Whole-Class Interaction and Inclusion in Primary School: A Case Study

Interazione in classe e inclusione nella scuola primaria: uno studio di caso

Daniela Veronesi
Faculty of Education, Free University of Bozen-Bolzano, Italy – daniela.veronesi@unibz.it
Heidrun Demo
Faculty of Education, Free University of Bozen-Bolzano, Italy – heidrun.demo2@unibz.it

The paper explores the inclusive implications of the teacher's management of questions and feedback in IRE (Initiation-Reply-Evaluation) sequences in terms of all pupils' participation in the knowledge co-construction process and the development of a feeling of belonging to the class. The case study analysis, based on videorecorded data taken from whole-class instruction in a primary school, shows how turn allocation, question design and corrective evaluative feedback can play a crucial role in fostering pupils' participation in the learning process of the class, and highlights the usefulness of applying a Conversation Analysis approach to studying inclusion at the micro level of classroom interactions.

Key-words: inclusion; IRE sequences; question-answer-evaluation; primary school; Conversation Analysis.

abstract

Esiti di ricerca e riflessione sulle pratiche

(A.ricerca qualitativa e quantitativa; B. progetti e buone pratiche; C. strumenti e metodologie)

1. Introduction[1]

The article is the result of an interdisciplinary research study on classroom interaction from the combined perspectives of inclusive education and conversation analysis. Based on the qualitative, fine-grained examination of teachers' and pupils' verbal and visible conduct, it explores one of the most frequently observed organizational structures in whole-class instruction, i.e., the IRE sequence – consisting of a teacher's initiating question, a student's response and a teacher's evaluation – and looks at how and to what extent the teacher's questions and feedback can contribute to fostering knowledge co-construction and participation for all pupils.

This research question rests upon a broad definition of inclusion, in line with that proposed by Booth and Ainscow (2011) in their Index for Inclusion. Inclusion is the constant process of developing high-quality participation and learning for all. This choice puts the emphasis on: a) diversity as everyone's individual characteristics, without focusing on specific groups of students and b) the importance of both learning and participation processes for inclusion.

1.1 The Importance of the Micro Level of Classroom Interaction for Inclusive Education

The decision to focus a research project on classroom inclusion at the micro level of spoken interaction was based on at least two research lines. Firstly, projects aimed at comparing, at the macro level, the efficacy of inclusive versus special schooling, with regard to academic achievement (for example, Cole, Waldrin and Majd 2004; McPhilipps and Shevlin 2009) and social participation (for example, Buckley et al. 2006; Foreman et al. 2004; Garrote, Sermier Dessemontet and Moser Opitz 2017), do not provide univocal results. Consequently, scholars (Lindsey 2007; Norwich and Kelly 2004) have claimed that school aspects related to the micro level of classroom management might be more relevant in terms of efficacy than aspects connected with the macro level of school systems.

Secondly, the body of evidence delivered by research on the efficacy of teaching in general demonstrates that classrooms and teachers matter (Domitrovich and Greenberg 2004; Nye, Kostantopoulos and Hedges 2004; Pianta and Hamre 2009), both in negative and in positive terms (NICH ECCRN 2002, 2004; Clotfelter, Ladd and Vigdor 2007). Hence, measuring instruments for analysing teacher-student interactions in the classroom learning environment have been developed[2]. As regards inclusive education in particular, an observation measure has been developed for preschool programmes that considers "adult-child social communicative interac-

---

1   The paper is the result of collaboration between the two authors. Daniela Veronesi is directly responsible for the sections 1.2 "Conversation Analysis and Classroom Interaction: The IRE sequence" and 3. "The Data: IRE Sequences, Participation and Inclusion". Heidrun Demo is directly responsible for the sections 1.1 "The Importance of the Micro Level of Classroom Interaction for Inclusive Education", "Research Design" and 4. "Discussion: The IRE Sequence from an Inclusive Perspective".
2   For example, the Classroom Assessment Scoring System presented by Pianta, Lo Paro and Hamre (2008) and classroom observation systems protocols developed in a longitudinal initiative that followed a cohort of children from birth to the age of 15 and investigated the relationships between experiences in school and student outcomes (NICH ECCRN 2002, 2004).

tions" (Soukakou 2011). This measure can be evaluated on a four-dimensional Likert scale considering reciprocity, sustainability and the content of adult-child interactions. However, there is a lack of instruments for other school grades.

Against this background, Conversation Analysis, as discussed below, can provide a different and fruitful perspective for the study of classroom interactions, allowing researchers to precisely identify and describe communicative strategies – as they emerge in the here-and-now of teacher-student interaction – that may foster inclusion, i.e., 1) all pupils' participation in the knowledge co-construction process and 2) all pupils' feeling of belonging to the class-group.

1.2 Conversation Analysis and Classroom Interaction: The IRE Sequence

Conversation Analysis (Sacks, Schegloff, and Jefferson 1974; Sacks 1992; Sydnell, and Stivers 2012) is an ethnomethodologically inspired approach to the investigation of social interaction. Based on the analysis of naturally occurring face-to-face encounters documented through audio and video recordings, Conversation Analysis (CA) has provided detailed investigations of fundamental mechanisms governing interaction, describing how social actors make use of a variety of semiotic resources (talk, gaze, gestures, etc., cf. Streeck, Goodwin, and LeBaron 2011) to produce and recognize interactional conduct. Scholars have thereby examined differences between ordinary, symmetrical conversations (for instance, among friends) and "institutional" settings – classrooms, hospitals, courtrooms, etc. –, showing how in these latter contexts participants typically orient to institution-specific goals and to restrictions on the nature of their contributions (Drew, and Heritage 1992; Heritage 2005). A case in point for such orientation is classroom interaction, where teachers take up the role of "leaders" or classroom "managers", opening and closing the encounter, giving students the floor, selecting topics and so on (cf. Gardner 2012; Orletti 2000: 91-110; Nassaji and Wells 2000: 378, among others). Typically, furthermore, teacher-student communication is organized in three-part sequences (IRE or Initiation-Response-Evaluation, cf. Sinclair, and Coulthard 1975; McHoul 1978; Mehan 1979a; and 1979b), i.e. triadic structures whereby teachers direct questions whose answer they already know (so- called "known information -questions", "test questions" or "display questions") to pupils, as a way of instructing them or verifying their knowledge among other things, and subsequently evaluating their answers with positive or negative feedback.

