

SPECIAL ISSUE TALK AND INTERACTION

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Symmetries and asymmetries in children's peer-group reading discussions

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Abstract

This paper reports a research project exploring children's peer interactions in group reading discussions where a teacher was not present as an authoritative guide. This context reflects a reality of classroom teaching where most children in the class are completing tasks independently while the teacher is working other groups. In the study, four quartets of ten year-old children in the UK and Mexico were recorded as they discussed different texts together and this paper reports the findings from their engagement with *The Lost Thing* by Shaun Tan. In the paper, we focus on the symmetries and asymmetries apparent in the children's peer talk to consider how they engage together to make meaning from the text they are reading. To this end we focus on two strands of analysis related to children's talk within their groups: a) *the function of utterances* within their speech turns; and b) *the dynamics of the interaction*, that is, the organisation of the talk into topical episodes. By considering these two strands of analysis, we are able to illuminate the nuances of a/symmetries in small-group reading contexts as we concentrate on how the children use language and action to influence the direction of, and contribute to, the discussions. The results find

children authoritatively shifted the discussion forward into new topics using different means, and displayed evidence of high-level comprehension as they engaged with the ideas of each other. The two strands of analysis complemented each other as they illustrated not only the resources the children drew on to shift the movement of the discussion, but how their language enabled this movement forward. The results also highlighted differences in how the children perceived their goals and responsibilities within the task and groups.

Key words: Peer-groups, dialogic interaction, reading comprehension, primary education

Introduction

Research on reading comprehension instruction has shown that small-group work can be beneficial for children's learning in literacy contexts (Soter et al., 2008; Wilkinson, Murphy, & Binici, 2015). Whilst current research into learning gains in small reading groups has found that the most effective contexts include a teacher present to guide and focus textual discussions (Murphy et al., 2009; Soter et al., 2008), the reality of classroom teaching is that most children in the class are completing group tasks independently, a frequently occurring and necessary context when the sole teacher of a class is working with a different group. Our research therefore explores the nature of reading discussions that take place in groups when a teacher is *not* physically present guiding the group, as if group work is to be beneficial in real classrooms, it also needs to support children's learning when working without the teacher.

Some studies have claimed that peer group work with no teacher intervention might in fact be a 'waste of educational time' (Hofmann & Mercer, 2016), but this is a pedagogical tool often employed in the management of large classes. By concentrating on the symmetries and asymmetries of the group talk we can identify some indicators of how the nature of different contributions might support the development of the task as a collective enterprise, rather than just dismiss the context of group work out of hand.

Some authors (see for example Linell, Gustavsson, & Juvonen, 1988) have suggested that peer groups present an ideal context for dialogue due to their symmetrical nature as all children are equally involved, as opposed to the asymmetries that arise from the teacher's presence. Others (Howe, 2010; Palincsar & Brown, 1984; Wood, Bruner, & Ross, 1976) have highlighted asymmetries in group work, focusing specifically on the provision of "assistance", "reciprocal teaching" or "tutoring" from one child to another. To understand whether and how peer reading groups can support children's learning, we need to account for both the quality of the dialogue in these learning situations and how children participate in peer discussions unaided by a teacher's presence. In our research we investigate the features of the asymmetries apparent in children's talk analysing how they elaborate on their own and each other's ideas, initiate changes in the direction of the discussion and manage the reading event as a task undertaken within the context of the literacy classroom. We build on our previous research around the nature of co-constructive talk in literacy contexts (Maine, 2015; Maine & Hofmann, 2016; Rojas-Drummond, Mazón, Littleton, & Vélez, 2014; Rojas-Drummond et al., 2017) to examine the subtleties of group reading discussions where a teacher is not present.

In our study we are not simply focused on asymmetries as continuous roles that individual children adopt and maintain, but investigate symmetries and asymmetries as complex relations that are discursively established in the flow of peer interactions. To this end we focus on two strands of analysis related to children's talk within their groups: a) *the function of utterances* within their speech turns and b) *the dynamics of the interaction*, that is, the organisation of the talk into topical episodes. In doing so we aim to gain a comprehensive, theoretically sound and pedagogically relevant picture of symmetries and asymmetries in peer interactions. We explicitly ask:

- What kinds of symmetries and asymmetries in dialogue can be identified when peers interact in reading group discussions where the teacher is absent?
- How do these a/symmetries feature in the functions of utterances within speech turns and the wider dynamics of the interaction?

- What does this tell us about how children are able to engage and make meaning in group reading discussions without a teacher present as an authoritative guide?

Theoretical foundations

The role of talk in reading comprehension instruction

Studies of talk in literacy, and in particular reading instruction contexts have focused on the acquisition of high level reading comprehension and reasoning skills (Anderson et al., 2001; Applebee, Langer, Nystrand, & Gamoran, 2003; Murphy et al., 2009; Nystrand, 2006). They have found that the context most suited to the development of these skills is with a teacher present to guide and focus the group, but with the children taking ownership for the direction of the topic under discussion. These studies rather overlook the affordances of the small group when a teacher is not present, which is a frequently occurring and necessary context when the sole teacher of a class is in fact working with a different group, as noted by Baines, Blatchford & Kutnick (2009).

Reading group discussions can offer a valuable context for the development of both reading comprehension and dialogic skills (Murphy et al., 2009; Soter et al., 2008), where children are accountable to making reasonable meaning from text, to each other and to the goal of reasoning (Dombey, 2010; Maine & Hofmann, 2016; Wolf, Crosson, & Resnick, 2005).

Bromley (2003) claims that pictorial texts can provide an effective medium for promoting discussion and metacognitive reflection. She found that when young children are encouraged to talk not only about what they have read, but also how they have read it, they exhibit understanding of the reading process. Soter and colleagues' (2008) research focused on teacher-led small group learning situations for reading and how certain types of productive dialogue can lead to "high-level comprehension". The authors use this term to refer to "critical, reflective thinking about and around text" (Soter, et al, 2008, p 378). High-level comprehension involves students' engagement with texts in an "epistemic mode" in order to acquire not only knowledge of the topic but also knowledge about how to think

about the topic and the capability to reflect on one's own thinking. The authors argue there is a parallel between their definition of high-level comprehension and Resnick's (1987) concept of "high-order thinking", defined as a process that involves "elaborating, adding complexity, and going beyond the given" (p. 42). In their investigation of children's discussions around texts, Soter et al (2008) found that there were discourse features that could serve as "proximal indicators" of student's high-level comprehension. These indicators include authentic questions, uptake of ideas (albeit by teachers), extra-textual connections, elaborated explanations, exploratory talk and reasoning words. In the present paper we used this conceptual framework to establish the function of children's utterances that were closely related to these discourse features, and thus might be indicative of high-level comprehension by the children. Work by Maine (2015) centralises the importance of talk around text as part of the reading process, not additional to it. 'Dialogic readers' are demonstrated to be collaborative, creative and critical thinkers who co-construct meaning together, and it is this co-construction through dialogue where the meaning-making (reading) occurs.

Following work on the features of dialogic talk in literacy, and noticing the often open-ended nature of literacy activities, Rojas-Drummond and colleagues (2006, p. 92) developed the notion of co-constructive talk as an overarching concept for collaborative meaning making in literacy contexts, describing it as "taking turns, asking for and providing opinions, generating alternatives, reformulating and elaborating on the information being considered, coordinating and negotiating perspectives and seeking agreements". However, we know less about how these features develop, and are distributed among the learners, when there is no teacher present.

Symmetries and asymmetries in talk

Considering the symmetries and asymmetries of dialogue, the peer-group learning context can theoretically be considered as one where "actors meet each other on an equal basis with equal rights and duties, and being mutually responsive to each other's actions" (Linell et al., 1988, p. 426), that is, an "ideal dialogue". Linell and colleagues found that the dyadic talk of

children discussing the creation of a picturebook included symmetrical features. Analysis of the talk showed that children were equally responsible for initiations and “expanded responses” (ibid), which linked to previous comments, ensuring local coherence, but also progressively offered new ideas. In later work, Linell (2001, p. 221) refined the notion of a/symmetries to include a *participation* aspect which relates to a “distribution of epistemic and practical responsibilities”. Theoretically, he argues, if the task is mutually shared by all, and no one child is assigned a role of greater responsibility, the absence of a teacher gives relative symmetry as the participants are equally responsible for the task goals and initiations and responses are shared between them. However, we argue that it is important to consider the impact of the contexts in which the activity is embedded. Whilst in our research situation the teacher is not physically present, the activity is bounded as a task set by a teacher/researcher with clear goals for success, and it is happening within an institutional environment. Whilst the teacher may not be physically present to guide the group at all times, his/her presence permeates the assignment of the task and any given guidelines for its completion. In their research, Warwick and colleagues (2010, p. 350) termed this a “vicarious presence” (cf. Wood et al., 1976), suggesting that the teacher is present in the minds of the children through the procedures and guidelines they have been taught regarding working as a group, and also through the task itself.

Our analysis of previous research and theory highlights that, whilst asymmetries have been considered in group work, often these have been linked to the role, formally assigned or spontaneously assumed, of ‘assistance’ (Howe, 2010; Palincsar & Brown, 1984; Wood, Bruner, & Ross, 1976). Where symmetries have been highlighted, this is more a theoretical ideal, assuming that in a peer interaction, goals and responsibilities are naturally shared (Linell et al., 1988; Linell, 2001). Furthermore, research which has emphasized different aspects of a/symmetries argues for the importance of quantitative considerations, in addition to noting the influence of different characters in controlling the direction of the dialogue (Rajala, Hilppö & Lipponen, 2012). By considering two strands of analysis, the function of utterances and the dynamics of the interaction, we are able to illuminate the nuances of a/symmetries in small-group reading contexts as we concentrate on how the

children use language and action to influence the direction of, and contribute to, the discussions.

Method

Design

The study took place in Mexico and the UK over a five-week period in each country. It included four quartets of 10-year-old children, two groups from different classes in each country. The schools selected to be part of the project were a typical state school in an urban area in the UK and a smaller private school in Mexico. These schools were chosen as both schools adopted pedagogies which were open to encouraging pupil talk and had head teachers who were keen for teachers to work alongside researchers to develop collaborative learning skills for the children. We deliberately chose to look at peer-groups at their best (Baines et al., 2009) and for this reason we asked teachers to select mixed-gender groups where we might find high levels of collaboration and inclusion of participants.

Significant research has already been undertaken by the team using dyads and triads in literacy (Maine, 2015, 2017; Maine & Hofmann, 2016; Rojas-Drummond et al., 2014; Rojas-Drummond et al., 2017). However, for this study we chose quartets as groups large enough to need some internal management if they were to be inclusive and reach a common goal. They represent a context that is more reflective of actual classroom group learning situations. Group size added an extra multi-party dimension to the talk, offering additional complexity for a study of symmetries and asymmetries in discussions, that is more typical of the challenges that children face when talking together without a teacher present.

Each quartet had two copies of the book under discussion, but time was spent in the task guidance to stress that they should work as a group and not revert to dyads. In addition to the book, the children were given a series of prompt cards (Appendix A) that they could refer to if they felt they needed direction. These were available to them at all times, but their use was left deliberately open. The prompts offered direction for discussions to promote high-level reading comprehension, and were offered as authentic, open-ended questions

(Nystrand, 2006; Wilkinson et al., 2015). The children were experienced in working and talking together and, in both countries, a brief period had been spent with the whole class to establish ground rules for talk in small groups (Mercer & Littleton, 2007; Mercer, Wegerif, & Dawes, 1999; Rojas-Drummond et al., 2014). The children were video recorded in their groups in an empty classroom and were given instruction only at the start of each reading task.

Data analysis

When analysing the *dynamics of the interaction*, that is, the ways in which the children moved their discussions forward in new directions, we also used turns as our unit to capture these *shifts* to new topical episodes. For Linell (2001, p. 183) an episode is “a bounded sequence, a discourse event with a beginning and an end surrounding a spate of talk which is usually focused on the treatment of some problem issue or topic”. Episodes, in this sense, have been used before in analyses of dialogue to identify the broader dynamics of the talk (Ruthven & Hofmann, 2016; Wilson, Sztajn, Edgington, Web, & Myers, 2017), often to accompany a microanalysis of turns. However, it is notable that these definitions come from contexts of reasonably well-structured, adult-led talk, such as whole-class, teacher-mediated discussions or teacher meetings. In analysing our data, we found that conceptually defining and empirically identifying the boundaries of these larger chunks of dialogue was far from simple, as the context of this peer-group discussion task was not highly structured with a clear leading participant as would be more evident in a teacher-led scenario, or one where children had been given specific roles as in reciprocal teaching (Palincsar & Brown, 1984). Turns that might be considered starters of a new episode were often unclear, tentative or unsuccessful in impacting a change in the direction of the talk. To address this challenge empirically, central to our definition of episode boundaries was the idea of collective take-up by other participants for a shift to a new episode to take hold. In order to analyse the a/symmetries of children’s participation at a dynamic level we needed to identify the turns where these shifts were happening. The procedure for the analysis of the shifts was

inductive (Charmaz, 2006), including several rounds of open-coding to enable a “constant comparison” (Glaser & Strauss, 1968) between episode shifts.

To analyse *the function of utterances*, ‘turns’ were coded to capture their function. The coding of “communicative acts” or “single interactional functions” (Hymes, 1972; Saville-Troike, 2003) allowed for a more nuanced analysis of the peer talk, to see how the children responded to and built on each other’s contributions through reasoning, clarifying and positioning. We coded the communicative acts using a version of the Scheme for Educational Dialogue Analysis, (Hennessy et al., 2016) that had been developed in previous work. We call this the streamlined (eight-code) version of SEDA (SL-SEDA) (Appendix B). In SL-SEDA we prioritized functions of utterances that might indicate high-level comprehension (eg reasoning, elaborating, linking, positioning and reflection), following Soter et al.’s (2008) conceptual framework. We also focused on those functions that might indicate structural asymmetries (eg. invitations to other children, guiding the task through different means). We further coded where children offered ideas, statements about the text, or suggestions and proposals as these can work as a springboard for response and might indicate “possibility thinking” in meaning-making (Craft, 2000; Maine, 2015), another discourse feature of high-level comprehension (Soter et al., 2008). Using this scheme, we were able to highlight the coherence of episodes of dialogue and note in quantitative terms the patterns of contribution from individual children. We only coded turns we deemed dialogic according to the categories in SL-SEDA. Utterances where children merely described a page or offered one-word affirmations were not regarded as having a dialogic function according to the scheme legend.

A key difference between peer-to-peer dialogue transcription and teacher-led dialogue is that the incidences of overlap are much higher, as in the latter context children are less likely to interrupt teacher-talk. That is, children talk over each other and often one turn can be represented across several lines in the transcript. To account for this in coding, the code was assigned to the start of the turn, with any subsequent lines including the turn but in brackets, so that the whole turn was included but we did not overcount.

Ethics

In both countries, ethical procedures were followed in alignment with institutional requirements, and in accordance with guidelines developed by BERA (2018). Hence the data anonymizes the children and their personal details remain confidential. Consent for engagement and the handling of data was given by the parents/ carers of the children, and class teachers acted as gatekeepers to whom the children were aware they could turn to if they wanted to withdraw from the study.

The Lost Thing/La Cosa Perdida (Tan 2000)

In this paper we present all four groups of children and their discussions and interpretations of a picturebook narrative, *The Lost Thing*, or *La Cosa Perdida* by Shaun Tan (2000) to illustrate our findings in relation to the a/symmetries apparent in the peer interactions. In *The Lost Thing* we are introduced, through images and words woven together (Nikolajeva & Scott, 2001), to Shaun, who describes his encounter with a mysterious large red object he finds on the beach one day and how he takes it home to feed it and ultimately finds a place where it can belong, before continuing with his life. The illustrations of the book (Figures 1, 14 and 15), show a strange world which appears at once futuristic and industrial, yet also commonplace and slightly old-fashioned; a “retro-future” as Tan describes (n.d.). The book includes what Beckett (2014) terms “intra-iconic text”, such as labels, decorative writing and apparent side notes, in addition to the written narrative. The illustrations add further non-verbalized detail to the main narrative structure.

-- Insert Figure 1—

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Results

In our results section we present a general overview of findings from the two strands of analysis, namely the dynamics of the interaction and the functions of utterances within

speech turns. We then present two sequences (one from the UK and one from Mexico) to illustrate how a/symmetries played out as the children engaged in their discussion.

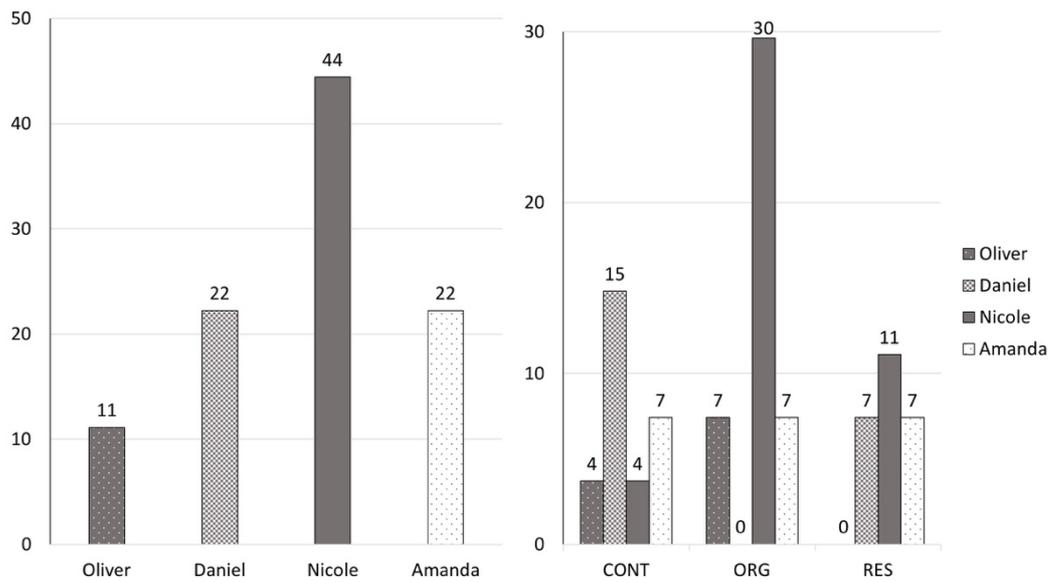
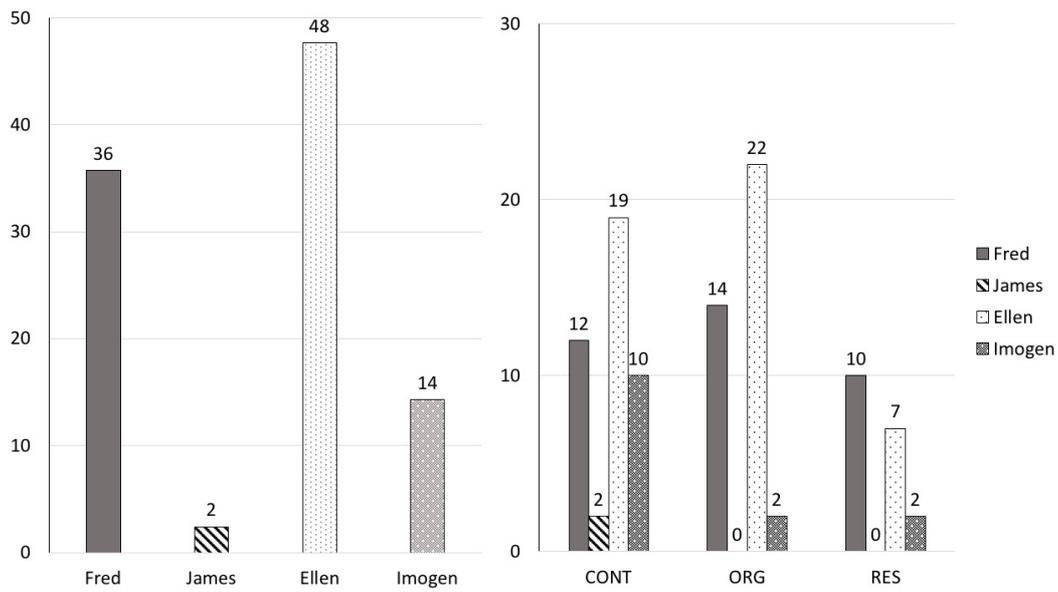
Strand one: the dynamics of the interaction

The first strand of analysis concerns the *dynamics of the interaction*, considering the roles and responsibilities that children took in influencing the direction of the reading activity. Rather than detailing the individual topics under discussion, we labelled each episode with the main theme being addressed and marked the boundaries or shifts, between each episode. These boundaries often ran over several turns as the children gradually endorsed the change in the direction of the discussion. Open coding led to the categorisation of the shifts as *organisational*, *resource-based* and *content-based*. *Organisational shifts* included orientations toward the operational procedures of organising the group and the task such as directing each other to read, or pointing out necessary actions. *Resource-based shifts* included instances where children took an unsolicited action, for example, by turning a page and starting to read without being prompted by others or reading or responding to the prompt cards to influence a change in direction. Finally, *content-based shifts* were labelled if the children raised a question of their own or offered a statement about the text and, most commonly, its meaning.

Overview of data from UK quartets

Figure 2 shows the total percentage of shifts by agent (left) and the percentage of shifts by agent and type (right) for UK 1. Figure 3 presents the same data for UK 2.

-- Insert Figures 2 and 3 --



The two UK groups, UK1 and UK 2 spent approximately 30 minutes reading and discussing *The Lost Thing*. The data show that across both groups Ellen from UK 1 had the most influence in changing the direction of the discussion, as for UK 1 she initiated 48% of the shifts commonly using both organisational and content-based (together 41% of all shifts). Nicole in UK 2 also took a high proportion of the shifts for her group (44%), though these

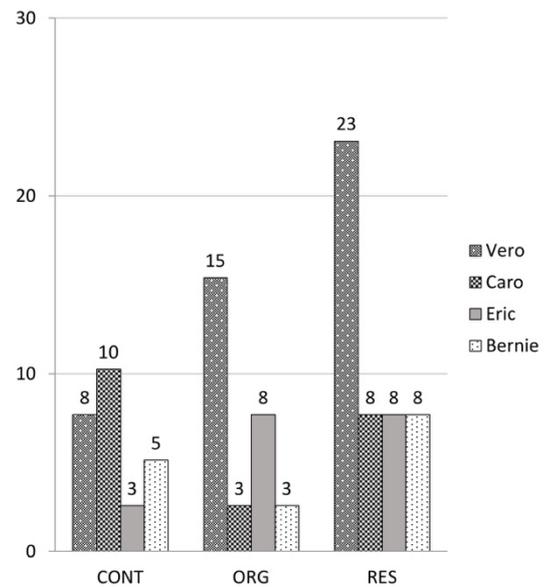
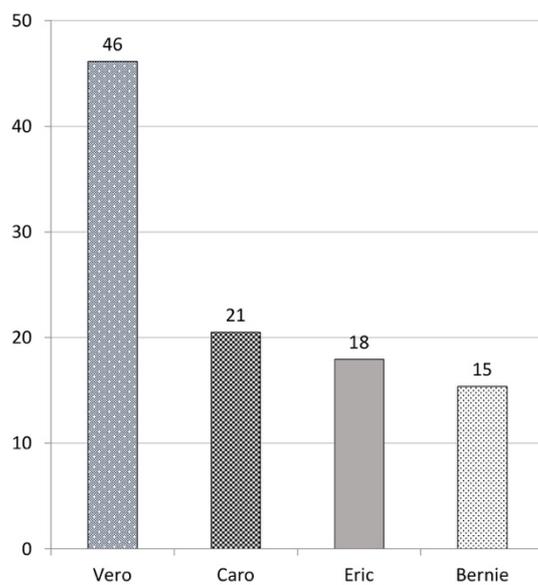
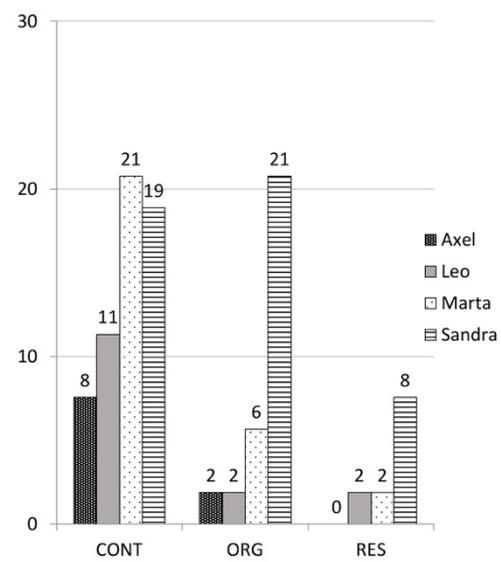
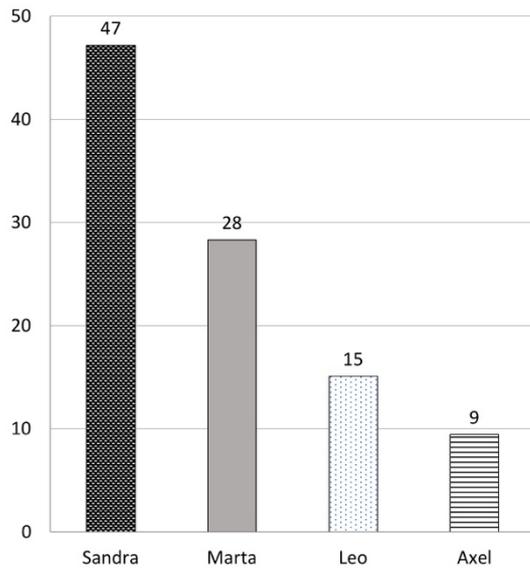
were predominantly organisational (30% of all shifts). This perhaps indicates more of an orientation to the task goals for Nicole as she focused on getting the task completed. In UK 1 the dynamics of the interaction appeared a/symmetrical with Fred and Ellen accounting for most of the changes in direction of the dialogue (84% together), and James offering the smallest percentage of shifts (2%). Fred's contributions were spread across the three shift types (12%, 14%, 10%).

If Nicole's organisational shifts are excluded from consideration, the distribution of the remaining shifts are more symmetrically apparent. Oliver's shifts were fewer, with no resource-based shifts. Interestingly in UK 2, Daniel accounted for 22% of shifts, an equal proportion based on group size, but none of his shifts were organisational. Rather, his control of the direction of the talk was achieved by introducing new ideas or questions about the text (content-based 15%) or by explicitly using the prompt cards or reading aloud in an unsolicited manner (resource-based 7%).

Overview of data from Mexico quartets

Figure 4 shows the total percentage of shifts by agent (left) and the percentage of shifts by agent and type (right) for Mx 1. Figure 5 presents the same data for Mx 2.

-- Insert Figures 4 and 5 --



Both Mexican groups took around 40 minutes to read and discuss *The Lost Thing*. The total percentages of shifts illustrate that, in both groups, there were asymmetrical patterns in terms of which participant (re)oriented the direction of the interaction and dialogue throughout the activity. In Mx 1, Sandra clearly guided the discussion (47% of shifts), which suggests that she adopted a leadership role. Of this total, she exhibited mainly content-based shifts (19%) and organisational (21%), and less so resource-based shifts (8%). Marta in turn displayed 28% of the shifts, using mainly content-based shifts (21%); and fewer

organisational (6%) and resource-based (2%). In contrast, the roles of Leo and Axel were less proactive, with 15% and 9% respectively. For Leo, 11% were content-based, 2% organisational and 2% resource-based while Axel had 8% content-based, 2% organisational and no resource-based.

The asymmetrical pattern was somewhat different for Mx 2. Vero adopted the leadership role, with 46% of the shifts. Of this total, she mainly used resource-based shifts (23%), followed by organisational shifts (15%) and less so content-based (8%). Caro in turn had 21% of shifts, predominantly content-based (10%) and less so organisational (3%) and resource-based (8%). Eric initiated 18% of shifts, mostly organisational and resource-based (8%), and less content-based (3%). Lastly, Bernie presented 15% of shifts, a majority of which were resource-based (8%), followed by content-based (5%), and fewer organisational (3%).

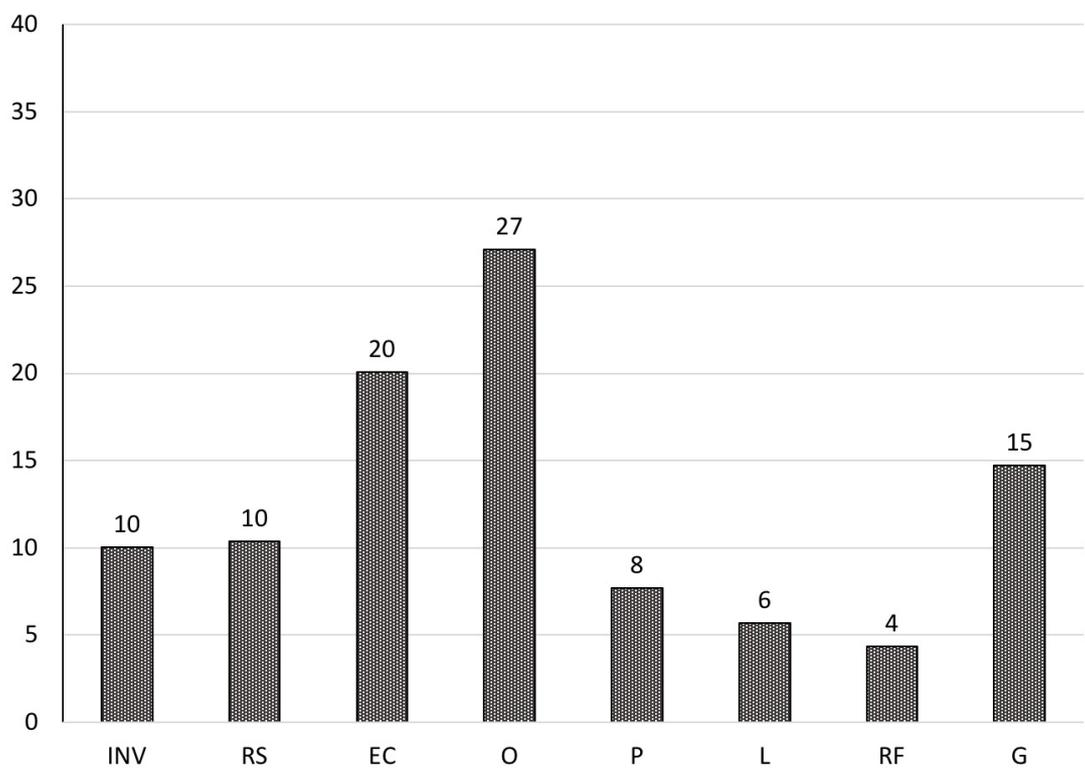
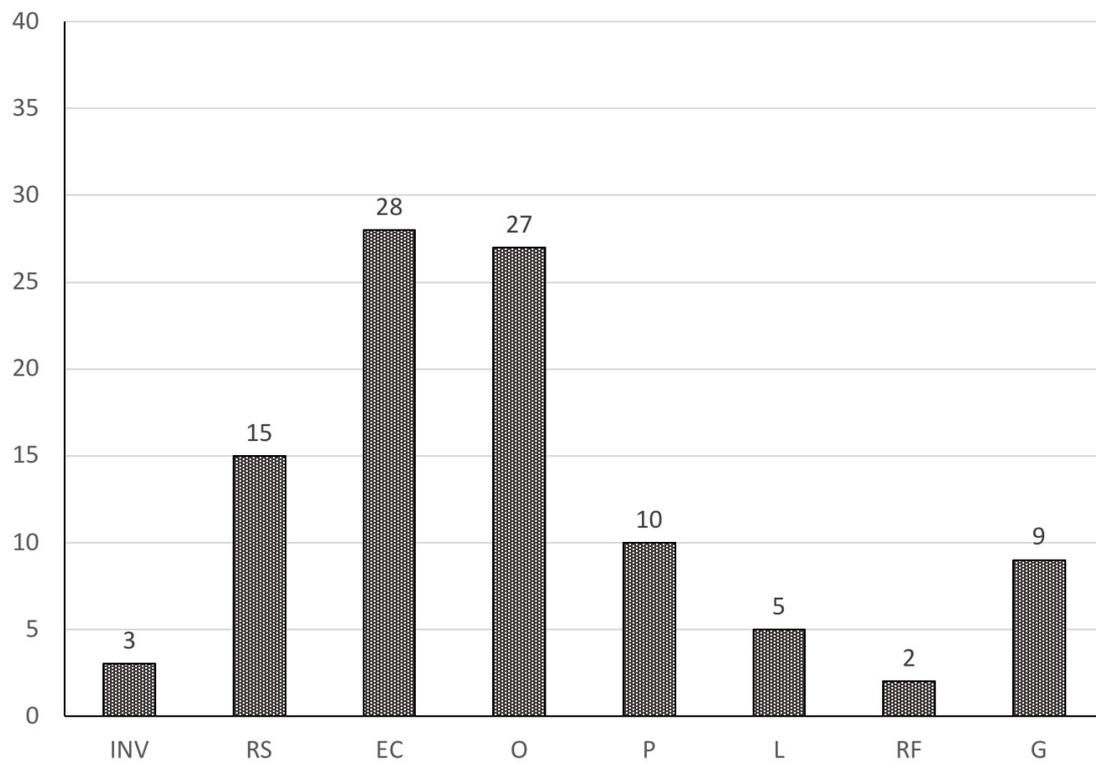
Strand Two: the function of utterances

In this section we present the percentage of occurrence of SL-SEDA codes, reporting initially the total for the group as a whole and then by participant.

Overview of data from UK quartets

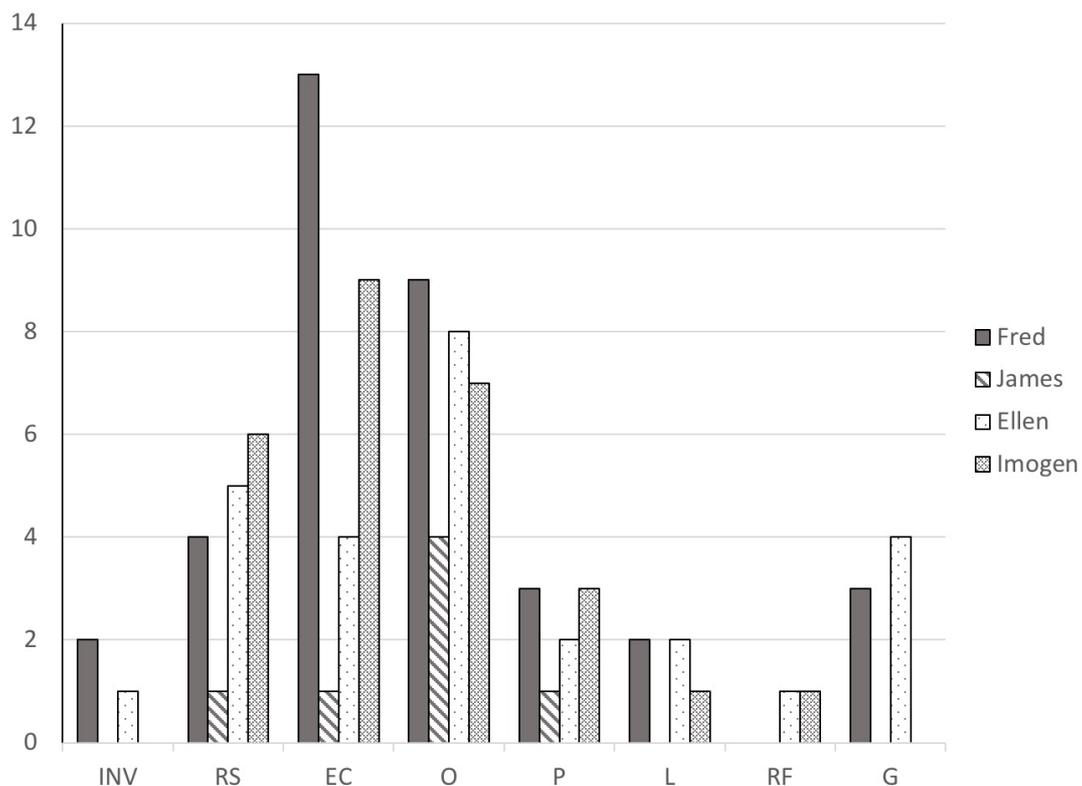
In the two UK groups 289 out of 656 (52%) and 299 out of 863 (39%) turns, respectively, were coded with at least one code from SL-SEDA.

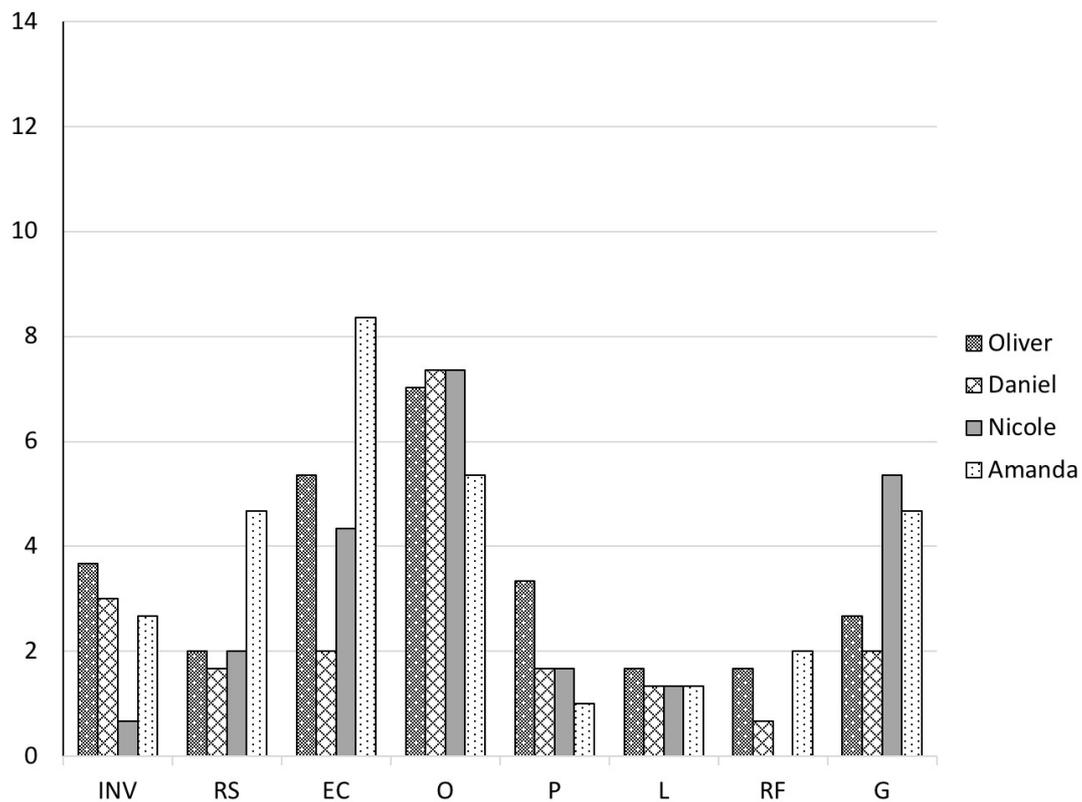
-- Insert Figures 6 and 7 --



All eight of the SL-SEDA codes were used in both UK 1 and UK 2 with the highest percentages of coded turns relating to statements (O) and elaborations (EC). For UK 1 there were more of the latter, indicating a more coherent discussion as children responded to ideas already put forward. In UK 2 there was a higher percentage of statements (O), which might include ideas or opinions, though these would not be explicitly linked to the previous contribution. Reasoning (RS) was evident in both groups but accounted for a relatively low percentage of the contributions. Interestingly, both G (guide) and INV (invitation) accounted together for 25% of the coded turns in UK 2. As these codes demonstrated a leadership that would be common in teacher-led dialogue, their occurrence in the teacherless reading groups highlighted that the children were directing their discussion and managing the task. Links (L) to knowledge beyond the text (intertextual, domain specific or general knowledge) accounted for a small percentage of the coded turns, as did reflections (RF) on the resources, the activity or the quality of their talk itself.

-- Insert Figures 8 and 9 --



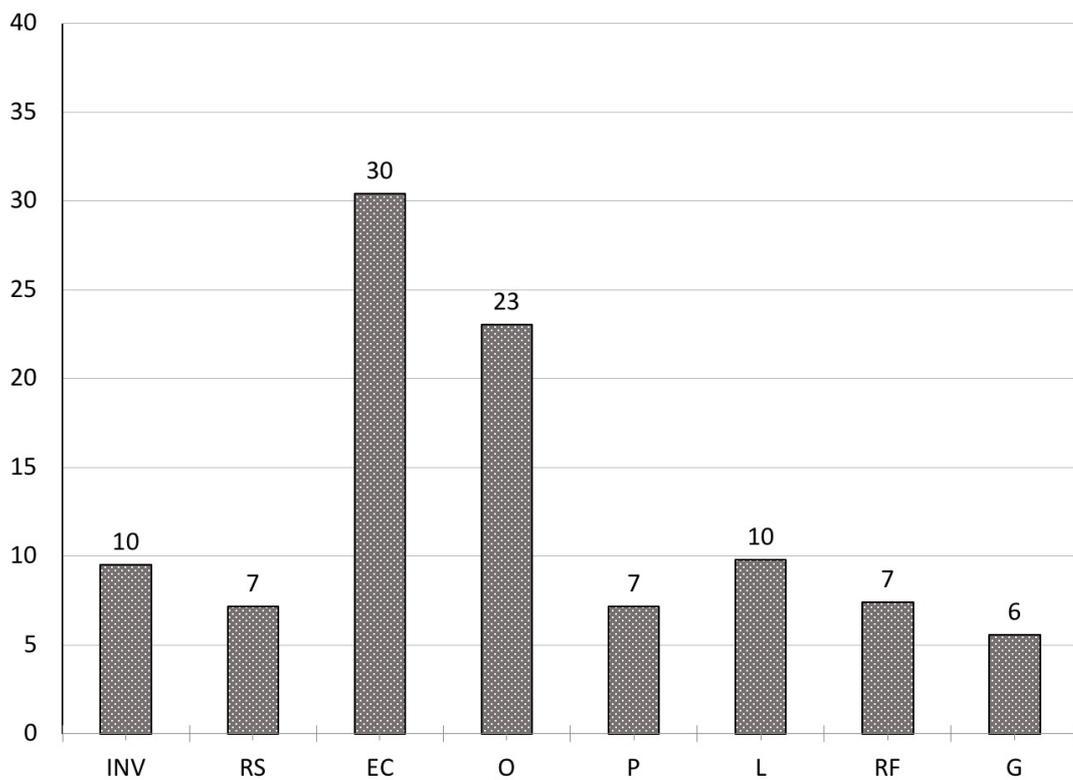


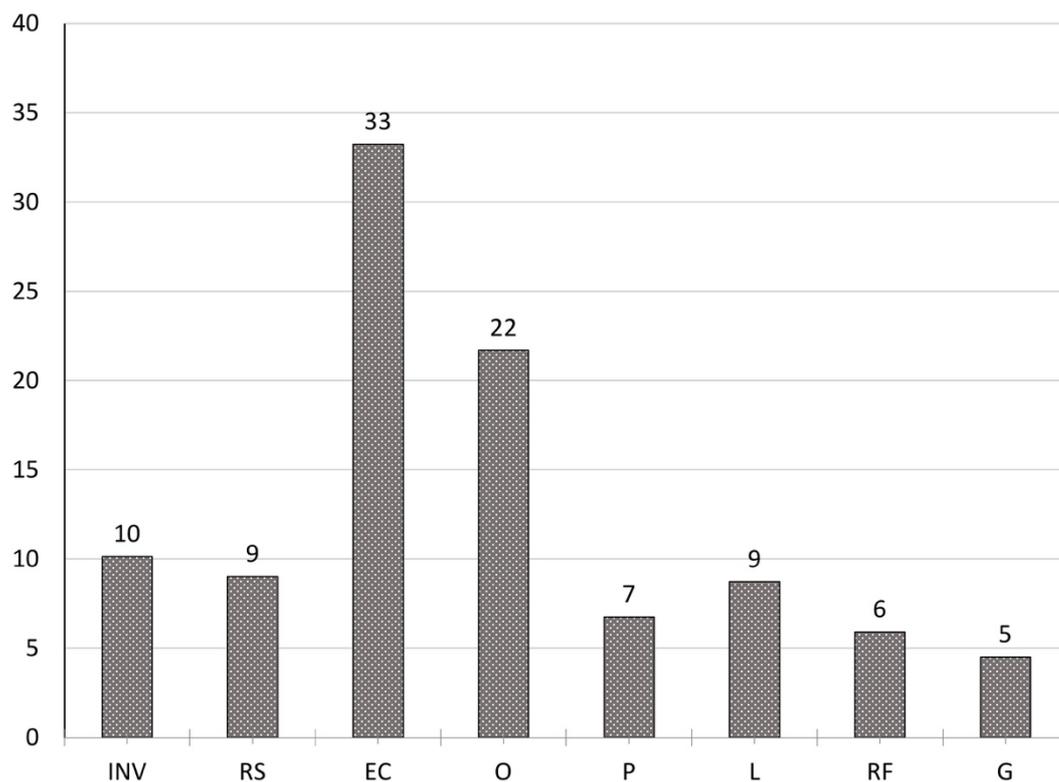
Comparing the distributions of different coded turns which illustrate the functions of the utterances by the children between UK 1 and UK 2, the symmetries and asymmetries within the groups and how they contributed to the discussion become apparent. In UK 1, James, Fred and Ellen all invited the others to either adopt a position, offer an idea, reflection or link, but Imogen did not. However, the most marked asymmetry in UK 1 was in Fred's contribution which highlights that he offered considerably more elaborations of ideas (EC) than the other children. In UK 2 although O and EC were the main functions of turns, the distribution of the codes amongst the children was more symmetrical, showing that they all demonstrated a wide pattern of contribution. However, when considering just EC the data reflect that it was Amanda who contributed most to the elaboration and development of ideas by showing the highest percentage of EC turns. Notably different from UK 1 is a consideration of INV and G, the codes which reflect a leadership of the group discussion. In UK 1, only Fred and Ellen used invitations or guidance, but in UK 2, all children used their turns to direct the discussion through INV or G.

Overview of data from Mx quartets

For Mx 1, out of a total of 461 turns, 326 (70.71%) were assigned at least one dialogic code using SL-SEDA and For Mx Group 2, out of a total of 412 turns, 323 (78.59%) were also assigned at least one code. Figures 10 and 11 present the percentage of occurrence of the eight SL-SEDA codes for each group throughout each session.

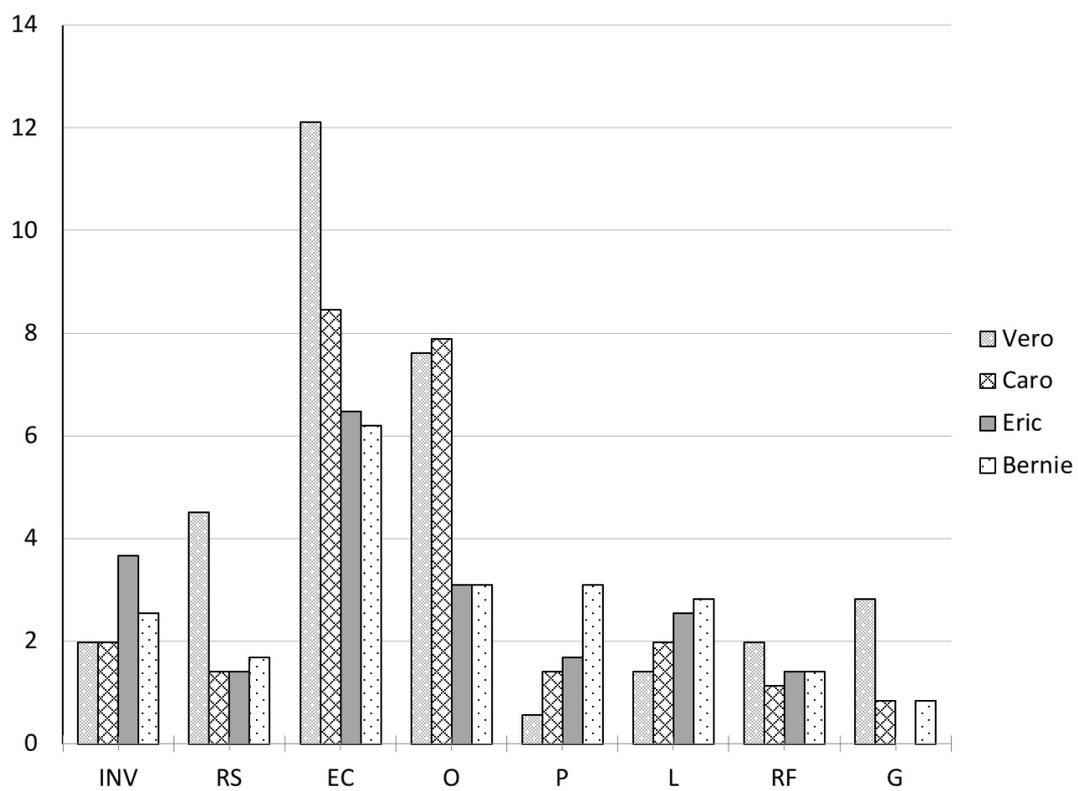
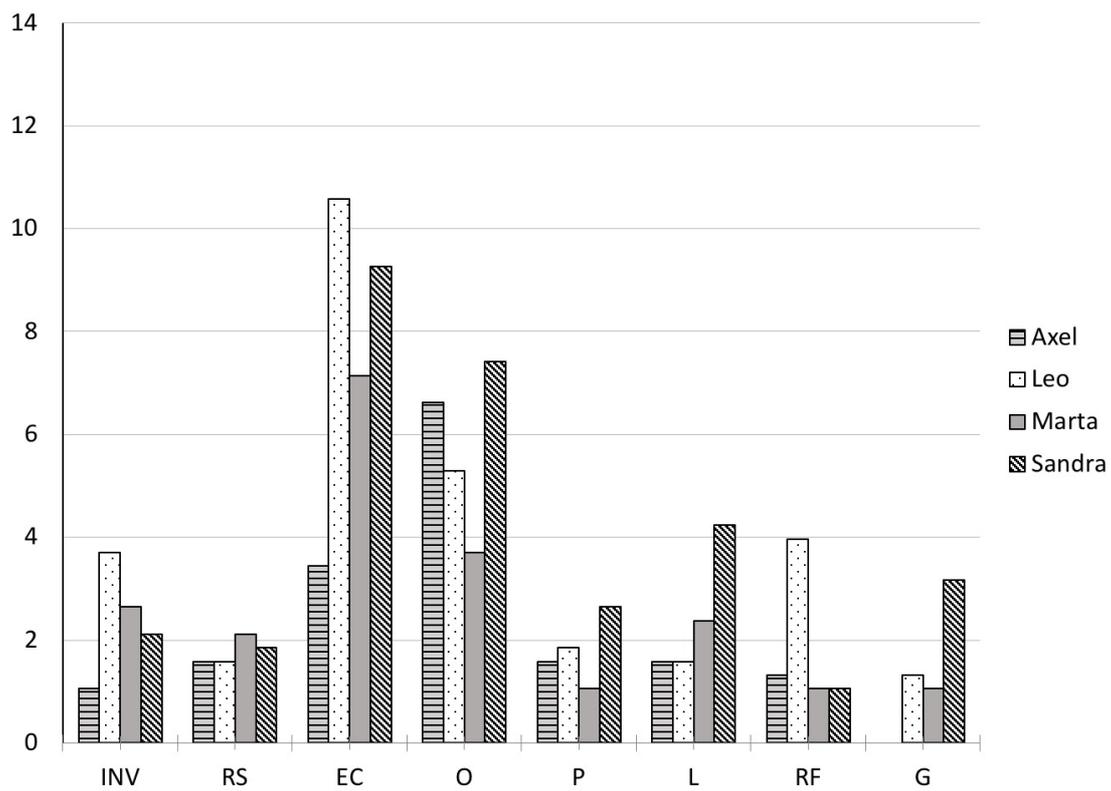
--- Insert Figures 10 and 11 ---





In both groups all dialogic codes were present, but in different proportions. In general, the patterns of percentage of occurrence of the different dialogic codes were quite similar for Mx 1 and Mx 2. It is important to highlight that, in both cases, the code that had the highest percentage of occurrence was Elaborate (EC) (30 and 33 %). Significantly, both groups also engaged in reasoning (RS); linking what was being discussed to previous dialogues or to their knowledge of the world (L); as well as reflecting on the activity and their own thinking processes (RF). As part of their discussions, children also exchanged opinions, ideas, beliefs and expressed possibility thinking (O), and positioned themselves in relation to other's contributions (P). It is interesting that participants also displayed actions that normally would correspond to teachers, including invitations (INV) and guiding the direction of the activity or dialogue (G).

--- Insert Figures 12 and 13 ---



In both groups, three out of the four participants exhibited all codes, (though in different proportions). However, Axel in Mx 1 and Eric in Mx 2 did not guide (G). There were some a/symmetries that are worth noting. For example, in Mx 1 there were more symmetrical patterns in the percentage of expression of invitations (INV), reasoning (RS) and positioning (P). In contrast, there were more asymmetrical patterns in the expression of elaborations (EC); statement of opinions/ideas/beliefs (O); links (L); reflections (RF) and guidance (G). It is worth highlighting that, overall, Sandra had the highest percentages of four out of these five dialogic codes (O, P, L and G).

In Mx 2 the more symmetrical patterns correspond to invitations and links. In contrast, reasoning, elaborations, statements, positionings, reflections and guidance represent more asymmetrical patterns. It is important to stress that, for this group, Vero had higher percentages of dialogic codes than the rest of the children in four out of these six codes (R, EC, O and G).

Illustration of data using examples from UK and Mexico

The sequences below illustrate the overview of results by allowing an up-close examination of parts of the discussion for one UK and one Mexican group. They were chosen as segments with rich sequences of ideas and where there was more than one episode shown, to also demonstrate how the children shifted the direction of the discussion.

Segment from UK 1 data

Table 1 shows a section of the discussion where the children talked about the double-spread in Figure 14. In the picture, Shaun has taken the Lost Thing to a place where it might belong.

--Insert Figure 14 --

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-- Insert Table 1 --

Table 1. Example of segment of dialogue from UK 1.

Episode	Line	Agent	Turn	Shift	SEDA
29	437	Fred	Do you want to carry on reading, so we can find out?	ORG	G
	438	Ellen	Yep.	(ORG)	
	439	Fred	James.	(ORG)	(G)
	440	James	Yeah. (Reading) <i>We arrived at a tall, grey building, no windows. It was pretty dark in there and it smelt like disinfectant. 'I have a lost thing,' I called to the receptionist at the front desk. 'Fill in these forms,' she said.</i>	(ORG)	
	441	Imogen	It's like they're at receptionist or something.		O
	442	James	No.		
	443	Imogen	[And she's like]		(O)
	444	Fred	[Why would you need such a big receptionist desk?]		INV
	445	Imogen	[I've had a bad day].		(O)
	446	Ellen	I think you forgot to read the thing at the bottom.		G
	447	James	(Reading) <i>The lost thing made a small, sad noise.</i>		
	448	Imogen	Or maybe that is where he was before. Maybe he escaped or something [from there].		O
	449	Fred	[Oh look].		
	450	James	[Escaped].		
	451	Fred	Look at it (pointing in book). [It]		
	452	Ellen	[Maybe] he doesn't want to go there.		O
	453	Fred	There's a lost thing there and it's just cleaning up.		
	454	Imogen	Yeah. It looks like it's [got]		
	455	James	[What's that?] A tongue?		INV
	456	Imogen	I don't really know. Maybe it's an extra hand.		O
457	Fred	Maybe it's just like-, maybe it's a place where they just [hide].		O	
30	458	Ellen	[Fred], do you want to read?	ORG	G

459	Fred	Yep. (Reading) <i>I was looking round for a pen when I felt something tug the back of my shirt. 'If you really care about the thing, you shouldn't leave it here,' said a tiny voice. 'There's a place for forgetting, leaving behind (inaudible), here, take this.'</i> It was a business card with a kind of sign on it. It wasn't very important-looking, but it did seem to point somewhere. 'Cheers,' I said. (Turns page)	(ORG)	
460	Imogen	(Turns page) So maybe that little guy feels really sorry [for the other]		O
461	Ellen	[Ooh, ooh], you know when it made a small, sad voice (pointing in book), maybe the thing was a head of the person... 'cos it's said it's for forgetting things, and he didn't want to be forgotten.		RS/L
462	Fred	Or, maybe when the guy left it there, like after like a day or two, his memory would just be wiped about that thing.		RS
463	Imogen	Yeah, maybe something like that.		P
464	James	Like they've got [like a wipe and wipe it off].		EC
31				
465	Imogen	(Reading) <i>[At this, at this point] we left that tall, grey building and hunted all over the place for this sign.</i> Obviously, it's like a not very common sign or something.	RES	O
466	James	It's kind of curved a bit, isn't it?		O
467	Fred	Yeah, you [wouldn't really]		RS
468	Imogen	Yeah.		
469	Fred	have a sign that wiggles, would you, unless it's a Sat Nav.		(RS)
470	Imogen	[Yeah].		
471	James	[Yeah].		

The sequence from UK1 shows how the discussion is directed by three members of the group in different ways. Initially Fred shifts to a new episode by explicitly organising the reading task (437: G), and Imogen responds to James's read-aloud with an idea (441: O) about the receptionist having a bad day and Fred comments about the size of the desk. Both children's ideas run concurrently but separately until line 446, where Ellen steps in to guide

(G) James to complete his reading of the page. She then shifts the discussion (458) by inviting Fred to read (G) and again Imogen responds to the reading with an idea (460: O), this time about the motivations of the character. Finally, Imogen shifts again on line 465 by unsolicited reading, then comments on her own reading by drawing on the visual as well as written text to comment about the sign. If the direction of the talk can be seen to be led by Fred and Ellen, then the leader of ideas in this sequence is Imogen as she follows every read-aloud with a new idea, even when she has been the one reading. She also uses a positioning statement (463: P) to show that she has engaged with reasons that Ellen and Fred have offered in response to her comment about feeling ‘really sorry’. The sequence shows the majority of coded turns are ideas (O) and many of these are responses to previous ideas, even if they are not elaborations or clarifications (EC). In five of the eight ‘O’ occurrences, “maybe” is used to suggest an idea. There are two invitations (444, 455: INV) in the segment used by James and Fred to seek clarification, though the former is asking for clarification about a literal interpretation of the picture, whilst the latter queries the inclusion of ‘such a big receptionist desk’.

Segment from Mx 2 data

In this segment children read and discuss the setting where the Lost Thing was found (Figure 15), pointing at different images from the two pages shown below.

-- Insert Figure 15 --

REDACTED

-- Insert Table 2 --

Table 2. Example of segment of dialogue from Mx 2.

Episode	Line	Agent	Turn	Shift	SEDA
8	71	Eric	<i>(Turning the page)</i> What's up with this dude? <i>(pointing at the character on the left)</i>	RES	INV
	72	Bernie	This city is kind of polluted, like...	(RES)	O

	73	Eric	Kind of, just kind of (<i>sarcastic tone</i>)	(RES)	EC
	74	Vero	But I don't understand why he is sitting there looking at...		RF
	75	Caro	It's like these people that [climb up high		RS
	76	Vero	[Ah, lifeguards!		EC
	77	Caro	Life guards! But isn't it too high?		INV
	78	Eric	Yes, and he is too far away, right?		EC
9	79	Vero	It's your turn, Bernie.	ORG	G
	80	Bernie	(<i>Reading</i>) "I asked a few people if they knew anything but nobody was very helpful"	(ORG)	
10	81	Vero	And why are there here like, images of rain drops?	CONT	INV
	82	Bernie	Those are the clouds	(CONT)	O
	83	Vero	[Oh, they look very strange	(CONT)	EC
	84	Eric	[But why do they look like that?	(CONT)	INV
	85	Caro	Yeah, they are small		O
	86	Vero	It looks as if they are breaking apart bit by bit. They are separating... (<i>Vero points at the sequence of clouds</i>)		RS
	87	Caro	Here, like this (<i>points</i>)		EC
	88	Eric	Ahh, that's true		P
11	89	Bernie	It also looks like Mos Eisley (<i>Pirate city from Star Wars IV</i>) (<i>Eric laughs</i>). It does.	CONT	L
	90	Vero	What?	(CONT)	INV
	91	Eric	Mos Eisley (laughs)	(CONT)	
	92	Vero	Who is Mos Eisley?		INV
	93	Bernie	It's from Star Wars		EC
	94	Vero	Ah		
	95	Caro	I never saw that movie		L
	96	Vero	Me neither		L
	97	Bernie	Yes, because Mos Eisley has a lot of steam pipelines		RS
12	98	Vero	Look, I found something. "Metahuman gas by volume" (Reading from a label in the illustration)	RES	G
	99	Eric	Metahuman!?! Ohhhh (surprised)	(RES)	
	100	Bernie	Ohhh (surprised)	(RES)	
	101	Caro	He has double glasses (points at character on bottom-right)		O
	102	Bernie	It's true, they are like aliens		P/L
	103	Caro	Oh, how weird		O
	104	Vero	Those men are always weird		EC
	105	Bernie	Ah, so they are metahumans		RS/L

106	Eric	...Ah, like the ones in Star Wars, playing in Mos Eisley (imitating the aliens in the movie)	L
107	Bernie	Aha	

Table 2 shows a segment including five shifts which start a new episode, three initiated by Vero, one by Eric and one by Bernie. The four participants jointly engaged in a highly dialogic discussion (80% of their turns were assigned at least one code). Eric initiates Episode 8 by expressing his intrigue about the character on the left (71: INV), and Vero acknowledges her lack of understanding about why he is watching from that standpoint (74: RF). In the following four turns, Caro, Vero and Eric jointly co-construct possible interpretations (that he might be a lifeguard) through reasoning and elaborating. In Episode 10 the children jointly interpret the sequence of images on top of the page. Vero's question about this sequence (81: INV) triggers various interpretations, which she then explains as clouds gradually breaking apart (86: RS). Bernie initiates episode 11 by linking the setting of the picturebook with that of a city from Star Wars (89: L). The girls then express their lack of familiarity with the movie (90, 92: INV), and the boys clarify this reference. In turn 97, Bernie further explains the previous analogy between the setting of the illustrations and that of Star Wars (RS, L). Lastly, in Episode 12, Vero shifts her peers' attention to a label at the bottom of the illustration (98: G) and Caro remarks that one of the characters has double-glasses (101: O). This generates a chaining of turns (102-106) where the children gradually co-construct a sophisticated interpretation of the characters by expanding each other's ideas and linking them to their knowledge of the world. Bernie and Eric close the episode with various creative links and explanations that deepen this collective interpretation: that the characters are metahumans and that they resemble the aliens of Star Wars (105: RS/L; 106: L).

Discussion

Symmetries and asymmetries

Our analysis of the data revealed that the interactions of children in the reading groups showed evidence of symmetries and asymmetries across the two dimensions of the discussion under investigation. Considering the dynamics of interaction, that is, how the

children influenced the changes in direction of the topics that they discussed, all the children in all groups had some part to play. Whilst there was not a teacher present, and no child had been formally assigned a management role, in each group at least one child took charge of the task by inviting or instructing others to read, or by suggesting other courses of action to advance the task. Notably, in three of the groups there was one particular child who took on this role, demonstrating a participation asymmetry (Linell, 2001) as these children assumed the goals and responsibilities of task management. The inductive coding of the shifts allowed for a more fine-grained analysis of how the children assumed these authoritative positions to instigate a shift to a new topic. Organisational shifts were more geared to the explicit management of the task and content-based shifts were initiated by children contributing new ideas or questions. Resource-based shifts involved children using the prompt cards or book as tools mediated by the teacher (Warwick et al., 2010) to gain the floor and direct the discussion. Also through this analysis, different orientations of children became clearer which could be seen as directed towards the progress of the task, or the progress of the discussion.

Using SL-SEDA allowed for a further differentiated analysis of the symmetries and asymmetries at a functional level. It was not surprising to find that Guide and Invite were functions apparent in the utterances of the children who had initiated organisational shifts. The distribution of codes was similar across all four groups and there was a quantitative symmetry evident in that all children contributed (Rajala et al., 2012). Elaborations (EC) and statements (O) were highlighted as common functions of utterances that in themselves were asymmetrically represented within the groups. Here it was notable that while Fred (UK 1), Sandra (Mx 1) and Vero (Mex 2) had been the instigators of new ideas, they were also committed to taking up ideas. Alternatively, neither Ellen nor Nicole displayed many elaborations, further highlighting their orientations to the activity at managerial level, rather than at the ideas. Their approaches showed an interactional asymmetry (Linell et al., 1988), where they were more dominant in controlling the direction of dialogue, and less inclined to be directed, shown through their lack of follow-up elaborations.

Dialogic interactions and meaning making

The findings demonstrate that the four quartets engaged in rich dialogic discussions for jointly constructing meaning of the picturebook *The Lost Thing*. The children expressed invitations, statements (including possibility thinking), reasonings, positionings, links, reflections and, of particular importance for all groups, high percentages of elaborations. This indicates that the children used mainly co-constructive talk (Rojas-Drummond et al., 2006) to exchange and negotiate ideas, build on each other's contributions, think collectively and relate what they were discussing to previous ideas as well as to their knowledge of the world in an inclusive fashion (Rajala et al., 2012). All participants both initiated exchanges and responded to each other's contributions, which is indicative of high levels of reciprocity (Fernández, 2014). There were children in all four groups who took a lead, with invitation and guiding moves demonstrating asymmetries in participation. These asymmetries were also highlighted by their influence in the direction of the discussion, as indicated above. The salient presence of elaborations across all groups also shows that children interacted with expanded responses by chaining them to their own and each other's contributions (Linell et al., 1988). The diverse linguistic resources they used (as demonstrated by the presence of all SL-SEDA codes) allowed them to proactively engage in meaningful conversations with local and global coherence, in spite of the absence of a teacher. Furthermore, following Soter et al.'s (2008) conceptual framework, we hypothesise that in the dialogues of the four quartets, the presence of communicative acts such as reasoning, elaborating, linking, positioning and reflecting might suggest high-levels of comprehension of (at least some parts of) the picturebook, (i.e., the segments of dialogue where those codes were concentrated) (see also Wolf et al., 2005). However, given the design of the present study, our data does not allow us to elucidate if high-level comprehension was achieved by all children in the quartets, or only by some. Rather, we assume that creating meaning through group discussions is a collaborative achievement (Mercer & Littleton, 2007). Lastly, the expression of possibility thinking by the four quartets reflects the provisionality of ideas that were put forward for joint consideration (Craft, 2000; Maine, 2015). Maine argues that fictional narratives offer unique expressive affordances for readers and the opportunities to collaborate to interpret

and build meanings as dialogic readers. This was the case for the picturebook *The Lost Thing*, in which the ambiguity and richness of both the narrative and images, when woven together as semiotic modes (multimodality), afforded diverse, creative and open-ended interpretations (Nikolajeva & Scott, 2001).

Conclusion

This investigation of symmetries and asymmetries in children's peer-group reading discussions demonstrates the complexity of children's interactions in groups and how they can successfully manage and complete reading tasks together without a teacher guiding them. The two-strand analysis of the functions of their utterances and the broader dynamics of the interaction of their talk enables an original and insightful perspective on how the children managed working together in this context, and how they used linguistic and textual resources to do so. The strands of analysis complement each other as they illustrate not only what resources the children drew on to shift the movement of the discussion, but how their language enabled this movement forward. Importantly, the children in all groups seemed to take a shared responsibility for the task, even if they used different means to attain the set goals.

Results then highlight the importance of peer-group work; open-ended tasks; ambiguous but rich texts which invite diverse interpretations; as well as guiding tools to enhance dialogic interactions and high-level comprehension in primary school children.

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References

- Anderson, R. C., Nguyen-Jahiel, K., McNurlen, B., Archodidou, A., So-young, K., Reznitskaya, A., ... Gilbert, L. (2001). The snowball phenomenon: Spread of ways of talking and ways of thinking across groups of children. *Cognition and Instruction*, 19(1), 1–46. https://doi.org/10.1207/S1532690XCI1901_1
- Applebee, A. N., Langer, J. A., Nystrand, M., & Gamoran, A. (2003). Discussion-based approaches to developing understanding: Classroom instruction and student performance in middle and high school english. *American Educational Research Journal*, 40(3), 685–730. <https://doi.org/10.3102/00028312040003685>
- Baines, E, Rubie-Davies, C., & Blatchford, P. (2009). Improving pupil group work interaction and dialogue in primary classrooms: Results from a year-long intervention study. *Cambridge Journal of Education*, 39(1), 95–117. <https://doi.org/10.1080/03057640802701960>
- Beckett, S. (2014). The art of visual storytelling: formal strategies in wordless picturebooks. In B. Kümmerling-Meibauer (Ed.), *Picturebooks: Representation and Narration* (pp. 53–70). Oxon: Routledge.
- British Educational Research Association [BERA]. (2018). *Ethical guidelines for educational research* (4th ed.). London. Retrieved from <https://www.bera.ac.uk/researchers-resources/publications/ethical-guidelines-for-educational-research-2018>
- Bromley, H. (2001). A Question of Talk: Young Children Reading Pictures. *Reading*. 35. 62 - 66. 10.1111/1467-9345.00163.

- Charmaz, K. (2006). *Constructing grounded theory: A practical guide through qualitative analysis*. London: Sage.
- Craft, A. (2000). *Creativity across the primary curriculum: Forming and developing practice*. London: Routledge.
- Dombey, H. (2010). Interaction and learning to read: Towards a dialogic approach. In D. Wyse, R. Andrews, & J. Hoffman (Eds.), *The Routledge International Handbook of English, Language and Literacy Teaching* (pp. 110–121). London: Routledge.
- Fernández, J. M. (2014). El dialogismo: secuencialidad, posicionamiento, pluralidad e historicidad en el análisis de la práctica educativa. *Sinéctica Revista Electrónica de Educación*, 43, 1–21.
- Glaser, B., & Strauss, A. L. (1968). *The discovery of grounded theory: Strategies for qualitative research observations*. London: Aldine Transaction.
- Hennessy, S., Rojas-Drummond, S., Higham, R., Márquez, A. M., Maine, F., Ríos, R. M., ... Barrera, M. J. (2016). Developing a coding scheme for analysing classroom dialogue across educational contexts. *Learning, Culture and Social Interaction*, 9, 16–44.
<https://doi.org/dx.doi.org/10.1016/j.lcsi.2015.12.001>
- Hofmann R & Mercer, N (2016) Teacher interventions in small group work in secondary maths and science lessons. *Language and Education*, 30(5), 400-416.
<https://doi.org/10.1080/09500782.2015.1125363>
- Hogan, D. (2005). Researching the child in developmental psychology. In S. Greene & D. