is educationally effective; on the contrary, it has been widely criticized in the educational literature (Young 1980). It should be borne in mind, though, that any consideration on the pedagogical usefulness of an educational activity should take account of the social dimension of educational work. The student/teacher relationship cannot be conceptualised as the 'direct' relationship isolated from the social context so often described in the educational literature (see Heap 1990). It is instead a relationship socially and institutionally structured through historically defined social practices grounded in the necessity to coordinate collective classroom action.

We contend that the tasks of coordinating collective action in the classroom and maintaining order, on the one hand, and the task of inducing students to participate, reason and discuss among themselves on the other, are in mutual conflict. A teacher's work consists in striking a difficult balance between these two contrasting tasks. In the analysis of the transcript that follows we focus on these elements of tension in classroom interaction.

2. The data

We illustrate this point with an excerpt taken from a lesson in a third-year class (13/14 year olds) at a school in Trento, Italy. The video recording examined is part of a large corpus of recordings made for the 'Class climates and teaching styles' project directed by Professor Giorgio Chiari of Trento University, in the three-year period 1987-1989.[2] The transcript is not especially typical in any way, other excerpts would have been just as typical: It is a question of examining what is ordinary. The transcript may be considered an autonomous episode with respect to the lesson of which it is part for the purposes of analysis only, and not for any intrinsic reason: It begins with a question and concludes with the answer to that question. The transcript therefore constitutes an autonomous episode in so far as it has a beginning, a development and an end.

The transcript is characterised by a particular conversational phenomenon which is largely absent from ordinary conversation. It opens with a question, the answer to which is given not immediately but only after about two minutes. In actual fact, some answers are given immediately, but they are not deemed to be correct, so that the interaction continues with its focus still on the initial question. The excerpt evidences a coordinated and cooperative search for 'truth' conducted on the basis of specific interactional and conversational procedures. It has another distinctive feature: At the end of the long sequence, it is not one of the interlocutors who gives the answer, but the person who first

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asked the question. The truth was in some way "already known" (Mehan 1979b).

The transcript is taken from a revision geography lesson given at the end of the school year in preparation for the examinations. The teacher has already revised some of the topics covered during the year, looking at them from the point of view of the human/nature relationship. She now introduces the topic of the accident in the Chernobyl nuclear reactor. The entire transcript lasts little more than two minutes. The original transcript in Italian and the transcription notation are given at the end of the article.

RCSCA 35 (1444//38:10 - 1514//40:18)

1	T	in this case, what does Chernobyl represent
2		(0.5) ((voices))
3	T	it really repre[sents
4	S1	[a catastrophe
5	S2	[a danger. a danger
6	T	(so), it represents a danger [(but)
7	S3	[a destruction for man
8	S4	a warn[ing
9	S1	[not just for man
10	S3	for everything ((to S1))
11	T	(but) a warning, what does a warning mean
12	S3	[that man has tried-
13	S4	[that is, that now:, they've tried and they've seen how, it reacts.
14	S5	they've tried to do, what? ((to S4))
15	S4	because they didn't even imagine[that it could explode, the
16	T	[one moment ((to S4))
17	S3	but no, (they made) a mistake in the calculations
18	T	what is it you wanted to say ((to S5))
19	S5	that is, "they tried", to do what? he said "they tried" =
20	T	=it was, we-, we hav-, we said, we have [(just) maintained,
21	S3	[an accident
22	T	that it was an accident, and so they didn't try to make it explode on purpose
23		(1.0)
24	S4	but
25	T	well, what is it you wanted [to say ((to S4))
26	S4	[that
27	S6	e:h I meant-
28	T	one moment. ((to S6))
29		what is it you wanted [to say ((to S4))
30	S4	[nothing, nothing
31	T	but, "nothing", is not true [(probably you had something in mind)
32	S3	[maybe, with this accident, they saw, also::, the
33		power they can have, these reactors.
34	T	but, it wasn't, an intentional event. we never main[tained
35	S3	[exactly
36	S5	[they knew very well
37		that if it exploded this would happen.

38	S3	[no, maybe-
39	T	(tell me, Rossi)
40	S3	you don't understand me ((quickly, in a low voice))
41	S6	er, this- this, event of Chernobyl, can make us understand, how dangerous
42		these nuclear reactors are.
43	T	all [right, but we::-, ((increases volume))
44	S6	[and so, if ((increases volume))
45	T	one moment. we must always keep in mind this man-nature relationship,
46		therefore Chernobyl represents an <u>alteration</u>-=
47	S7	a danger ((in a low voice))
48	T	what does it represent?
49	S6	eh, [(it represents) a danger for man,
50	T	[it represented
51	S6	because, if-, [till now only one has exploded,
52	T	[eh, BUT IT'S-?
53	S6	of these reactors, it only did this, disaster, if, we think that others might
54		explode, or perhaps in France, one might explode, [so-
55	T	[yes, eh
56		let's try to keep to the basic, subject, hmm?, which is the relationship, man
57		nature. so Chernobyl represented an alteration,
58	S6	of man
59	T	of man?
60	S6	no, of nature, [because it has destroyed it
61	T	of- it caus[ed
62	S6	[man has been destroyed too, after all, to a great extent, he has-
63	T	one moment, it caused an alteration of nature.

On reading the transcript, one notes three distinct episodes: a) From line 1 to line 8 there are two different teacher's questions and various student answers; b) From line 9 to line 41 a misunderstanding episode occurs; c) from line 42 until the end, there are various correction sequences.

3. Two kinds of question

At line 1 the teacher asks a question, *in this case, what does Chernobyl represent*. The teacher does not choose the next pupil authorised to speak. At the point of possible completion of the previous utterance, no pupil intervenes and selects himself to speak, as is shown by the small pause at line 3. The turn goes back to the teacher (at line 4), who therefore begins to speak again, rephrasing the previous question, *it really represents-*.

The question at line 1 (question1) is a type of question that Mehan (1979: 45) calls a "process elicitation". What the teacher then performs (line 4) is essentially a repair process which consists of rephrasing the initial question. As the teacher does not receive a reply immediately, she has various conversational options available to her: Wait longer for someone to answer, name a particular person as the next speaker, or begin to speak again herself. The teacher adopts this last strategy, using her turn to modify the question.

At line 3 a substantially different question (question2) is asked. According to Mehan's classification (1979a: 44), this instead represents a "product elicitation": A term which refers to the fact that the cognitive elaboration work required of the pupils is considerably different. In fact, while question1 requires, as its second relevant part, a reply which is the answerer's personal elaboration of a rather detailed story, question2 elicits as its second relevant part a reply made up of only one element. This is achieved by basing the first part of the adjacency pair on a highly constraining format. In particular, at line 3, the teacher constructs, not a question in the grammatical sense of the term but rather a conversational device made up of an "incomplete" utterance, an "almost finished" utterance, a phrase well formed if it were not for the missing last element. This empty slot is the device that triggers the students' search for the appropriate element with which to complete it.

Note that in question2 the teacher again does not choose someone for the following turn. The result is that the next authorised speaker is the one who manages to self-select first. An initial result of this procedure is apparent at lines 5-6. The rule by which whoever gets there first 'wins' the turn entails the overlapping of turns between the next two students who self-select themselves and what the teacher is still saying in her turn (line 3). At lines 4-5, therefore, the first answers to question2 are given: *A catastrophe; a danger, a danger.* Student 2 (line 7) repeats the answer, "a danger", with a recycled turn beginning covered by the previous overlapping of Student1's turn. At this point, as is typical of such asymmetric and orchestrated contexts as a school lesson, the third turn element occurs when the teacher comments on the correctness of the students' reply by repeating Student2's reply, *it (so), it represents a danger[(but)* The form of the comment is that of disagreement: An utterance which takes up the hearable parts of the preceding Student2's turn, *a danger*, as if it were an utterance of agreement, immediately afterwards supplying qualifications *(but).* This implies a negative evaluation, a non-acceptance of the answer, a judgement on the incorrectness of the answer.

This teacher's turn engenders a further search for the correct answer to question2. The adjacency pair remains open, and it constitutes the constraining format for the whole of the ensuing exchange until the end. There are lateral sequences, misunderstandings, other answers, all of which originate from the endeavour to complete the adjacency pair left open. The search for closure, for the appropriate completion, like the search for the Holy Grail, occupies the students and the teacher in a co-ordinated way for the entire duration of the passage. There is no need for the teacher, at lines 8-9, to ask another question to elicit further answers from the students. The result of the comment strategy as a non positive evaluation by the teacher is what generates the students' further search for the appropriate answer.

