Analysing students' interaction during the in-pairs reading comprehension task: What kind of procedure supports the focus on the text?

Agnese Vezzani
University of Modena and Reggio Emilia

Abstract

Working in pairs can create favourable conditions for students' involvement in reading comprehension strategies. The literature has shown practical advantages of organisation in pairs in classrooms, assimilating the functioning of the pair to that of the "good reader"(Hall et al., 1989). Following previous research inspired by a Reciprocal Teaching protocol (Calvani & Chiappetta Cajola, 2019), the goal of the present work was to analyse the interactions of some pairs. The processes of understanding the text have been described when the pairs worked in two different procedures: when both students play an alternating tutorial role (tutorial procedure) and when two students tackle the comprehension tasks jointly (joint procedure). The interactions between the two students in the pairs (cognitive, regulative, and affective) are significantly focused on the texts, both in low-skilled pairs and in those with more advanced skills, with a greater prevalence in the joint procedure compared to the tutorial one.

Lavorare in coppia può creare condizioni favorevoli per il coinvolgimento degli studenti nelle strategie di comprensione della lettura. La letteratura ha mostrato vantaggi pratici dell'organizzazione a coppie nelle classi, assimilando il funzionamento della coppia a quello del "buon lettore" (Hall et al., 1989). Facendo seguito a precedenti ricerche ispirate al Reciprocal Teaching (Calvani & Chiappetta Cajola, 2019), l'obiettivo del presente lavoro è stato quello di analizzare le interazioni di alcune coppie. I processi di comprensione del testo sono stati descritti considerando il lavoro delle coppie in due diverse modalità: quando entrambi gli studenti svolgono un ruolo tutoriale alternato (procedura tutoriale) e quando due studenti affrontano congiuntamente i compiti di comprensione (procedura congiunta). Le interazioni tra i due studenti nelle coppie (cognitiva, regolativa e affettiva) sono significativamente focalizzate sui testi, sia nelle coppie più deboli sia in quelle con competenze più avanzate, con una prevalenza maggiore nella procedura congiunta.

Keywords: collaboration; pairs; reading; comprehension; reciprocal teaching; thinking aloud

Parole chiave: collaborazione; coppie; comprensione del testo; reciprocal teaching; pensare ad alta voce

DOI: https://doi.org/ 10.6092/issn.1970-2221/15950

1. Introduction

Most teachers know that understanding a text is a "key citizenship competence" (European Council, 2018; 2015), since it allows the individual to understand the messages, use information, enable democratic participation, and the expression of their own ideas in the cultural environment they belong to. It is defined as a "key", also because it is highly predictive of the future educational success of a person (European Council, 2018, C 189/8). Furthermore, the definition of literacy offered by the OECD, in the conceptual framework underlying the PISA tests of 2018, highlighted the motivational and metacognitive dimensions of literacy: it is the awareness that allows everyone to evaluate texts and use them for their own objectives (OECD, 2019, p. 28).

The conceptual framework of the PIRLS (Progress in International Reading Literacy Study) program, aimed at fourth grade students, underlines the importance of the ability to construct meanings starting from a text and the enjoyment in the use of a text (PIRLS, 2016), which is also a condition for continuing to read throughout life. ELINET (European Literacy Policy Network 2016) examined various research papers on reading and writing education and highlighted the most effective methods. Among these, three aspects are recommended that teachers should be aware of in the design of literacy promoting activities: an explicit instruction of reading comprehension strategies, the students' active engagement, and the collaborative or cooperative learning methodologies.

All peer collaboration strategies applied to text comprehension aim to activate the reader and make the student aware of the difficulties encountered in text processing. However, by examining the literature relating to the understanding of the text in a collaborative context, we realize two kinds of problems.

The first is a research problem: we can see that literature often speaks about "Pairs or small groups", mixing two different ways of class organization, which hint at the important specificities of the student pairs in the interaction compared to larger groups (Kagan, 2000, p.11; Rosales & Soldner, 2018, p. 106). Such ambiguity also happens within the most well-known models of promoting understanding of the text that different procedures are included under the same name (Rosenshine & Meister, 1994; Okkinga et al., 2018). This ambiguity weakens the understanding of the procedures and which tasks help students to be more focused on the text and its mechanisms, in terms of visible verbal behaviour, given the lack of fixed definition of the names that scholars and teachers give to the models.

The second is a problem related to the content of the interactions, which must be investigated to understand what is effective in supporting the understanding of a text. In fact, it is necessary to keep in mind potential difficulties of interactions in collaborative contexts, documented for example by some studies that have precisely analysed the content of communicative exchanges between students. There is not always a real collaboration in common reasoning (Webb, 1989). Furthermore, an analysis of the interaction content is necessary as the word turns can be focused on multiple aspects of the task and can respond to different functions, which go beyond the textual inquiry and the strategies used to interrogate the text (Staarman et al., 2005; Tarchi & Pinto, 2016). For all these reasons it was decided to focus attention on the content of the children's interactions, which take place in that particular form of collaboration that the pairing of students allows.

2. The lines of research on the pair-based structure

The pair of students offers potential practical advantages in organizing of the classroom, especially in not having to spend time and energy to change the classroom setting, often organized in a lecture model. But the literature says much more: in the processes of the reading comprehension, the work in pairs between two students who carry out a task without direct and constant guidance from the adult can create favourable conditions, first of

DOI: https://doi.org/ 10.6092/issn.1970-2221/15950

all because it allows for the greatest student participation. Kagan (2000, p. 55), in fact, underlines how important it is to choose a certain cooperative structure on the basis of the highest possible simultaneous participation and equal participation opportunities. The relationship between the number of interactions and learning outcomes has emerged, for example, in the work of Delquadri (Delquadri et al., 1986; Greenwood, Delquadri, & Hall, 1989, p. 372), who analysed the benefits of classwide peer tutoring, particularly by observing the improvements that the struggling readers have made, related to the opportunity to verbalize their reasoning. By verbalization aloud, students express different types of thoughts, in particular they recall the text content in their working memory and re-elaborate it (Schellings, Aarnoutse, C., & Van Leeuwe, 2006, p. 551).
The literature review showed five lines of research that have considered specific tasks for pairs and highlighted precise features (Table 1).

Table 1. Research pathways on students' pairs.

Research lines	**Recurring features**	**Reference**
Pairing seen as an initial structure, preparatory to larger and more complex groups.	Initial stage within more articulated and complex cooperative educational structures, functional to practice together and mutual check.	Johnson, Johnson & Holubec, 1996; Slavin, 1988; Slavin et al, 2011; Kagan, 2000
Tutoring, Reciprocal Teaching and PALS (Peer Assisted Learning Strategies)	A tutor assists the partner, from the instrumental aspects of learning to the control of strategies. Reading comprehension is a particularly studied field.	Topping, 2014; Palincsar & Brown, 1984; Fuchs et al., 1997, Fuchs & Fuchs, 2005; Van Keer & Vanderlinde, 2010; Slavin et al., 2011.
Work in pairs in learning a foreign language.	Oral communication and written production, particularly in the context of the study of English as a second language, EFL (English Foreign Language).	Storch, 2011; Cao & Philp, 2006; Peacock, 1998.
Work in pairs to achieve academic contents, especially in higher education.	Students who study academic contents, jointly and with similar skills, to better remember, recall and process study texts.	Skaggs et al., 1990; Horn et al., 1998.
Collaborative online reading	Students face and discuss texts and instructions online.	Coiro et al., 2014; Kiili & Leu, 2019; Kiili et al., 2019; Castek et al., 2012; Kiili et al., 2012; Staarman et al., 2005.

From the analysis of the literature, some advantages typical of working in pairs can be recognized and effectively applied to the field of reading comprehension.
Participation and interaction in pairs are higher than in small groups and each student is actively involved (Delquadri et al., 1986; Kagan, 2000).
Reading in pairs increases fluency, supports oral exposure and exercise (Fuchs et al., 1997).

DOI: https://doi.org/ 10.6092/issn.1970-2221/15950

Verbalization seems to make students more aware of the passages of the text, capable of intercepting errors and inconsistencies (Hall et al., 1989; Skaggs et al., 1990).

Thinking aloud and speaking orally improves the memory of the essential elements of the text (Larson & Dansereau, 1986; Lumbelli, 2009) and the acquisition of strategies (Cardarello & Bertolini, 2020), especially in the production of a summary related to the text (Calvani et al., 2018). It should be emphasized that, according to Hall's research (Hall et al., 1989), the pair is able to usefully contribute to better retention of the salient aspects compared to the individual, and the fact that the pair, by discussing mistakes, seems to allow an exercise of self-monitoring one's own understanding. They argue that a parallel can therefore be drawn between the elaboration of the text done within the dyadic situation and the elaboration of the text carried out by a "good reader" (Hall et al., 1989, p. 128). One of the reasons lies in the fact that working with a companion who share the same task stimulates thinking, processing, and paraphrasing, more than what happens during silent reading or individual work. When one tries to explain a point of view to a partner, s/he re-elaborates his/her own thoughts and the material dealt with, checks the correctness of what the partner has said, and the procedure followed. In other words, the pair brings a conscious and metacognitive behaviours that pushes the reader to verbalize what s/he has read in different ways, motivating their opinions (Palincsar & Brown, 1984; Pontecorvo, Ajello, & Zucchermaglio, 2007).

Teachers seem to accept this organization better, because they spend less time and resources both to train students and to manage materials, compared to more complex cooperative structures (Fuchs & Fuchs, 2005; Greenwood et al., 1989).

Palincsar and Brown's proposal, known as Reciprocal Teaching (RT), has been applied over time with various adaptations (Rosenshine & Meister, 1994; Tarchi & Pinto, 2016; Okkinga et al., 2018; Pellegrini, 2019), which have including variations in the size of student groups. Rosenshine & Meister have found, after only 10 years from the original proposal by Palincsar and Brown, very different applications of RT, which involved groups of 2 to 23 students (Rosenshine & Meister, 1994, p. 500). In the Italian context, the adaptation of RT procedures by Calvani (Calvani, Fornili & Serafini, 2018; Calvani & Chiappetta Cayola, 2019), proposed the grouping of students in pairs. The overall intervention assigned great importance to the teacher's initial modelling and proposed to the members of the pairs to work on an equal footing, thus avoiding the presence of a shift tutor. The proposed strategy preserves the original 4 phases of RT. In particular, the predicting phase (predicting the content of a text, starting from the title or the first phrases of a passage) and clarifying (asking if all the expressions and words mentioned in the text are clear) are reserved for individual reflection of each student, while the questioning phases are carried out in pairs (interrogating the text to obtain the essential ideas, or the most important information presented) and summarizing (summarizing the most relevant points), with the task of producing a written summary with a predefined number of words. In the final phase of each session, the protocol included a collective feedback in which the teacher tries to bring out the proposals of the pairs, to collectively elaborate and reformulate the best possible summary, taking care not to express judgments but to encourage an attitude of research. A wide study was carried out on this protocol which involved more than a thousand Italian students.

The research, curated by eight Italian Universities and coordinated by S.Ap.I.E. (Society for Learning and Education Informed by Evidence), showed a moderate efficacy (ES + 0.26) for the summary test, with closed-ended questions at multiple choice, and a better one (ES 0.53) for the SQA test (Summarize Qualitative Assessment) (Menichetti & Bertolini, 2019, p. 235-239), compared to the control classes, corresponding to a gain of about 7 months. Reciprocal Teaching proposes strategies that recur in the recommendations of the National Institute of Child Health and Human Development and from evidence gathered by Duke and Pearson (NICHD, 2000;

DOI: https://doi.org/ 10.6092/issn.1970-2221/15950

Duke et al., 2011, p. 84), about the cognitive strategies that allow the reader to be a "good reader", effective in understanding, such as making predictions, monitoring one's understanding by asking questions, thinking aloud, clarifying, summarizing, and re-elaborating.

Therefore, starting from the abovementioned literature, the research questions that have guided the present study are the following:

(1) Are the behaviours typical of the "good reader" hypothesized in the literature (questions for clarification, monitoring of self-understanding through the detection of errors, rereading, reworking of the text) present in the dialogues of the pairs? In other words, are the pairs actively focused on the text and on the task?

(2) Considering two different conditions of approach to the task, found in the literature, namely the pairs made up of a shifting tutor and the pairs in which the two students work jointly without roles, is the interactions' quality different? How these two types of procedures impact on the pair interaction?

Is one of the two procedures more promising than the other, from the point of view of the engagement on the text?

3. Materials and methods

In the present study the same didactic protocol and material of the previous S.Ap.I.E research was replicated, given the encouraging results, to keep the students' assignments constant and observe the interactions within of pairs working with the two different procedures.

The pre-tests, the didactic protocol and paper materials of the Reciprocal Teaching – S.Ap.I.E. research (Calvani & Chiappetta Cayola, 2019), were used for all experimental groups. More specifically, the pre-tests were composed as following: an open summary test, called SQA (Summarize Qualitative Assessment) (Menichetti & Bertolini, 2019), a multiple-choice test, to identify the main ideas in a text, called ST (Summarizing Test) (Calvani & Menichetti, 2019), a test to evaluate the vocabulary (Montesano, 2019), a metacognitive questionnaire (La Marca et al., 2019), a reading comprehension test, called MT (Cornoldi & Colpo, 1998). The workbook contained 34 texts, proposed 3 or 4 per week, according to the availability of teachers. Each piece was designed to be addressed individually for the Predicting and Clarifying phase and in pairs during the remaining two phases: asking questions to identify the most important information (Questioning) and summarizing the passage with 30 words (Summarizing).

The teaching protocol included training, video-modelling, and a manual for teachers, as well as structured paper material for each pupil.

3.1. Participants

The design of the research can be defined as quasi-experimental, as a sample of classes on which to implement the intervention was not established a priori, but teachers participated voluntarily, in according to the availability to welcome an internship student into the classroom, as observer.

The more general research design, in which this study is inserted, had foreseen the involvement of 25 fourth grade primary school classes in some provinces in northern Italy, with a total of 531 pupils. Of these, 15 classrooms started the experimental path, and 3 classrooms followed the experimental path with the recording of some conversations of the pairs during the work. The other 7 classrooms (154 children) followed the traditional fourth grade program, acting as control classes.

DOI: https://doi.org/ 10.6092/issn.1970-2221/15950

Before the course started, a letter of request and presentation of the Reciprocal Teaching model was sent to school administrators and principals, to teachers and to parents, who were asked for an authorization to process data, which are always to be used anonymously.

3.2. Procedure

To answer the research questions, an interaction analysis was conducted during the Reciprocal Teaching sessions, during the first 3 weeks of the experimental intervention.
In each classroom, half of the pairs worked with one of the two individuals exercised the role of tutor and the other was the tutee and switched roles every session. In the other half, the two students worked jointly without roles. A sample of 4 pairs with a switched tutor and 5 which worked jointly have been recorded. In the same classrooms there were both pairs with the tutor and pairs who worked jointly, to have the availability of both procedures under the same-teacher modelling.

3.3. Composition and procedure of the in-pair work

The teachers composed the pairs with a criterion of substantial equivalence of competences of both children, to legitimize a spontaneous participation of each one, without the fear to be judged by the companion or to be considered not able. The literature, in fact, underlines how real interaction and collaboration in cooperative groups is not at all obvious (Webb, 1982, 1989), especially if one of the two members does not consider the other capable of giving satisfactory answers to his own questions or able to make an acceptable contribution.
The composition of the pairs did not change over the sessions, except for two particular cases, whose conversations were excluded from the analysis due to the extremely low number of word turns and severe difficulties in reading comprehension.
The teachers provided the children with an example of cognitive modelling, through thinking aloud, in the first three texts and in the 11th text, while the children worked directly in pairs in the others reading proposed. In the meantime, the teacher went around in the classroom, helped the pairs that needed some clarification. In each lesson the children worked in pairs for about 45-50 minutes and faced two recurring tasks in every text: identifying the main ideas through some assigned guiding questions (questioning) and producing a summary with no more than 30 words on the passage assigned (summarizing). At the end of each meeting, the teacher gave feedback to the whole classroom, with the collective production of an example of a good summary (Calvani & Chiappetta Cayola, 2019).
In pairs with a tutor, hereafter called tutorial pairs, the tutor had the task of reasoning aloud identifying the main information, orally, while the tutee had the task of producing a written summary, based on the relevant information identified by the tutor. Subsequently, the tutor had to provide feedback to the tutee's summary, identifying possible points for improvement. Tutorial pairs were given a card to remind them the procedure.
The pairs who worked jointly, hereafter referred to as "joint" pairs, instead, carried out together both the questioning request, present in the workbook, and the summarizing, without roles.
The teachers indicated to the researcher some pairs with high literacy skills and some pairs with low skills. This evaluation done by the teachers was compared with the results of the pre-tests administered in advance by the researcher. These results, considered in their overall average, showed a complete correspondence with the level of competence of the students identified by the teachers.

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3.4. Data collection

An audio recorder or a video camera has been placed near the identified pairs. The children were explained that the purpose of the recording was to study how students understand the texts and the operator asked if they were bothered by the presence of the recording tool. The registration was collected only if the children consented and if they did not express embarrassment or comments regarding the registration during the task. Conversations in which the audio quality was acceptable were faithfully transcribed and numbered.
The conversations were collected between mid-January and mid-February. About a month and a half after the start of the experimental intervention, physical-school attendance was suspended due to the COVID19 emergency and this research was thus interrupted, as virtual school-attendance prevented working in pairs by students. This resulted in 16 useful conversations, fully transcribed, related to the initial phases of the intervention.

3.5. Procedure of the conversation analysis

Every word turn has been analysed and categorized, to see how much the in-pairs students show an attitude of awareness and attention to the text.
The analysis procedure included the quantification of word turns, so as to have an estimate of the amount of interaction centred on the text and to identify the amount of involvement on the task. The actual time used by the pairs, compared to the time given to the whole class is recorded. Finally, the interactions of the pairs were counted, considering the number of interactions per minute, to observe the frequency of communication exchanges.
The prevailing content of each word turn was identified, to consider if they are relevant for the text comprehension and episodes of distraction were also counted. To categorize the prevalent content visible in the transcription, the distinction made by Staarman and colleagues (Staarman et al., 2005), applied in contexts of collaboration and Reciprocal Teaching, was considered useful. The scholars investigated which interactions between students are most effective for learning purposes and proposed three broad categories of pupils' interactions: those focused on the task, the text and the assignment (cognitive), interventions that regulate the activity of the pair (regulative) and those that express positive or negative comments regarding the task (affective) (Staarman et al., 2005, p. 32). Kovalainen and Kumpulainen (2005) also investigated discursive practices in classrooms set up as collaborative learning environments and highlighted the difference in relevance of the contributions provided by the pupils. Effective participation is task-centered, as it supports shared thinking and construction of meanings (Kovalainen & Kumpulainen, 2005, p. 243-244). Tarchi and Pinto (2016) also took up these reflections, in a 2016 study carried out as part of a Reciprocal Teaching procedure and highlighted the difference in communicative functions of students and teachers' interactions. Among these functions there is, for example, the regulation of word turns.
For these reasons, the primary distinction of Starmaan and colleagues (Staarman et al., 2005) has been considered here and each students' word turn has been categorized observing the prevailing content, to identify if and how much the students' attention is devoted to the text and to the strategies typical of the "good reader" (cognitive interactions), to the regulation of the activities (regulative interactions) or spent in personal comments about the task (affective interactions).
The following table therefore indicates the descriptors used to define a cognitive, regulative, or affective intervention. Each conversation was analysed by three independent coders. The degree of agreement between the coders was 98.7% (Table 2).

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Table 2. Coding and definition of children interactions.

Coding	**Description**	**Examples**
Cognitive interactions	Verbalizations on the content and on the text. Reworking and rereading (NICHD, 2000). Practice of strategies. Questioning and summarizing, as required by the material (Calvani & Chiappetta Cajola, 2018). Checking one's own understanding. Detecting inconsistencies and errors (Hall et al, 1989). Feedback to partner. Doubts about knowledge activated by the text (Palincsar & Brown, 1984).	"What is the most important information? Who?" "So, we generalize". "But what does a slender boy mean?" "Listen X., here the text says 'the game' ... it doesn't say which sport ... it says the game, but it says two goals to two... The other opponent's goal... It is obvious!"
Regulative interactions	Related to the roles of the members of the pair. Communicative exchanges that organize the work. Word turns that decide which one of the two or even both must do. Invitation from one of the two to proceed. Expressions in which a student tries to change the work direction. Interventions that give indications on the tasks of each pair member, without reference to the content of the text.	"Write, come on!" "It's your turn, teacher (tutor)!" "No, but this is the summary, let's do that, the summary!" "I write it, not you!" "Say what we should write!" "Now that's enough, let's go on"

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Affective interactions	Comments. Personal considerations on the text or on the feeling with which it is addressed. Small conflicts. Jokes between the two classmates related to the task.	"This text is beautiful!" "We also did it last year in Science!"
Other	Expressions without an identifiable function. Ambiguous interventions.	"Mmhhh"
Distraction	All interventions not relevant or connected to the task.	

For the quantitative analysis, all the word turns involving the adult and the time explicitly not dedicated to the task were excluded (for example when the teacher intervenes to explain a term, or to emphasize a particular to the whole class, or a collective distraction, or the time not used by the pair when they have already completed the task), in such a way as to consider time and word turns referring only to the interactions within the pair itself. In order to appreciate the differences, the percentage of interventions with cognitive, regulatory and affective function was calculated, in comparison to the number of valid word turns.
An initial analysis aimed to collect extracts from the pairs' dialogues, and to find evidence about what the pairs do, using methodology as practiced by the "good reader".
To do this, all the conversations were examined, and more than a hundred extracts were collected, of varying duration, which witnessed episodes of rereading, of autonomous synthesis, reasoning functional to the re-elaboration, of questions for clarification, even when the worksheet did not request it. This qualitative analysis is not the subject of this paper but found that within the pairs the children asked themselves questions about the meaning of the unknown expressions, posed each other questions about the consistency of the text, and searched the information necessary to understand their rereading; the pairs connected information present in different passages of the text, and tried to summarize what they had understood.
To answer the second research question, the general information of the conversations was analysed, considering the type of procedure followed (if tutorial or joint), the estimated level of competence in understanding the text, the number of word turns, and the actual duration of the working time compared to the time allowed for the whole class. The mean and standard deviation of the number of word turns in relation to the time used were calculated to understand the average frequency of word turns per minute in each pair.

4. Results

4.1. Focus on the task

Within the word turns, the distractions between the two companions during communications were also counted (but excluded from the conversation analysis), namely the interventions of children who were not focused in any way on the text, on the assignment or on the procedure (Table 3).

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Table 3. General information on conversations.

Conversation	Kind of procedure	Level of pair skills in reading	Net time used by the pairs	Word turns	Relationship (ratio) between word turns/minutes*	Distractions	Valid turns
1	Joint	High	00:40:49	321	7,86	0	321
2	Joint	High	00:41:33	167	4,02	5	162
3	Joint	Low	00:46:52	429	9,15	4	425
4	Joint	Low	00:44:10	285	6,45	4	281
5	Joint	High	00:50:05	339	6,77	12	327
6	Joint	High	00:17:47	207	11,64	14	193
7	Tutorial	High	00:29:12	173	5,92	2	171
8	Tutorial	High	00:32:56	204	6,19	4	200
9	Tutorial	High	00:42:03	298	7,09	15	283
10	Tutorial	Low	00:36:25	206	5,66	13	193
12	Joint	Low	00:36:42	209	5,69	9	200
13	Joint	Low	00:36:30	170	4,66	4	166
14	Joint	Low	00:31:23	171	5,45	2	169
15	Tutorial	High	00:45:45	242	5,29	2	240
17	Tutorial	Low	00:33:00	115	3,45	3	111
19	Joint	Low	00:37:41	127	3,37	2	125
		Mean	**00:37:41**	**228,87**	**6,17**	**5,93**	
		St. Dev.	**00:07:56**	**84,90**		**4,93**	
* Time considered on a decimal basis; division value rounded to the second decimal place							

It is possible to appreciate a great variability in the duration of the conversations, but also in the "rhythms" of the children, indicated by the ratio of word turns/seconds. For example, conversation 6 has shown 207 word turns in the 17 minutes and 47 seconds taken by the pairs to complete the activity, with a pace of 11.64

DOI: https://doi.org/ 10.6092/issn.1970-2221/15950

interventions per minute, while conversation 17 showed almost half of the interventions, 115, in almost a double time, 33 minutes. The ratio here is 3.44 interventions per minute.
Certainly, the small number of useful conversations does not allow us to draw generalizable conclusions, but we can draw some indications.

(1) The most important general consideration that seems possible to derived, therefore, is that the pair devotes a rather high number of word turns to the task, given that the number of distractions is not very relevant, equal to about 5.93%, on average, of word turns. This leads us to consider that pairs have been able to work independently from adults for a consistent amount of time, without wasting their energies in irrelevant communicative exchanges.

The variability of the conversation lengths allows to add a reflection. The fact that within the pair the components have rather homogeneous skills means that some pairs, in particular the more competent ones, often finish the activities earlier than those with more difficulties. On the other hand, this difference in execution times, with the same materials and assignments, is typically found in school classes where students work individually. This data is in line with that found in previous research (Bertolini et al., 2019, p. 405) about the time management in classes where students work in homogeneous pairs and will be discussed later.

4.2 Comparison between the in-pair work procedures

Trying to analyse the same conversations grouped by the procedure, we get the following average values (Tables 4 and 5).

Table 4. Means of used time, word turns and distractions, grouped by procedures.

	Net time used by the pair	**Word turns**	**Ratio word turns per minute***	**Distractions**	**Valid turns**
Tutorial procedure					
Means	**00:36:34**	**206,17***	**5,60**	**6,5**	**199,68***
St. Dev.	00:06:14	**62,15***		**5,89***	
Joint procedure					
Means	**00:38:21**	**242,5**	**6,50**	**5,6**	**236,9**
St. Dev.	00:09:03	**96,52**		**4,57**	
*Time considered on a decimal basis; division value rounded to the second decimal place.					

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Table 5. Means of used time, word turns and distractions, grouped by level of skills.

	Net time used by the pairs	**Word turns**	**Ratio word turns/minute***	**Distractions**	**Valid turns**
High-skilled pairs					
Means	**00:37:31**	**243,87***	**6,85***	**6,75**	**237,12**
St. Dev.	00:10:22	**67,41**		**5,97**	
Low-skilled pairs					
Means	**00:37:50**	**213,87***	**5,49**	**5,12***	**208,75**
St. Dev.	00:05:14	**101,92***		**3,87***	
*Time considered on a decimal basis; division value rounded to the second decimal place.					

Considering only the data related to the tutorial pairs, the average of the word turns is 206.17 turns (SD 62.15), while the average ratio between word turns and time used is 5.60 speeches per minute (see table. 4). The joint pairs seem to talk more and at a speedier pace (242.5 word turns, 6.50 turns per minute). Analysing the same conversations by the level of the reading comprehension skills, the average of word turns in the high-skilled pairs is 243.87 (67.41), with an average ratio between word turns and time of 6, 85 (see Table 5), while the low-skilled pairs showed less interactions, with a very high variability.

In the analysis, only the useful time for interactions in pairs was considered, net of all possible interruptions, even by the adult. If we take into consideration the three types of interventions with which it was intended to document the content of interactions within the pair, i.e. cognitive interventions (centred on the cognitive strategies required by the text and functional to understanding), regulative (regulation of the contribution of each individual) and affective (comments and opinions on the work), we find the following situation (Table 6).

DOI: https://doi.org/ 10.6092/issn.1970-2221/15950

Table 6. Analytical table of the kind of found interactions.

Conversation	Kind of procedure	Level	Word turns	Distraction	Valid turns	Cognitive interaction	% cognitive related to valid turns	Regulative interactions	% regulative related to valid turns	Affective interactions	% affective related to valid turns	Other	% other related to valid turns	Tot. %
1	Joint	H	321	0	**321**	280	**87,23**	11	**3,43**	23	**7,17**	7	2,18	100
2	Joint	H	167	5	**162**	138	**85,19**	7	**4,32**	10	**6,17**	7	4,32	100
3	Joint	L	429	4	**425**	375	**88,24**	29	**6,82**	9	**2,12**	12	2,82	100
4	Joint	L	285	4	**281**	228	**81,14**	20	**7,12**	18	**6,41**	15	5,34	100
5	Joint	H	339	12	**327**	286	**87,46**	9	**2,75**	29	**8,87**	3	0,92	100
6	Joint	H	207	14	**193**	162	**83,94**	10	**5,18**	15	**7,77**	6	3,11	100
7	Tut.	H	173	2	**171**	128	**74,85**	27	**15,79**	6	**3,51**	10	5,85	100
8	Tut.	H	204	4	**200**	148	**74**	26	**13**	19	**9,5**	7	3,5	100
9	Tut.	H	298	15	**283**	184	**65,02**	60	**21,2**	30	**10,6**	9	3,18	100
10	Tut.	L	206	13	**193**	130	**67,36**	33	**17,1**	20	**10,36**	10	5,18	100
12	Joint	L	209	9	**200**	150	**75**	21	**10,5**	21	**10,5**	8	4	100
13	Joint	L	170	4	**166**	135	**81,33**	12	**7,23**	12	**7,23**	7	4,22	100
14	Joint	L	171	2	**169**	151	**89,35**	15	**8,88**	2	**1,18**	1	0,59	100
15	Tut.	H	242	2	**240**	188	**78,33**	30	**12,5**	18	**7,5**	4	1,67	100
17	Tut.	L	115	2	**113**	79	**69,91**	22	**19,47**	2	**1,77**	10	8,85	100
19	Joint	L	127	2	**125**	106	**84,8**	11	**8,8**	3	**2,4**	5	4	100
	Mean		**228,94**	**5,88**	**223,06**	**179,25**	**80,36**	**21,44**	**9,61**	**14,81**	**6,64**	**7,56**	**3,39**	**100**
	St. Dev.		84,81	4,98	83,92	77,20		13,29		8,99		3,48		
*Percentages calculated on average values, rounded to the second decimal place.														

The data shown in the table were first disaggregated according to the type of procedure, and then according to the level of competence. We wanted to see how the percentage of cognitive, regulative, and affective interventions changes as the procedure and the initial competence of the children change. The following table (Tab. 7) shows only averages usable for the comparison (Table 7).

DOI: https://doi.org/ 10.6092/issn.1970-2221/15950

Table 7. Kind of interventions analysed for procedure and skills level (in the grey columns data are expressed in percentage relative to valid turns).

	Valid word turns	Cognitive interactions	% cognitive related to valid turns	Regulative interactions	% regulative related to valid turns	Affective interactions	% Affective related to valid turns	Other	% other related to valid turns
Tutorial pairs									
Mean	**200,00**	**142,83**	**71,42**	**33,00**	**16,50**	**15,83**	**7,92**	**8,33**	**4,17**
St. Dev.	**58,22**	**40,55**		**13,74**		**10,21**		2,42	
Joint pairs									
Mean	**236,9**	**201,1**	**84,89**	**14,5**	**6,12**	**14,2**	**5,99**	**7,1**	**3,00**
St. Dev.	96,36	87,21		6,84		8,70		4,04	
High skilled pairs									
Mean	**237,13**	**189,25**	**79,81**	**22,50**	**9,49**	**18,75**	**7,91**	**6,63**	**2,79**
St. Dev.	66,08	61,47		17,75		8,48		2,33	
Low skilled pairs									
Mean	**209,00**	**169,25**	**80,98**	**20,38**	**9,75**	**10,88**	**5,20**	**8,50**	**4,07**
St. Dev.	101,35	93,62	8,17	7,78	4,85	8,11	3,88	4,31	2,35

Cognitive interventions, i.e. centred on the task, on the material requests and on the reading comprehension, for pairs who use tutorial procedure, are on average 71.42% of the word turns in each conversation, while in conversations within pairs with joint procedure they are on average 84.89% of word turns. Furthermore, the regulative interactions, which have the function of organizing the work between the members of the pair, are on average, in the tutorial pairs, 16.50% of the word turns, while in the joint pairs they are on average 6.12%. In the tutorial pairs, the number of interactions with an affective function, linked to personal comments on the task, are in average 7.92% of the valid turns, while in joint pairs an average of 5,99% affective interactions has been detected.

The difference in affective interactions in the two working models therefore seems less relevant than the other kind of interactions.

DOI: https://doi.org/ 10.6092/issn.1970-2221/15950

Although the number of the conversation is limited and the variability is very high, as evidenced by the values of the standard deviations, the difference between the two models exists, visible in particular in the greater focus on the task that emerges in the joint model. The joint model, therefore, seems to offer more time and more work on the text than the tutorial model, as well as a higher frequency of verbalization. The regulation of roles and the organization of the two components' contributions to the task, at least in the initial phase of learning a new strategy such as that of Reciprocal Teaching, involved more energy in the tutorial pairs than in the joint ones, presumably subtracting that time devoted to text analysis.

On the other hand, the same conversations grouped by considering the variable of initial competence, show that the conversations of high skilled pairs have on average 79.81% of the interactions with cognitive function. Regulative interactions were on average 9.49% of word turns; finally, the affective interactions were 7.91% of the total. In the low-skilled pairs, 80.98% were cognitive interactions, 9.75% were regulative interactions, and 5.20% were affective interactions.

In other words, the level of pairs' competence does not seem to change much the quantity of the categories cognitive and regulative interactions, in proportion to the total number of interactions. The difference between the more skilled pairs and the less skilled ones, in terms of energy spent on the task, is much less marked than that one visible in the two different types of procedures.

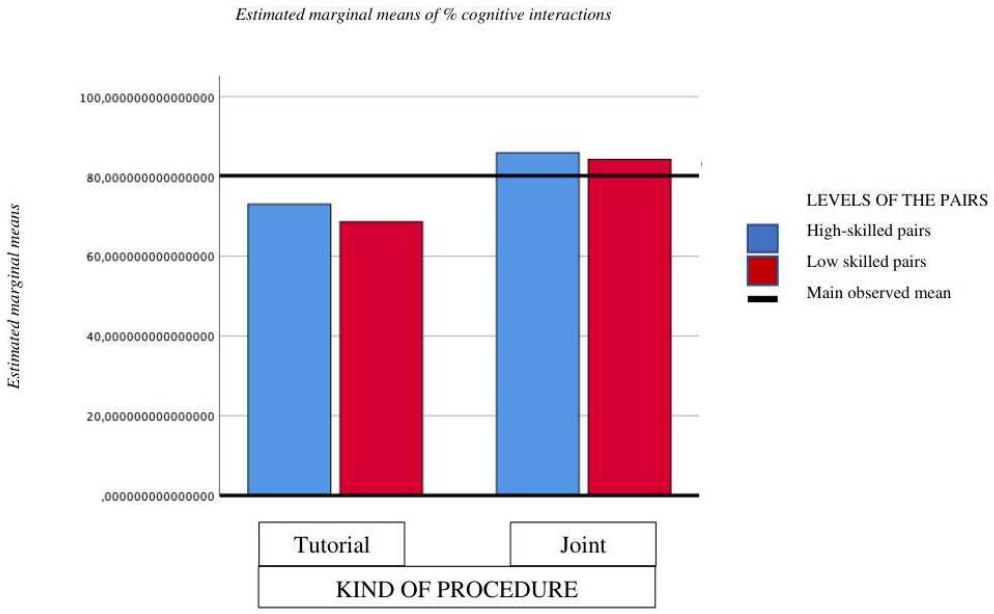
The one-way ANOVA statistical analysis was conducted: the "procedure" has been considered an independent variable and the frequencies of occurrence of the intervention types (not merely the presence/absence) as dependent variables. Statistical significance emerges for cognitive interactions ($F = 31.959$; $p = 0.000$) and for regulative interactions ($F = 49.744$; $p = 0.000$), but not for affective interactions ($F = 0.801$; $p = 0.385$). The same type of analysis did not show significance, however, considering the initial level of competence as an independent variable (cognitive interactions $F = 0.1$ and $p = 0.745$; regulative interactions $F = 0.009$ and $p = 0.924$; affective interactions $F = 3.104$ and $p = 0.098$).

4.3. Cognitive interactions

The interaction of the factors considered is shown in the following graphs, in which the blue bar indicates the high-skilled pairs, and the red bar indicates low-skilled pairs. The black line indicates the average of the interventions considered, calculated on all conversations (Figure 1).

DOI: https://doi.org/ 10.6092/issn.1970-2221/15950

Figure 1. Percentage of cognitive interactions in the procedures and level variables.

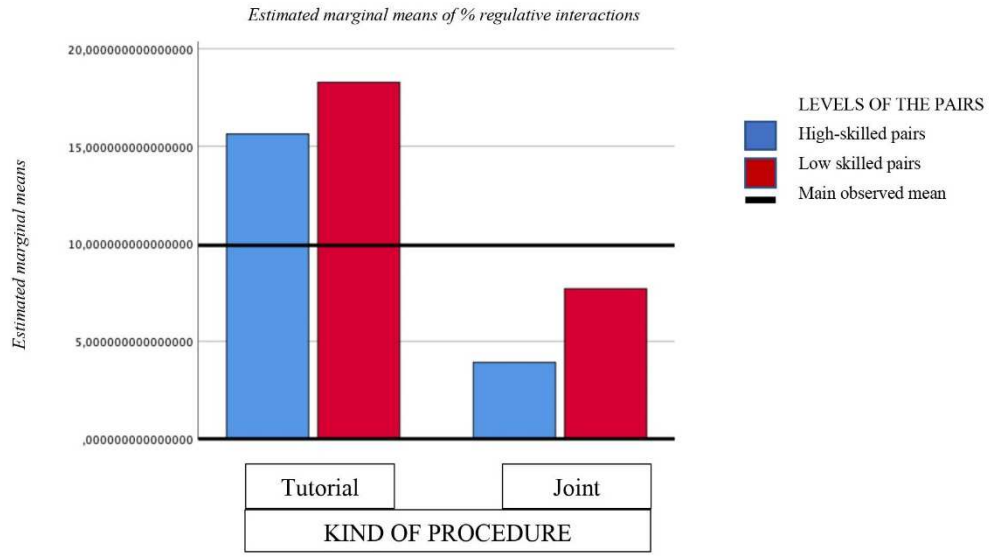


As can be seen, the joint procedure results in a higher than the average percentage of cognitive interactions, indicated by the black line, both for children with high skills and for struggling readers.

4.4. Regulative interactions

In the following figure, it is very clear how much regulative interactions affect the total number of valid word turns in each conversation (Figure 2).

Figure 2. Percentage of regulative interactions in the procedure and level variables.



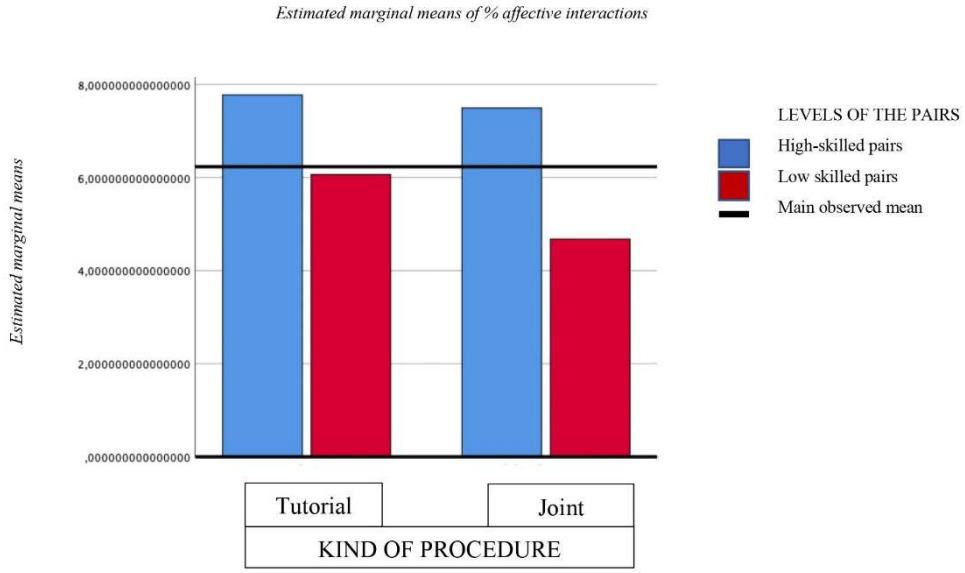
DOI: https://doi.org/ 10.6092/issn.1970-2221/15950

It is evident that for the tutoring procedure, the word turns that the pair must "spend" to regulate their activity is considerably higher than the average. Furthermore, the graph shows that pairs with more difficulties have an even higher percentage of regulative turns, thus indicating an even greater impact of the management of activities and roles, to the detriment of cognitive interventions.

4.5. Affective interactions

A further aspect emerges from the following graph illustrating the frequencies of the affective interactions in the different kind of pairs (Figure 3).

Figure 3. Percentage of affective interactions in the procedure and level variables.



In the case of affective interactions, it is necessary to specify that the difference among the obtained values is not statistically significant, however possible reflections can be done. It can be observed that children with low skills seem to express proportionately fewer affective interactions, i.e. comments on the task, jokes, personal opinions. This data, to be investigated with further research and a greater number of conversations, could perhaps suggest a certain difficulty in detaching oneself from the reasoning more closely linked to the text and the assignment of the material, as the energies of less-skilled pairs were more "absorbed" by the requests of material.

5. Discussion

Some highlights emerge from the data considered and seem interesting in the light of previous research findings. To answer the first research question, it is evident that the children remained focused on the text and were little distracted, showing a rather high number of cognitive interactions. If we consider that all those word turns aimed at practicing the strategies ascribable to the good reader have been included in the cognitive interventions, it can be concluded that the in-pair organization allows better use of working time (both teacher and pupils) and supports the monitoring of text comprehension. Thinking about the task was made visible, exposed to peer

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reasoning and control, and produced a considerable amount of participation from each component. Considering what Spencer Kagan has stated (Kagan 2000, p. 11), we can reasonably assume that each child speaks for half of the turns of speech produced: this is not a trivial achievement, considering how difficult it is to get contributions from every student in school conversations. This seems relevant, both in terms of active involvement of students, because of the direct relationship between the number of verbalizations on the task and mastery of the contents (Delquadri et al., 1986).

To answer the second and third research questions, the two procedures lead to interactions that are differently functional to the text: the "joint" pair seems to allow, at least in the initial learning phase of a complex procedure such as that of Reciprocal Teaching, the best focus on the task and on the text, greater than those with the presence of a shift tutor. On the other hand, the regulative interactions present, particularly in tutorial pairs, seem to subtract energy from understanding the text, especially for the pairs with lower skills. The initial competence of the children does not seem to affect the focus on the task, compared to the type of procedure.

Affective interactions seem to depend more on the initial competence of children and are particularly evident in the more skilled pairs, as if to testify that the cognitive load absorbed by understanding is lower for the more able pairs, thus leaving energy available to express a personal opinion.

Even if pairs finish the work at different times, allowing opportunities to think aloud with a companion with similar skills, surely of educational relevance. This also allows the teacher to support weaker pairs.

The research showed some weaknesses, firstly the lack of outcomes in terms of effectiveness of the two procedures on reading comprehension compared to control classes -due to a suspension of school activities in person, because of COVID-19. Furthermore, there are relatively few valid conversations to be analysed: this suggests prudence in reading the results.

A further seeming weakness may be found in not having put in place a period of tutoring training, that the study of Palincsar and Brown used (1984, p. 122), and which focused on the feedback that the tutor should give to the tutee in the final phase. However, through the observation of the audio and video recordings, children tend to devote little time to the mutual feedback phase, which is generally an overall approval of the work done ("Well done"; "Bravo"; "Very good"), similar, perhaps, to the judgments that teachers most commonly express towards the students in school classes. The decision not to have an initial training, specific to the tutorial task, was due to the aim to carry out the experimental research in a sustainable way within the normal school timetable; however, it could have affected the difference detected between the two procedures.

Further research could investigate whether and how the students' ability to provide mutual feedback changes with prior training.

Another aspect to be more deeply researched concerns situations of extremely low reading ability and verbalization difficulties. This aspect confirm what Webb (1989) said, on some possible challenges in peer collaboration. Further study of such collaboration between children with severe difficulties in comprehension or active language is still necessary. This addition research may help to decide if direct prompting and intervention by the teacher is the only way to obtain better results or if it possible to improve reading comprehension and to increase verbalizations between peers of all abilities in collaborative contexts.

DOI: https://doi.org/ 10.6092/issn.1970-2221/15950

References

Bertolini, C., Pintus, A., & Vezzani, A. (2019). Dentro alle classi: Un approfondimento sulla implementazione del programma RC-RT. In A. Calvani, & L. Chiappetta Cajola (Eds.), *Strategie efficaci per la comprensione del testo.* (pp. 393-407). SApIE.

Calvani, A., & Chiappetta Cajola, L. (Eds.). (2019). *Strategie efficaci per la comprensione del testo.* SApIE.

Calvani, A., Fornili, F., & Serafini, M. (2018). *Comprendere e riassumere testi.* Erickson.

Cao, Y., & Philp, J. (2006). Interactional context and willingness to communicate: A comparison of behaviour in whole class, group and dyadic interaction. *System, 34*(4), 480–493. https://doi.org/10.1016/j.system.2006.05.002

Calvani, A., & Menichetti, L. (2019). La prova quantitativa di sintesi: Il Summarizing Test (ST). In A. Calvani, & L. Chiappetta Cajola (Eds.), *Strategie efficaci per la comprensione del testo. Il Reciprocal Teaching* (pp. 411-429). SApIE.

Cardarello, R., & Bertolini, C. (2020). *Didattiche della comprensione del testo. Metodi e strumenti per la scuola primaria.* Carocci.

Coiro, J., Sekeres, D. C., Castek, J., & Guzniczak, L. (2014). Comparing the quality of third, fourth, and fifth graders' social interactions and cognitive strategy use during structured online inquiry. *Journal of Education, 194*(2), 1-15. https://doi.org/10.1177/002205741419400202

Castek, J., Coiro, J., Guzniczak, L., & Bradshaw, C. (2012). Examining peer collaboration in online inquiry. *The Educational Forum*, *76*(4), 479-496. https://doi.org/10.1080/00131725.2012.707756

Cornoldi, C., & Colpo, G. (1998). *Prove di lettura MT per la scuola elementare-2*. Giunti OS.

Delquadri, J., Greenwood, C., Whorton, D., Carta, J., & Hall, R. (1986). Classwide peer tutoring. *Exceptional Children, 52*(6), 535-542.

Duke, N. K., Pearson, P. D., Strachan, S. L., & Billman, A. (2011). Essential elements of fostering and teaching reading comprehension. In S. J. Samuels, & A. Farstrup (Eds.), *What research has to say about reading instruction* (pp. 51-83). International Reading Association.

ELINET. (2016). *European Framework of Good Practice in Raising Literacy Levels of Children, Adolescents and Adults.* http://www.eli-net.eu/fileadmin/ELINET/Redaktion/user_upload/European_Framework_of_Good_Practice1.pdf

European Council. (2018). Council Recommendation of 22 May 2018 on key competences for lifelong learning. 2018/C 189/01 https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.C_.2018.189.01.0001.01.ENG

European Council and European Commission (2015). "Joint Report of the Council and the Commission on the implementation of the strategic framework for European cooperation in education and training (ET 2020) — New priorities for European cooperation in education and training", Official Journal of the European Journal, 15.12.2015, GU C 417; https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:C:2015:417:FULL&from=LV

DOI: https://doi.org/ 10.6092/issn.1970-2221/15950

Fuchs, D., & Fuchs, L. (2005). Peer-assisted learning strategies: Promoting word recognition, fluency, and reading comprehension in young children. *The Journal of Special Education, 39*(1), 34-44. https://doi.org/10.1177/00224669050390010401

Fuchs, D., Fuchs, L., Mathes, P., & Simmons, D. (1997). Peer-assisted learning strategies: Making classrooms more responsive to diversity. *American Educational Research Journal, 34*(1), 174-206. https://doi.org/10.3102/00028312034001174

Greenwood, C. R., Delquadri, J., & Hall, R. (1989). Longitudinal effects of classwide peer tutoring. *Journal of Educational Psychology, 81*(3), 371-383.

Hall, R. H., Dansereau, D., O'Donnell, A., & Skaggs, L. (1989). The effect of textual errors on dyadic and individual learning. *Journal of Reading Behavior, 21*(2), 127-140. https://doi.org/10.1080/10862968909547665

Horn, E. M., Collier, W., Oxford, J., Bond, C., & Dansereau, D. (1998). Individual differences in dyadic cooperative learning. *Journal of Educational Psychology, 90*(1), 153- 161. https://doi.org/10.1037/0022-0663.90.1.153

Johnson, D. W., Johnson, R., & Holubec, E. (1996). *Apprendimento cooperativo in classe: Migliorare il clima emotivo e il rendimento.* Erickson.

Kagan, S. (2000). *L'apprendimento cooperativo: L'approccio strutturale.* Ed. Lavoro.

Kiili, C., Coiro, J., & Raikkonen, E. (2019). Students' evaluation of information during online inquiry: Working individually or in pairs. *The Australian Journal of Language and Literacy, 42*(3), 167-183. https://doi.org/10.1007/BF03652036

Kiili, C., Laurinen, L., Marttunen, M., & Leu, D. J. (2012). Working on understanding during collaborative online reading. *Journal of Literacy Research*, *44*(4), 448-483. https://doi.org/10.1177/1086296X12457166

Kiili, C., & Leu, D. J. (2019). Exploring the collaborative synthesis of information during online reading. *Computers in Human Behavior*, *95*, 146-157. https://doi.org/10.1016/j.chb.2019.01.033

Kovalainen, M., & Kumpulainen, K. (2005). The discursive practice of participation in an elementary classroom community. *Instructional Science*, *33*(3), 213–250. https://doi.org/10.1007/s11251-005-2810-1

La Marca, A., Di Martino, V., & Gulbay, E. (2019). Il questionario metacognitivo QMeta. In A. Calvani, & L. Chiappetta Cajola (Eds.), *Strategie efficaci per la comprensione del testo. Il Reciprocal Teaching* (pp. 479-487). SApIE.

Larson, C., & Dansereau, D. (1986). Cooperative learning in dyads. *Journal of Reading, 29*(6), 516-520.

Lumbelli, L. (2009). *La comprensione come problema. Il punto di vista cognitivo.* Laterza.

Menichetti, L., & Bertolini, C. (2019). La prova qualitativa per la valutazione della capacità di riassunto: Il Summary Qualitative Assessment (SQA). In A. Calvani, & L. Chiappetta Cajola (Eds.), *Strategie efficaci per la comprensione del testo. Il Reciprocal Teaching* (p. 431-462). SApIE.

Montesano, L. (2019). Uno strumento per la valutazione del vocabolario nella scuola Primaria: la Prova di Significato Verbale. In A. Calvani, & L. Chiappetta Cajola (Eds.), *Strategie efficaci per la comprensione del testo. Il Reciprocal Teaching* (p. 463- 477). SApIE.

National Institute of Child Health and Human Development (NICHD). (2000). *Report of the National Reading Panel. Teaching Children to read: An Evidence-based Assessment of the scientific research literature on reading and its implications for reading instruction.* U.S. Government Printing Office.

DOI: https://doi.org/ 10.6092/issn.1970-2221/15950

OECD (2019), *PISA 2018 Assessment and Analytical Framework*. OECD Publishing. https://doi.org/10.1787/b25efab8-en

Okkinga, M., van Steensel, R., van Gelderen, A. J., & Sleegers, P. J. (2018). Effects of reciprocal teaching on reading comprehension of low-achieving adolescents. The importance of specific teacher skills. *Journal of research in reading, 41*(1), 20-41. https://doi.org/10.1111/1467-9817.12082

Palincsar, A. S., & Brown, A. L. (1984). Reciprocal teaching of comprehension-fostering and comprehension-monitoring activities. *Cognition and Instruction*, *1*(2), 117-175.

Peacock, M. (1998). A useful and popular lesson? Comparing students working in pairs and threes in the ESL classroom. *RELC Journal, 29*(2), 27–49. https://doi.org/10.1177/003368829802900202

Pellegrini, M. (2019). L'efficacia delle strategie didattiche per la comprensione del testo. In In A. Calvani, & L. Chiappetta Cajola (Eds.), *Strategie efficaci per la comprensione del testo. Il Reciprocal Teaching* (p. 77-98). SApIE.

PIRLS. (2016). Reading Framework. https://timssandpirls.bc.edu/pirls2016/downloads/P16_FW_Chap1.pdf

Pontecorvo, C., Ajello, A., & Zucchermaglio, C. (2007). *Discutendo si impara.* Carocci.

Rosales, R., & Soldner, J. (2018). An assessment of group size in interteaching. *Journal of the Scholarship of Teaching and Learning, 18*(2), 105-117. https://doi.org/10.14434/josotl.v18i2.22539

Rosenshine, B., & Meister, C. (1994). Reciprocal teaching: A review of the research. *Review of Educational Research, 64*(4), 479-530. https://doi.org/10.3102/00346543064004479

Schellings, G., Aarnoutse, C., & van Leeuwe, J. (2006). Third-grader's think-aloud protocols: Types of reading activities in reading an expository text. *Learning and Instruction*, *16*(6), 549–568. https://doi.org/10.1016/j.learninstruc.2006.10.004

Skaggs, L., Rockling, T., Dansereau, D., Hall, R., O'Donnell, A., Lambiotte, J., & Young, M. (1990). Dyadic learning of technical material: Individual differences, social interaction, and recall. *Contemporary Educational Psychology, 15*(1), 47-63.

Slavin, R. (1988). *Student team learning: An overview and practical guide.* (2nd Ed.). NEA Professional Library.

Slavin, R. (2011). Instruction Based on Cooperative Learning. In R. Mayer (Ed.), *Handbook of research on learning and instruction* (pp. 388-404). Taylor & Francis.

Staarman, J. K., Krol, K., & van der Meijden H. (2005). Peer interaction in three collaborative learning environments. *Journal of Classroom Interaction*, *40*(1), 29-39.

Storch, N. (2011). Collaborative writing in L2 contexts: Processes, outcomes, and future directions. *Annual Review of Applied Linguistics Cambridge University Press, 31*, 275-288.

Tarchi, C., & Pinto, G. (2016). Reciprocal teaching: Analyzing interactive dynamics in the co-construction of a text's meaning. *The Journal of Educational Research, 109*(5), 518-530. https://doi.org/10.1080/00220671.2014.992583

Topping, K. (2014). *Tutoring*. Erickson.

van Keer, H., & Vanderlinde, R. (2010). The impact of cross-age peer tutoring on third and sixth graders' reading. *Middle Grades Research Journal, 5*(1), 33-45.

DOI: https://doi.org/ 10.6092/issn.1970-2221/15950

Agnese Vezzani è dirigente scolastico in distacco presso il Dipartimento di Educazione e Scienze umane dell'Università di Modena e Reggio Emilia. PhD e cultore della materia in Didattica e Pedagogia speciale, studia in particolare l'analisi della conversazione nei contesti scolastici, la didattica della comprensione del testo e le strategie focalizzate sulla collaborazione tra studenti. È membro del CERIID (Centro di Ricerca per gli Insegnanti e l'Innovazione Didattica).
Contatto: agnese.vezzani@unimore.it

DOI: https://doi.org/ 10.6092/issn.1970-2221/15950