While this type of organization of whole-classroom instruction has been repeatedly criticized in the educational literature as not enhancing pupils' participation (for an overview, cf. Margutti and Drew 2014: 2; Lee 2007: 182; Nigris 2009), and while classroom work may encompass students' symmetrical peer interaction (Jones, and Thornborrow 2004; Hauser 2009), the IRE sequence appears to be still predominantly used in pedagogical activities (cf. Gardner 2012; Margutti, and Drew 2014). It is therefore worth examining it and analysing its deployment in terms of participation and inclusion, as envisioned in this study.

To illustrate the phenomenon, let us consider an example from the data analysed here[3]. Just before this extract, the teacher (TEA), at the beginning of a class

---

3   Transcription conventions (cf. Appendix), are adapted from Jefferson (2004) and, for visible action, from Mondada (2007).

taking place in early February, announces that the topic that will be dealt with will be "dinosaurs": a topic introduced before the winter break, and for which she now solicits a recapitulation from the whole class with two questions (lines 3 and 4).

Example 1 (BZ1_ins_1, 03:31-03:54) "Big bang"

```
1 TEA   allora. (1.2) vediamo chi si ricorda.
        so.    (1.2) let's see who remembers.
2 TEA   per (.) arrivare a questo nuovo argomento dei dinosauri. (0.3)
        in order to (.) arrive at this new topic of dinosaurs.
3 TEA   come siamo arrivati ai dinosauri?
        how did we come to the dinosaurs?
4 TEA   %che cosa abbiamo fatto finora?
        what have we done so far?
  ali   %raises hand ->
5 STS   ((a further three pupils raise their hands))
6 TEA   *(0.3)* Alina.
  tea   *walks towards Alina while pointing to her*
7 ALI   il il big bang, (.) e: la e: la creazione della terra.=
        the the big bang (.) and: the and: the creation of the earth.
8 TEA   =*esatto.*
        =exactly.
  tea    *nods to Alina*
```

As shown in lines 4 and 5, several pupils "volunteer" to answer by raising their hands. The teacher selects one of them, Alina (ALI, line 6), whose answer (line 7) she positively evaluates through a confirmation token ("*esatto*", "exactly", line 8). The teacher will then reformulate the answer ("so we started, you remember, with the big bang", not shown here) and, while gazing at the class, will formulate a further question ("and what was the big bang?"), which will open a new IRE sequence.

As exemplified above, IRE sequences can be initiated by teachers by addressing questions to the whole class ("non-addressed questions"), a move typically followed by a verbal or non-verbal claim for the floor by one or more pupils[4]. Given teachers' right to allocate speakership, this technique can be employed to verify which and how many pupils in the class-group may know the answer and to give the floor to one of them (cf. Orletti 2000: 108), or conversely, to focus on one particular pupil who has not shown his/her availability to answer. Furthermore, attention to individual pupils can be accomplished, in that the teacher addresses the question directly to a particular pupil through individual nomination (cf. Mehan 1979a), that is, by selecting him/her by name or via other types of turn allocation (vocatives, gaze, pointing gestures; see example 2 below).

A further aspect to be considered when examining how IRE sequences are opened is the way questions are syntactically formatted or "designed". Typical

---

4   A rule that is generally invoked in classroom interaction and that allows teachers to manage turn-taking.

question designs used in classroom interaction are "yes-no questions", "alternative questions" and "wh-questions" (see example 1, lines 3-4). IRE sequences can also be initiated through non-interrogative formats such as "designedly incomplete utterances" (Koshik 2002) and statements. Each format bears specific affordances in terms of how it orients pupils towards the answer: yes-no questions, for instance, can be formatted to project a "no" or a "yes", and thus can be used by teachers to instruct on the expected answer. Similarly, alternative questions, containing the explicit formulation of two possible answers linked by the disjunctive element "or", have been shown to facilitate pupils' answers in that the candidate answer typically occupies the final position (cf. Margutti 2006; Koole 2010). Finally, incomplete utterances may be constructed so as to be completed in a highly predictable way (for instance, the syllable "day" in "well now this morning which is Fri," Margutti 2010: 324). This does not imply that such formats are to be avoided *tout court* in classroom interaction; rather, as Margutti (2006: 343) underlines, it implies that through them teachers "maintain the minimal conditions for the students to be able to follow the progression of talk and to provide their contribution when requested".

When examining IRE sequences, the way in which teachers evaluate pupils' answers is also relevant. As shown in example 1, positive evaluations, closing the sequence as successful, allow teachers to move interaction forward according to their teaching agenda. What happens, though, when the answer to a display question is not in line with a teacher's expectations?

Studies on classroom interaction (cf. Mehan 1979a; McHoul 1990; Weeks 1985; Lee 2007; Nassaji and Wells 2000) show that, while students' self-corrections are routinely teacher-initiated (McHoul 1990: 350), teachers only occasionally provide the "correct" answer in their third evaluative turn. Withholding the expected answer provides pupils with further opportunities to find the right answer. Indeed, as Weeks (1985: 228) observes, "teacher-initiations [of corrections] are clearly oriented to eliciting self-correction by the student rather than giving him/her the answer".

Such a practice is illustrated in example 2. Here the pupil's answer (TOM, line 15) to the teacher's question is not considered completely appropriate, as the teacher makes clear by first producing a hesitant positive assessment ("ye:s,") – uttered with rising intonation and a stretched prosody, while gazing at the child with an expression of uncertainty – and then by explicitly soliciting the pupil to "explain" himself "a little better" (line 16).

Example 2 (BZ1_ins_1, 03:54-04:19) "Big explosion"

13 TEA   e cosa è successo durante questa grande esplosione Tommaso?
        and what happened during this big explosion Tommaso?
14   (0.3)
15 TOM e::hm si: ehm si son creati i pianeti.
        er::hm the: erm the planets got created.
16 TEA   *(0.5) sì:, (0.5)* spiegati un pochino meglio.
       (0.5) *ye:s, (0.5) explain yourself a little better.*
   tea   *uncertain facial expression, waving hands*

The teacher will then ask Tommaso two further questions, and will reformulate his subsequent answer, thereby closing the sequence[5].

2. Research Design

The present study is part of a larger project on classroom interaction in primary schools, carried out from the perspectives of Inclusive Education and Conversation Analysis and focusing on communicative strategies employed by teachers and their possible impacts on inclusion and participation.

The sample is built of five primary school classes (grade 3) in an urban context in the north east of Italy (Province of Bolzano), selected on a voluntary basis. Data were collected via audio and video recordings (approx. 14 hours). In each class, one school day was videorecorded by two researchers using two cameras, one directed to the teacher from the back and one recording the class from the front. From the whole recorded school time, only episodes of instructional conversations in Italian (thus excluding L2 languages) have been transcribed – using the ELAN software - and analysed.

In this article, we focus on IRE sequences in a history class devoted to the topic of dinosaurs", lasting ca 30 minutes, which we examine as a case study.

3. The Data: IRE Sequences, Participation and Inclusion

In the class examined here, the teacher recapitulates a subject previously dealt with and then expands on it, introducing new information mainly by asking questions intermingled with explanations. Most of the questions are related to one another, building a line of reasoning (cf. Margutti 2010: 316) through which "old" and "new" pieces of information are progressively and jointly co-constructed. Given the centrality of IRE sequences in the data, a number of issues arise from the perspective of participation and inclusion. For instance, to what extent does the teacher manage to involve all pupils in these sequences? How are questions formulated, and to what degree does this affect the delivery of "right" answers? What kind of feedback is given in cases of inappropriate answers and what communicative practices does the teacher employ to lead to a satisfactory completion of IRE sequences? Last but not least, how can pupils' inclusion in the class-group be ensured and enhanced using these techniques?

In the following, we will address these issues by examining how turn allocation is accomplished through questions employed as sequence-initiating moves, and how these questions are built. Given their relevance for participation, we will then focus on negative evaluations and on the way the teacher involves both individual pupils and the whole class in pursuing the expected answers.

5   As will be explored below, though consisting of three related sequential "positions", IRE sequences may be expanded into more than three turns-at-talk, coming to a close only when the expected answer is delivered and acknowledged as such (cf. Mehan 1979a: 65; Koole 2013: 979).

3.1 Teachers' Questions: Turn Allocation and Question Design

As mentioned above, questions addressed to the whole class or pre-allocated to a specific pupil provide different opportunities to participate in the process of knowledge co-construction[6]. It is thus interesting to observe that in the data analysed here, both types of questions (non-addressed and addressed, pre-allocated questions) are employed by the teacher to open an IRE sequence, and that this possibly allows the teacher to find a balance between giving the floor to pupils eager to demonstrate their knowledge on the one hand, and involving pupils who, by not volunteering to answer, might remain silent if not explicitly addressed on the other.

As shown in Table 1, in the examined sample, 22 sequences out of a total of 46 are initiated through one or more non-addressed questions – whereby the teacher always gives the floor to a pupil presenting himself/herself as potential respondent – while 15 are initiated with pre-allocated questions specifically addressed to individual pupils. In four cases, furthermore, the teacher asks a pupil question immediately after having launched a class question (which is followed by further talk, or for which she does not select any volunteering pupil)[7].

IRE sequences	Non-addressed questions	Adressed questions	Non-addressed /adressed	Unassigned[8]
46	22	15	4	5

Table 1: Questions and turn allocation in IRE sequence openings

A similar effort to engage pupils may be observed in the way the teacher designs her questions, and thus how and to what extent she employs formats that may orient pupils toward the expected answer, such as alternative questions, incomplete utterances and yes-no questions (cf. above). As can be seen in Table 2, in our data, the teacher never opens an IRE sequence with an alternative question and she employs incomplete utterances only sporadically (six occurrences). The latter, though designed to be completed by full nouns, or even full sentences, and thus requiring *some* cognitive effort from pupils, generally – as also noted by Margutti (2010) – refer to aspects that were dealt with in the past or earlier in the analysed lesson, serving as a recapitulation of information which pupils are (possibly) expected to know already[9].

---

6   We use the term knowledge "co-construction" in the broad sense of forming a shared knowledge through interaction, considering both processes that originate new knowledge and others that recall and reorder familiar knowledge.

7   The teacher's questions employed in the third or in subsequent turns, not included in this table, will be discussed, together with further types of feedback.

8   "Unassigned" initiations are cases where video footage does not allow researchers to determine whether the addressed pupil had volunteered to answer through hand-raising, and thus to classify the question, followed by the pupil's name or other forms of turn allocation, as a "non-addressed" or "addressed" question.

9   See for instance the pupil question "So, earlier we mentioned the expert who studies fossils, who is, Marco?", which requires the pupil to complete the utterance with the noun phrase "the palaeontologist", a topic extensively discussed some minutes earlier with the class. In her study on designedly incomplete utterances, Netz (2016: 71) points out that the use of such a device might fail to

Question(ing) Design	Non-addressed questions	Addressed questions	Unassigned
Wh-questions	25	15	6
Incomplete utterances	2	3	1
Yes-no questions	4	0	
Other formats	1	0	
Alternative questions	0	0	
Total 57[10]			

Table 2: Question(ing) design in IRE sequence openings

Conversely, the format mostly used by the teacher is represented by wh-questions – addressed both to the whole class and to individual pupils (25 and 15 respectively) – which "expect a reply from an open range of replies" (Quirk, Greenbaum, Lee, and Svartvik 1985: 806, quoted in Margutti 2006: 337) and may thus require a greater effort from pupils than other question formats, assuming a probable lack of knowledge (Margutti 2006: 337-342)[11].

Through polar yes-no questions, on the other hand, a different type of participation may be accomplished, since these questions strongly orient pupils (cf. § 1.3) and are thus typically followed by a choral answer. In fact, in our data, yes-no questions addressed to the whole class (four occurrences) are responded to (almost) in unison by several pupils. These are cases where the question yields a negative answer by virtue of the presence of a quantifier (such as "*tutti*", "all", in "*erano tutti enormi secondo voi?*", "were they all enormous in your opinion?", "*tutti gli animali sono quadrupedi?*", "are all animals four-legged?") or an adversative conjunction ("*ma vivevano gli uomini al tempo degli animali?*" "But did humans live in dinosaurs' times?"), conveying the teacher's scepticism towards the propositional content of the question, and thus instructing pupils that a negation is preferred (cf. Margutti 2006: 334). It is by virtue of this design that all pupils, at least potentially, are given the opportunity to join in with delivering the expected answer, with relevant implications for knowledge co-construction and the cohesion of the class-group.

facilitate student participation "when the missing item is not obvious or transparent", while extensive use of highly transparent DIUs "might have negative pedagogical effects" in that participation is limited to short answers, indicating "limited engagement with and understanding of the content of the lesson".

10 IRE sequences may be initiated by the teacher through more than one question; this explains the differences between figures in Table 1 and Table 2.

11 As Margutti (2007: 44) discusses, though, through a WH-question not constructed as such from the very beginning, but emerging from a declarative utterance which is then transformed into an interrogative one (as in "anche se c'è il sole che si LE::va:::, da che parte si le:va il sole,"), typically followed by a students' choral answer, teachers display that the question – since produced "accidentally" in the course of a turn – does not require a particular 'treatment', or effort, and that, by focussing on contents that are (presumabily) known to the class, it expects a choral answer.

3.2 Teachers' Third Turn: Negative Evaluations and Beyond

As shown above, a balanced use of non-addressed and addressed questions, as well as question design, may be crucial for enhancing pupils' participation and engagement. As outlined in the literature, the kind of feedback given to pupils when the answer is not the expected one is also crucial.

This can be seen very clearly in the examined data: here, the teacher very rarely other-corrects pupils in her third turn with the "right" answer. On the contrary, she keeps prompting them through "continuation acts" (Mehan 1979a), and she does so in a number of ways.

Answers which are not considered fully acceptable, for instance, may be evaluated with a positive confirmation token followed by an adversative element ("yes/exactly, but"; "yes, but also"), thus soliciting utterance completion from the same pupil. Similarly, expanding a pupil's answer through an incomplete utterance addressed to the whole class – and typically receiving a choral "right" answer – is a strategy that leads to the successful completion of an IRE sequence[12].

When a selected pupil does not answer, or claims not to know the answer, the teacher encourages him/her to "give it a try". Furthermore, the teacher may solicit the pupil to reformulate the answer (see example 2, line 17), and ask him/her the same wh-question or a new, more specific one, drawing on a strategy that is well documented in the literature (cf. Mehan1979b; McHoul 1990; Lee 2007). Scaffolding of individual pupils – as noted in Mehan (1979b) – may also be achieved by means of polar yes-no questions which, as mentioned above, orient the answer towards a "yes" or a "no". If this strategy does not lead to the expected outcome, the teacher then opens the floor to the class.

An example of such a practice is shown in the following passage (example 3), revolving around the notion of "fossils". Here, the teacher, after having solicited a pupil, Sandro (SAN), to provide a definition of the term (see the questions at lines 1 and 3), uses a yes-no question containing the adverb "only" ("*solo*"), suggesting that the answer ("the remains of dinosaurs") must be expanded (line 6, "only of dinosaurs?"). While the pupil responds negatively ("no:"), she reformulates her question by adding the adverb phrase "in general", thus making it clear that she expects a more abstract definition (line 6).

In his answer at line 8, Sandro indeed mentions a larger category, namely, "all dead animals". The teacher's subsequent turn, a yes-no question containing, once again, the adverb "only" ("only of animals?", line 9), prompts the pupil to answer negatively, and to complete his previous answer with a further category ("also of primitive men").

Example 3 (bz1_ins1, 15:50), "Only of dinosaurs?"

1 TEA   ti ricordi Sandro cosa sono i fossili?
       do you remember Sandro what fossils are?

---

12 See for instance the teacher's pupil question "Paolo, what does herbivores mean?", followed by Paolo's answer "dinosaurs which ate grass". This, in turn, is followed by the teacher's reformulation and incomplete utterance "which nourished themselves with grass, or with ve-", responded to by more pupils with "vegetables". On the use of incomplete utterances in the third turn, see Mehan (1979b: 292), Lerner (1995: 116-117), Lee (2007) and Netz (2016).

2 SAN sì.
  yes.
3 TEA cosa sono?
  what are they?
4 (0.2)
5 SAN ehm i resti dei di: dei dinosauri.
  erm the remains of the of: of the dinosaurs.
6 TEA solo dei dinosauri? i [fossili] in generale, cosa sono?
  only of dinosaurs? the [fossils] in general, what are they?
7 SAN   [no!]
                       [no!]
8 SAN mhm i: $resti di tutti gli *anima:li, morti.
  mhm the: remains of all the animals, dead. ((animals))
  tea   *shakes head ((uncertain nod)) ->
  pav $raises hand ->
9 TEA solo di animali?
  only of animals?
10 SAN +[no:.] anche di: uomini. primitivi.
  [no:.] also of: humans. primitive ((humans)).
  sts +seven pupils raise their hands, including Sabrina —>
11 TEA *mhm::* ti stai un po' allontanando. *Sabrina?
  mhm:: you're straying a little. Sabrina?
  tea *doubtful face*   *points to SAB
12 SAB piante:
  plants:
13 (0.3)
14 TEA resti di animali, e piante.
  remains of animals, and plants.

As shown in the transcript, during the episode some pupils request the floor by raising their hands. After having provided a negative assessment to Sandro ("*ti stai allontanando*", "you're straying a little", line 11), the teacher selects one of the volunteering pupils, Sabrina (SAB), whose answer she integrates into her positive evaluation turn at line 15 ("remains of animals and plants").

Selecting further pupils in the class, particularly after several questions have been unsuccessful as illustrated in the previous example, indeed turns out to be a resource upon which the teacher constantly draws, by reformulating her initial wh-question – or drawing upon the pupil's answer to formulate a new wh-question – and relaunching it to the whole class, by soliciting *from the class* the reformulation of the question, when it becomes clear that it was not understood by the addressed pupil (as in "who is going to help Giovanni to understand the question?")*,* as well as by generically opening the floor to volunteer contributions ("who remembers it?" "who knows it?") or, even more relevantly, explicitly requesting help from the class and giving the floor to a pupil who shows availability to answer (as in "who is going to help you?" and "Pino is going to help you").

It might be interesting to note that when recruiting the help of the class and receiving a correct answer, the teacher does not always move on, but, rather, engages once again the pupil addressed at the very beginning of the IRE sequence. Such a practice is illustrated in the following example (4).

The episode takes place, in the initial phase of the class, after the teacher has introduced the topic ("dinosaurs"), progressively recapitulating together with the pupils information that was dealt with before the winter break (from the "big bang", cf. example 1, to the first forms of life on earth, namely, "unicellular organisms", and hence to more evolved forms, e.g., "amphibians"). The teacher then establishes a connection between "amphibians" and "dinosaurs" (line 1), asking a pupil, Carmine (CAR), the reason why (line 2).

Example 4 (BZ1_ins1: 06:50) "Who is going to help you?"

1 TEA	+e da qui era nato il nostro discorso sui dinosauri.	
	and that's where our discussion on dinosaurs started.	
sts	+three pupils raise their hand ((Carmine not visible))—>	
2	perché? perché dopo gli anfibi Carmine?	
	why? why after the amphibians Carmine?	
3	(1.3)	
4 CAR	e:: ve- son venuti anche i mammiferi.	
	uh:: ca- the mammals came too.	
5	(0.2)	
6 TEA	no. +attenzione,	
	no. attention, ((be careful))	
sts	+six pupils raise their hands, including Paolo	
7 TEA	chi ti aiuta? *Paolo.*	
	who is going to help you? Paolo.	
tea	*points to Paolo*	
8 PAO	rettili.	
	reptiles.	
9	(0.3)	
10 TEA	*i retti[li.]	
	the reptiles.	
tea	*looks at Carmine ->	
11 CAR	[(ah sì.)]	
	[(oh yes.)]	
12	(0.5)	
13 TEA	okay?	
14	(0.4)	
15 TEA	*infatti i dinosauri, (0.3) *a quale famiglia apparten+gono?	
	in fact dinosaurs (0.3) which family do they belong to?	
tea	*gazes frontally —————* gazes at Carmine —->	
sts	+nine pupils raise hands	
16 ST	°a- ai rettili.°	
	°*to- to the reptiles.*°	
17 CAR	ai::	
	to the::	
18 TEA	apparten[gono?]	
	they be[long?]	
19 CAR	[ai ret]tili.	
	[to the rept]iles.	

20 TEA *<ai rettili>*. esatto.
         <to (.) the reptiles>. exactly.
    tea *nods*

Carmine's answer at line 4, uttered with some hesitation, is followed by the teacher's negative assessment ("no") and a warning ("attention,"). The teacher then requests help from the class ("*chi ti aiuta?*", "who is going to help you?"), giving the floor to Paolo (PAO), one of the pupils who had raised his hand during her third turn. Interestingly, Paolo's answer, "reptiles", is repeated (slightly reformulated), and thus evaluated as "correct" by the teacher while gazing at Carmine, and thus is addressed to him as the main interlocutor. After Carmine's display of agreement ("oh yes", line 11) the teacher addresses a comprehension check to him ("okay?"), which could also serve to close the sequence. Nevertheless, she continues interacting with Carmine by asking him a further question which hints at the relationship between "dinosaurs" and "reptiles" ("*infatti i dinosauri (0.3) a quale famiglia apparten-gono?*", "in fact, dinosaurs, which family do they belong to?"

It is worth noticing that Carmine's attempt to answer the question (lines 17-18) is handled by the teacher with yet another question, this time in the form of an incomplete utterance, which finally obtains, in partial overlap, the expected answer ("to reptiles"). It is also relevant that, though the very same answer is given by a pupil in the class (line 16), the teacher does not acknowledge it, but maintains her orientation to Carmine until she obtains it from him, before positively evaluating it (line 20).

4. Discussion: The IRE Sequence from an Inclusive Perspective

4.1 Differentiation Through Turn Allocation

One of the key elements of inclusive teaching is differentiation. Tomlinson (2014: 20) defines it as "a teacher's proactive response to learner needs" and describes it as a practice of offering a variety of content, processes, products or environments in order to facilitate achievement for all the different learners in a class.

Whole-class instruction has been criticized for hindering pupils' participation. In the literature regarding inclusive teaching (for example, Meyer, Rose and Garden 2014; Alexander 2017), the difficulty of integrating forms of differentiation is highlighted, as whole-class instruction is based on the idea that there is one teacher offering the same content in the same learning rhythm to the whole class. The presented data suggest that turn allocation might be a strategy for fostering differentiation. In the 19 IRE sequences where the teacher initiates the interaction by addressing pupils directly, she chooses intentionally to orient an individual pupil's attention on a specific topic at a certain point of the instructional interaction. This strategy can be interpreted as a method of highlighting different parts of the whole-class instruction for individual students, and thus as a way of slightly differentiating the content for them. This function of turn allocation becomes even more evident by looking at questions used in the IRE sequences as a form of corrective feedback, as in example 3. In this case, after receiving an incorrect answer to a pupil question, the teacher poses some new or reformulated questions to the same student before opening the discussion to the class, marking the relevance she attributes to the specific notion of fossils for Sandro's learning process.

Furthermore, a certain use of turn allocation seems to prevent one of the more well-known risks of differentiation. Differentiation strategies tend to make individual differences in learning visible, exposing some students' difficulties to the whole group (Hart, 1992). In instructional conversations, this occurs in different ways, for example, making visible the difference between children who are able to answer the teacher's questions at the first try and others that are not able to do so or need a longer interaction to reach the expected answer. The strategy of balancing non-addressed and addressed questions, as the teacher analysed here does, seems to prevent the risk of underlining this difference, harmonizing instead sequences focused on individual students through pupil questions and moments that encourage a sense of belonging to the co-construction of shared knowledge through class questions. The function of class questions in valuing everyone's participation in the interaction becomes even more evident in the four cases where a yes-no question is formulated in a way that strongly suggests the expected answer and that indeed results in a choral answer from pupils.

4.2 High Expectations for All Pupils Through "Wh" Questions for All

High expectations for all pupils is considered to be one of the essential aspects of an inclusive school culture. It can be described as the encouragement in all students of high learning aspirations, overcoming the risk of deflating with respect to current achievement and countering negative views on students experiencing difficulties (Booth and Ainscow 2011).

In our analysis, we assume that the way the teacher formulates questions implicitly displays her expectations of the addressed group or the addressed pupil. As described above, question design has been connected with a question's potential for orienting students toward the expected answer, so that wh-questions are in general considered a more demanding format because of their openness compared with alternative questions, yes-no questions or incomplete utterances. In the analysed interaction, the teacher extensively uses wh-questions to initiate IRE sequences (46 out of a total of 57 questions, see Table 2) and implicitly conveys trust in the competence of the class to develop the expected answer for a potentially demanding question format. The teacher's supportive attitude is not only directed in a general way to the class, but also to individual pupils, as shown by the 15 wh- pupil questions out of a total of 18 pupil questions (Table 2). Hence, the wide use of the same question format for all students combined with the choice of the wh-question design seems to emerge as a strategy that can foster high expectations for all students in the class. One must bear in mind, though, that a crucial role for determining the complexity level of a question is the content the question refers to, in terms of new or shared knowledge; so, while all wh-questions asked by the teacher have a canonical format and convey the sense of a "particularly crucial and not obvious question, to be answered with acumen" (Margutti 2007: 43, cf. also footnote 11), further analyses – possibly based on data discussion with the teacher – could offer new and more granulated insights in this regard.

4.3 Valuing the Sense of Belonging to the Group Through Collaborative Corrective Feedback

The relationship between the group and individuals has been discussed in several ways in the field of inclusive education. On the one hand, the group has the positive connotation of a framework within which each individual can be valued as a unique resource that contributes to the development of the whole group, as is the case in cooperative learning (Johnson, Johnson and Holubec 1993). On the other hand, the group can also be the context of norm constructions that harshly separate those who adhere to the norm and those who do not, i.e., who belongs and who does not (Cohen 1994).

Where IRE sequences are concerned, there is some evidence that the third evaluative turn might play a relevant role in fostering the relationship between individuals and the group in a class. Some studies have demonstrated a significative influence of teacher feedback on social integration and children's peer preferences, and thus on the way individual children are perceived as belonging to the group to a greater or lesser extent (Huber 2011; White and Kistner 1992).

In the presented data on the teacher's corrective third turns, two aspects seem to play a relevant role for the way the interaction between the group and individuals is represented. Firstly, the fact that the teacher chooses only rarely to correct the pupils' answers by providing the correct answer herself and prefers instead to support the pupils' development of the correct answer through uncompleted utterances or successive questions, implicitly shows the class that all answers, even incorrect ones, represent a valuable step in constructing a common knowledge. In this sense, feedback is not a strategy for separating correct from incorrect answers but is regarded much more as an instrument that orients the constant restructuring of children's knowledge and its representation. Thus, feedback becomes a way to value everyone's contribution to a common process of knowledge co-construction by the group.

Secondly, through some of the analysed feedback, the teacher recognizes explicitly the role of classmates and the class for individual students' development of knowledge. At the stage of the corrective third turn in the IRE sequence the teacher explicitly asks the class or individual students for help, (e.g., "who is going to help Giovanni to understand this question?" or "Pino is going to help you!") and she indirectly puts the emphasis on the value she gives to collaboration among classmates. This becomes even more visible in example 4, where the teacher draws a sort of virtuous circle from Carmine's incorrect answer to class support and back to Carmine's correct answer.

Looking at this data, we put forward the idea that using these forms of collaborative feedback in whole-class instruction can contribute to a common understanding of the relationship between individuals and groups, in which each individual is valued as resource for the group, regardless of his/her adherence to the norm (represented here by the correct answer), and conversely, the group is understood as a resource for each individual's development.

To conclude, our qualitative analysis of IRE sequences in primary school has highlighted some of the ways in which teachers' management of turn allocation, question design and corrective evaluative feedback can play a relevant role in terms of inclusion and enhancing knowledge co-construction and participation for all pupils. These initial results, though based on the analysis of a single case study and

therefore limited, confirm the usefulness of applying a Conversation Analysis approach to the study of the interplay between communicative practices and inclusion, offering new perspectives at the micro level of classroom interaction.

References

Alexander R.J. (2017). *Towards dialogic teaching: rethinking classroom talk*. 5th ed. York: Dialogos.

Booth T., M. Ainscow (2011). *Index for Inclusion. Developing Learning and Participation in Schools*. 3rd ed. Bristol: Centre for Studies on Inclusive Education (CSIE).

Buckley S., Bird G., Sacks B., Archer T. (2006). A Comparison of Mainstream and Special Education for Teenagers with Down Syndrome. *Down Syndrome's research and practice,* 9/3, 54-67.

Clotfelter C., Ladd H., Vigdor J. (2007). *Teacher credentials and student achievement in high school*. National Bureaun of Economic Research Working Paper. www.caldercenter.org.

Cohen E. (1994). *Designing Groupwork: Strategies for the Heterogeneous Classroom*. New York and London: Teacher College Press.

Cole C.M., Waldrinm N., Majd M. (2004). Academic Progress of Students Across Inclusive and Traditional Settings. *Mental Retardation,* 42/2: 136-144.

Domitrovich C.E., Greenberg M.T. (2004). Preventive interventions with young children: building on the foundation of early intervention programs. *Early Education and Development,* 15, 365-370.

Drew P., Heritage J. (eds.) (1992). *Talk at work*. Cambridge, Cambridge University Press.

Foreman P., Arthur-Kelly M., Pascoe S., Smith-King B. (2004). Evaluating the Educational Experience of Students with profound and multiple Disabilities in Inclusive and Segregated Classroom Settings: An Australian Perspective. *Research and Practice for Persons with Severe Disabilities,* 29/3, 183-193.

Gardner R. (2012). Conversation Analysis in the Classroom. In *The Handbook of Conversation Analysis Handbook* , ed. by J. Sidnell, and T. Stivers (pp. 593-611). Chichester UK: Wiley-Blackwell.

Garrote A., Sermier Dessemontet R., Moser Opitz E. (2017). Facilitating the social participation of pupils with special educational needs in mainstream schools: A review of school-based interventions. *Educational Research Review*, 20, 12-23.

Hart S. (1992). Differentiation: Part of the problem or part of the solution? *The Curriculum Journal,* 3/2, 131-142.

Hauser E. (2009). Turn-taking and primary speakership during a student discussion. In *Talk-in-interaction: Multilingual perspectives*, ed. by H. thi Nguyen, G. Kasper, (pp. 215-244). Honolulu: HHI: National Foreign Language Resource Center.

Heritage J. (2005). Conversation Analysis and Institutional Talk. In *Handbook of Language and Social Interaction*, edited by K. L. Fitch, and R. E. Sanders (pp. 103-147). Mahwah, NJ: Lawrence Erlbaum.

Jefferson G. (2004). Glossary of Transcript Symbols with an Introduction. In *Conversation Analysis: Studies from the First Generation*, ed. by G. Lerner (pp. 13-23). Amsterdam: Benjamins.

Johnson D.W, R.T. Johnson, E. Holubec (1993). *Circles of Learning.* Interaction Book Company.

Jones R., J. Thornborrow (2004). Floors, talk and the organization of classroom activities. *Language in Society,* 33, 399-423.

Koole T. (2010). Displays of epistemic access: Student responses to teacher explanations. *Research on Language and Social Interaction*, 43(2), 183-209.

Koole T. (2013). Conversation Analysis and Education. In *The Encyclopedia of Applied Linguistics*, edited by C. A. Chapelle (pp. 977-982). Chichester UK: Wiley-Blackwell.

Koshik I. (2002). Designedly incomplete utterances: A pedagogical practice for eliciting knowledge display in error correction sequences. *Research on Language and Social Interaction,* 35, 277-309.

Lee Y. (2007). Third turn position in teacher talk: Contigency and the work of teaching. *Journal of Pragmatics,* 39, 180-206.

Lindsay G. (2007). Educational psychology and the effectiveness of inclusive education/mainstream. *British Journal of Educational Psychology,* 77, 1-24.

Loreman T. (2014). Measuring Inclusive Education Outcomes in Alberta, Canada. *International Journal of Inclusive Education* 18 (5), 459–483. doi: 10.1080/13603116.20-13.788223.

Margutti P. (2006). «Are you human beings?» Order and knowledge construction through questioning in primary classroom interaction. *Linguistics and Education,* 17, 313–346.

Marutti P. (2007). Formulare una domanda per ottenere «quella» risposta: aspetti linguistici, organizzazione dell'interazione e costruzione di conoscenze in classe. In C. Baraldi (ed.), *Dialogare in classe. La relazione tra insegnanti e studenti* (pp. 29-48). Roma: Donzelli.

Margutti P. (2010). On designedly incomplete utterances: What counts as learning for teachers and students in primary classroom interaction. *Research on Language and Social Interaction,* 43, 315–345.

Margutti P., Drew P. (2014). Positive evaluation of student answers in classroom instruction. *Language and Education,* 28 (5): 436-458.

Meyer A., Rose D.H., Gordon D. (2014). *Universal design for learning: Theory and Practice*. Wakefield, MA: CAST Professional Publishing.

McHoul A. (1978). The organization of turns at formal talk in the classroom. *Language in Society,* 7: 183-213.

McHoul A. (1990). The organization of repair in classrooms. *Language in Society,* 19: 349-377.

McPhilipps T., Shevlin M. (2009). Evaluating the teaching and learning experience for the child with dyslexia in special and mainstream settings in Ireland. *Support for Learning*, 24/2, 63-72.

Mehan H. (1979a). *Learning Lesson*. Cambridge MA: Harvard University Press.

Mehan H. (1979b). "What time is it Denise?": asking known information questions in classroom discourse. *Theorie into Practice,* 18: 285-294.

Mondada L. (2007). Multimodal resources for turn-taking: pointing and the emergence of possible next speakers. *Discourse Studies*, 9(2): 194-225.

Nassaji H., Wells G. (2000). What's the use of 'Triadic dialogue'? An investigation of teacher-student interaction. *Applied Linguistics*, 21: 376-406.

National Institute of Child Health and Human Development Early Child Care Research Network. 2002. The relation of global first-grade classroom environment to structural classroom features and teacher and students behaviours. *American Educational Research Journal,* 39: 133-164

National Institute of Child Health and Human Development Early Child Care Research Network. 2004. Classroom Observation System-Fifth Grade- Charlottesville: University of Virginia.

Netz H. (2016). Designedly Incomplete Utterances and student participation. *Linguistics and Education,* 33: 56-73.

Nigris E. (2009). *Le domande che aiutano a capire*. Milano: Mondadori.

Norwich B., Kelly N. (2004). Pupils' view in inclusion: moderate learning difficulties and bullying in mainstream and special schools. *British Educational Research Journal* 30 (1): 43-65.

Nye B., Kostantopoulos S., Hedges L.V. (2004). How large are teacher effects? *Educational Evaluation and Policy Analysis*, 26, 237-257.

Opertti R., Walker Z., Zhang Y. (2014). Inclusive Education: From Targeting Groups and Schools to Achieving Quality Education as the Core of EFA. In *The SAGE Handbook of Special Education* (1, 2nd ed., pp. 149–169) edited by L. Florian. Los Angeles, CA: SAGE.

Orletti F. (2000). L'interazione in classe [Classroom interaction]. In F. Orletti, *La conversazione diseguale. Potere e interazione* [Unequal conversation. Power and interaction] (pp. 91-110). Roma: Carocci.

Pianta R.C, Lo Paro K., Hamre B.K. (2008). *Classroom Assessment Scoring System* (CLASS). Baltimore: Books.

Pianta R.C., Hamre B.K. (2009). Conceptualization, Measurement, and Improvement of Classroom Processes. *Educational Researcher*, 38 (2): 109-119.

Quirk R., Greenbaum S., Leech G., Svartvik J. (1985). *A Grammar of Contemporary English*. London: University of California.

Sacks H. (1992). *Lectures on Conversation* (edited by Gail Jefferson). Oxford: Basil Blackwell.

Sacks H., Schegloff E., Jefferson G. (1974). A Simplest Systematics of the Organisation of Turn-Taking for Conversation. *Language* 50: 696-735.

Sidnell J., Stivers T. (eds.)(2012). *The Handbook of Conversation Analysis*. Chichester UK: Wiley-Blackwell.

Sinclair J., Coulthard R. (1975). *Towards an Analysis of Discourse: the English Used by Teachers and Pupils*. London: Oxford University Press.

Soukakou E. (2012). Measuring quality in inclusive preschool classrooms: Development and validation of the Inclusive Classroom Profile (ICP). *Early Childhood Research Quarterly*, 27, 478-488.

Streeck J., Goodwin C., LeBaron C.D. (eds.) (2011). *Embodied Interaction: Language and Body in the Material World*. Cambridge: Cambridge University Press.

Weeks P. (1985). Error-correction tecniques and sequences in instructional settings: toward a comparative framework. *Human Studies*, 8: 195-233.

White. K.J., Kistner J. (1992). The influence of Teacher Feedback on Young Children's Peer Preferences and Perceptions. *Developmental Psychology*, 28: 933-949.

Appendix: Transcription Conventions

TEXT	especially loud sound (relative to surrounding talk)
ºtextº	especially soft sound (relative to surrounding talk)
text, text	some form of stress (via pitch and/or amplitude)
>text<, <text>	faster speech, slower speech
tex-	cut off
te:xt	sound prolongation
text=text	no break or gap
[ ]	overlapping talk
.	falling, conclusive intonation
,	heard as unfinished intonation, slightly rising
?; !	rising intonation (question); animated utterance
.h; h	inbreath; outbreath
he he	laughing
(.)	gap of less than one-tenth of a second
(0.5); (1.2)	pause timed in tenth of a second
(text)	dubious hearing or speaker-identification
xx	incomprehensible speech (one syllable for each x)
((text))	comment or description of action
* *, % %	delimits description of participant's action (one type of symbol for each participant)
- - - -	action continuation
- - >	continuation of action in the next line
TEA	teacher
STS	students (more than one)
ST	student (unidentified)