The 'triplet' structure (question-answer-evaluation) typical of conversation between teachers and students thus plays a very important role in the educational process: It provides students with information about the teacher's intentions, and at the same time it helps make the answers produced mutually acceptable, with this acceptability being negotiated step-by-step. It should be emphasised that a positive evaluation and a negative evaluation are not at the same preferential level: The former is generally produced immediately after the correct answer, while the latter may not appear even after an incorrect answer. The point is that positive evaluation is a conclusive action which marks the end of the sequence and indicates that another may begin. Negative evaluation, on the other hand, does not close the sequence, but rather calls for its continuation until a positive resolution is reached (Mehan 1979a; 1979b; Mehan and Griffin 1980: 364).

At line 7, student3 *a destruction for man,* and at line 8, student4 *a warning,* both

supply other possible solutions to the teacher's question2. The teacher's remark immediately after one of these possible solutions is itself a comment on the incorrectness of the answer. The teacher's request to define the answer further at lines *(but) a warning, what does a warning mean*, works retrospectively as a non positive sanction of what has been said before, and prospectively as a solicitation of further elaboration on the student's part.

At this point, a long sequence of interaction ensues between, on the one hand, the student4 whom the teacher had asked to elaborate his answer, and on the other, the teacher and some students. This is essentially a sequence of misunderstanding which evinces the tension that exists between the two ever-present contradictory requirements in the classroom: Control and power on the one hand and autonomy and independence on the other

4. The misunderstanding

Some of the students suggest new answers, while the teacher asks student4 to elaborate his idea, *a warning, but what does a warning mean*. She thus exercises and at the same time signals her conversational prerogative of setting the topic to be talked about and developed. (Edwards 1981; Heyman 1986). Line 14 marks the beginning of the first episode characterised conversationally by the creation of a misunderstanding. As Bilmes (1992) points out, by mishearing must be intended the conversational object that the participants treat as such (Bilmes 1992: 96).

Student4 produces the statement *they've tried, and they've seen how::, it reac*, at line 13. At line 14, student5 selects himself to speak and comments on his classmates remark, expressing disagreement: *They've tried to do, what*. This is a noteworthy turn, for students rarely address questions to other students during lessons. Student4 begins to reply, and an instant of student-student conversation follows, which is interrupted by the teacher's *one moment*. Student3 intervenes at line17 to explain student4's remark, *(they made) a mistake in the calculation*, but the explanation goes unnoticed. The teacher assigns the turn to student5, asking him to explain his objection, *what is it you wanted to say*. She thus ratifies student5's request for clarification as part of the class conversation (Fele & Paoletti 2003: 127). Student5 repeats the objection, and the teacher takes it up and makes it explicit, *We've just maintained that it was an accident*.

The teacher treats student4's turn, *but*, as signalling a misunderstanding, in that she asks student4 insistently, three times, for clarification, *Well, what is it you wanted to say* (line 26), *what is it you wanted to say* (line 30), *probably you had something in mind* (line 32), and she intercepts, *one moment,* student 6, who tries to win the turn, *I, meant*. Student 4 yields the turn, *nothing, nothing* exercising his right not to answer. The misunderstanding remains unresolved. Here the teacher intercepts the student's question to another student in order to restore classroom order, but then insistently solicits the student's reasoning and his active participation by repeating her question three times.

At this point, student 3 joins in, suggesting a possible interpretation of his classmate's answer which is signalled by the initial *maybe, with this accident, they saw, also::, the power they can have, these reactors* . But his remark gives rise to a further episode of misunderstanding. The teacher disputes that Chernobyl was an intentional event (lines 22). Student3 explicitly signals the misunderstanding: *You don't understand me* . Student 6 finally manages to join in by proposing a new answer; and the second misunderstanding also remains unresolved. The teacher appears to be caught between two

conflicting tasks: On the one hand, she is trying to make the students talk, that is, she is encouraging their active participation in the discussion and asks student4 three times to clarify his contribution. On the other hand, she is controlling the ordered development of the discussion, managing turn allocation, maintaining control over the validity of the contents developed in the classroom, and directing the conversation towards topics relevant to her educational agenda. Student 5 asks for clarification of student 4's contribution (line 14). It is only when the teacher asks student 5 to repeat the question that it becomes a topic of classroom discussion. The teacher legitimises the student's question. Here we can envisage two kinds of problem: A logical one, and a disciplinary one. As observed when analysing the transcript, two misunderstandings are produced and remain unresolved: Two students signal that what they had said was not understood. We wish to make some considerations. If the teacher had let student 4 answer immediately after his classmate's question instead of stopping him, would student 4 have been able to clear up the misunderstanding? If student 3 had been allowed to continue his contribution, would he have been able to make himself clear? These are not irrelevant questions: Exercising logic-deductive skills and developing the ability to make sense should be among the main objectives of activities at all school levels, and especially in a school level where students are beginning to acquire a capacity for abstract thought. On the other hand, if the teacher had let student 4 talk and a pressing discussion had developed among the two students, what would have happened to the rest of the class? When the teacher intercepts student 4's reply and asks student 5 to repeat his question, she "officializes" the question, she makes it part of the classroom discussion, that is, part of the lesson.

This is a problem to which there is no easy solution, but teachers may profit from being aware of it. On the one hand, teacher control over turn taking restricts students' participation; it is unlikely that they can express their thoughts and exert logical control over the development of the discussion (Paoletti 1990b): Indeed, it is difficult to express ourselves and make sense when we are denied the right to respond. On the other hand, the teacher has the duty to guarantee equal participation by all students and the orderly development of classroom activities. She must establish a precarious equilibrium between these two contrasting tasks.

5. The correction

Immediately after the misunderstanding episode, student 6 takes the turn to elaborate on the word danger: *This, this, event of Chernobyl, can make us understand, how dangerous these nuclear reactors are*. The teacher immediately interrupts him: *All right, but we::-*. Student 6 tries to continue; the teacher again tells him to stop, *one moment*, and recalls the subject which is at the centre of the discussion, that is, "the answer criteria" (McHoul 1990: 366), *we must always keep in mind this man-nature relationship* . She thus exerts her right as teacher to define the subject to be treated (Edwards 1981: 299). The teacher then initiates a phrase to be completed, presumably directed at student 6: *Therefore Chernobyl represents an alteration-*. This is an important moment, because for the first time a the answer to the teacher's initial question2 starts to be given. It is the teacher herself who provides it. The format of the answer mirrors the format of the initial question2: That is, it is presented as the completion of the final slot of the utterance left empty, *Chernobyl represents an*

alteration-. Yet the utterance is not completed but is still left hanging. This is a further attempt by the teacher to elicit the answer together with the students through a joint production technique (Lerner 1993), but again the attempt is unsuccessful. The correct information is given step-by-step in a co-ordinated endeavour to complete the pair, but it does not obtain the requisite collaboration.

At line 48, student 7 furnishes yet another candidate solution to the teacher's question2, furnishing a further item for completion of the initial utterance, *a danger*, an element which has already occurred at the beginning of the exchange, (lines 5), as if the teacher had not already provided it. In fact, the interaction has now moved a step forward. What is now being sought is completion not of the utterance "Chernobyl represents-" but of the utterance "Chernobyl represents an alteration-". Student6 continues undaunted, developing his theme of the danger at lines 54-55: A danger for man, because, if-, till now only one has exploded, of these reactors, it only did this, disaster, if, we think that others might explode, or perhaps in France, one might explode. The joint production technique fails substantially because the teacher's information eliciting strategy does not coincide with that of the students. On the one hand, the students offer candidate solutions for completion of the utterance, also giving the reasons for their production: This is an answer strategy which requires more complex elaboration than simple production of an item that satisfactorily completes an already almost formed utterance. On the other hand, the teacher pursues an information soliciting strategy that restricts itself to production of the missing item. It appears as though the two initial questions, of process and of product, are active throughout the entire conversational episode.

The teacher again recalls the main focus of the conversation, *let's try to keep to the basic, subject:, hmm? which is the relationship, man-nature*, implicitly rejecting the answer offered by S6 and restating the phrase to be completed at line 58: *So Chernobyl represented an alteration*-. The teacher's formulation of the discourse thus far is a powerful cognitive re-orientation device with regard to the task required of the students, and it is so from the point of view of both information content and the correct production format required. The teacher's solicitation produces student 6's answer at line 84 couched in the required format (completion of the utterance); and, as far as information content goes, the student guesses between the two options offered him by the teacher's comment, *of man*. The teacher's question (line 60), *of man?*, is taken to be an other-initiation of repair (McHoul 1990), by the student, who in the adjacent turn provides the self-correction required at line 61. The student's repair consists in reformulating the answer by choosing the item alternative to the one previously selected from the pair proposed by the teacher (line 86), *no, of nature*, and also in giving an explanation for his answer[3] which partly recovers the acceptability of the first selection (lines 63-64), *because it has destroyed it,... man has been destroyed too, after all, to a great extent, he has*-. The teacher stops student 6's turn, *one moment*. At this point the teacher intervenes for the third time with the usual formulation, and it is now at last that question2 finds completion. It is again the teacher who gives it, line 65,   *it caused an alteration of nature*. To be noted is that student 6's answer is the correct one; but because of the way it has been proposed, the teacher does not evaluate it positively. Thus, the search

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[3] The reasons and explanations given by the students are repair strategies carried out following the teacher's non positive sanction. This is an attempt to provide not only the answer but also the logical reasons for the answer: An attempt to save, if not the correctness of the answer, at least the inferential process.

for completion of the incomplete utterance terminates. It is the teacher who provides the "right" answer, which is certainly not an unusual occurrence (MacKay 1974). Note that students' answers are wrong only in relation to the pre-established teacher's answer.

In this last part of the transcript, the close questioning appears very frustrating for both the teacher and the students. The teacher is unable to elicit the right answer but, one may ask, did the student have all the elements they needed to produce the right answer? This is not a problem peculiar to this particular classroom; rather, it is frequently observed in classroom interaction. Students are constantly required to decide which among the possible answers to a question is the right one, the relevant one for the occasion (Mehan 1974), and in order to do so they must deploy complex knowledge of the school context - in terms of the content that may be relevant on that occasion but also of the requisite modality of the answer. This is an ordinary scene, on that is familiar and available to observation. Boredom and frustration transpire, as well as interest and the effort to obtain a result. In this transcript of actual classroom interaction, order and disorder interweave.

6. Conclusion

On the basis of the foregoing analysis of the transcript, we propose that the system of conversational regulation in the classroom should be described not only in terms of the unidirectional allocation of the participants' rights and duties, in which the teacher is the guiding figure and where only the asymmetric characteristics of the exchange are highlighted, but also in terms of the teacher's attempt to stimulate the students to participate actively and to assume responsibility, which is, after all, the aim of the education system in general. The teacher can be conceived as the ruler of classroom conversation, but at the same time as the facilitator of student participation as she encourages them to express their thoughts and to reason. These appear to be conflicting roles, and we maintain that it is educationally important to highlight these elements of tension. This paradox in classroom interaction systems is directly connected to the problem of socialisation: Autonomous behaviours are encouraged through a power relationship that apparently denies such a need . We have described how the asymmetry of conversational rights typical of classroom conversation prevents students from exercising control over sense making. Only the teacher has this responsibility (Paoletti 1990b; 2000; forthcoming 2004), and the quality of the students' intervention is consequently poor.

From an educational point of view, our examination of the structure of classroom conversation has shown the limitations of this interactive model for the enhancement of learning. This interactional structure "recitation" in educational terms (Henry 1984) - provides students with few opportunities to exercise their logical-deductive skills: Their answers are short and often unclear, and they have no opportunity to reply (Young 1980). Students cannot exercise control over sense-making in development of turns at talk: Since they have no control over turn-taking, they cannot ask for clarification, nor they can provide it unless the teacher solicits them to do so. The difficulty in promoting a change to activities that enable students to exercise their logical-deductive skills is evident. It is not possible to ignore the social dimension of the educational encounter. Work groups might be a solution: Indeed, studies on small group communication have highlighted the importance of discussion among peers for the development of logical-deductive thought (Phillips 1983;

Gumperz & Field 1995).

Our analysis of the above transcript has documented how the teacher was engaged in two conflicting tasks: Controlling classroom conversation order, and facilitating the students' active participation by eliciting their reasoning and reflection. The teacher appears uncomfortable in her role as controller. We believe that exploration of these elements of tension is educationally rewarding. Describing the elements of order in classroom interaction is just as important as highlighting the elements of disorder: Tension, problems, discordant and contradictory elements. It is through these slits that change may insinuate itself.

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Transcription conventions adapted from Jefferson (1984)

Symbol	Function
1	Line number
A:	Current speaker
CAPS	Indicates louder than surrounding talk
Underlining	Indicates emphasis
(.)	Micropause
(0.2)	Timed pause to nearest fifth second
=	Latching – no pause between turns
((context))	Contextual information if necessary
yes[I agree] 　　[ye:ah]	Indicates beginning ending of overlapping talk
Ye:ah	Colon indicates prolonged sound of preceding part of utterance
?	Rising intonation

!	Excited intonation
Wh-	Dash marks abruptly cut-off sound
.hhh and hhh	Intake of breath / exhalation
.	Falling intonation
He huh	Laughter
( ), (guess)	Untranscribable, or transcriber's guess at a word

RCSCA 35 (1444//38:10- 1514//40:18)

1.	I	in questo caso, Cernobil che cosa rappresenta.
2.		0.5) ((voci))
3.	I	rappresenta appun[to
4.	S 1	[una catastrofe
5.	S 2	[un pericolo. un pericolo
6.	I	(allora), rappresenta un pericolo, [(ma)
7.	S 3	[una distruzione per l'uomo
8.	S 4	un'avver[tenza
9.	S 1	[non solo per l'uomo
10.	S 3	per tutto ((rivolgendosi ad Aldo))
11.	I	(ma) un avvertenza, che cosa significa un'avvertenza
12.	S 3	[che l'uomo ha provato:-
13.	S 4	[cioè, che adesso:, hanno provato e hanno visto come:: reagisce.
14.	S 5	hanno provato a fare, cosa? ((rivolgendosi ad Dino))
15.	S 4	perché loro non si immaginavano [(neanche che poteva esplodere, la:::
16.	I	[(momento ((rivolgendosi ad S4))
17.	St3	ma no, (han) sbagliato a fare i conti
18.	I	cos'è che volevi dire ((rivolgendosi ad S5))
19.	S 5	cioè, "hanno provato", a far cosa? lui ha detto "hanno provato" =
20.	I	=è stato, noi b-, abb-, abbiamo detto, abbiamo [(appena) sostenuto,
21.	S	[un incidente
22.	I	che è stato un incidente, e quindi non hanno provato a farlo scoppiare apposta
23.		(1.0)
24.	S 4	ma:::
25.	I	allora, cos'è che volevi, [dire ((rivolgendosi ad Dino))
26.	S 4	[che::
27.	S 6	e:h io volevo dire-
28.	I	un attimo. ((rivolgendosi a S6))

29.		cos'è che volevi [dire ((rivolgendosi a S3))
30.	S 4	[niente, niente
31.	I	ma, "niente", non è vero [probabilmente avevi in mente qualcosa
32.	S 3	[forse, con questo incidente, hanno
33.		Visto anche:::, la potenza che possono avere, queste centrali.
34.	I	ma, non è stato un fatto voluto. moi non abbiamo mai
35.		sostenu[to
36.	S 3	[appunto
37.	S 5	[lo sapevano bene che se scoppiava succedeva questo.
38.	S 3	[no, forse-
39.	I	[dimmi, (Rossi)
40.	S 3	non m'avete capito ((velocemente, a bassa voce))
41.	S 6	eh, questo:-, questo::, fatto di Cernobil, ci può far capire, quanto sono
42.		percolose queste centrali nucleari.
43.	I	va [bene, noi però::-, ((aumenta il volume))
44.	S 6	[e quindi, se: ((aumenta il volume))
45.	I	un attimo. noi dobbiamo sempre tener presente questo rapporto uomo-
46.		natura, quindi Cernobil rappresenta una <u>alterazione</u>-=
47.	S 7	=un pericolo ((a bassa voce))
48.	I	che cosa rappresenta?
49.	S 6	eh, [rappresenta un pericolo per l'uomo,
50.	I	[ha rappresentato
51.	S 6	perché se-, [finora è scoppiato solo uno
52.	I	[eh, MA E'-?
53.	S 6	di reattore, ha fatto solo questo::, disastro, se, pensiamo che ne scoppino
54.		altri, o magari in Francia, che ne scoppi qualcuno, [così
55.	I	[sì, e::h cerchiamo di tenere
		l'argomento:, base, eh? che è il rapporto, uomo-
56.		natura. Quindi Cernobil ha rappresentato un'alterazione,
57.	S 6	dell'uomo
58.	I	dell'uomo?
59.	S 6	no, della natura, [perché l'ha distrutta
60.	I	[della- ha provo[cato-
61.	S 6	[anche l'uomo ha distrutto, in gran parte,
62.		insomma, ha:::-
63.	I	momento, ha provocato una alterazione della natura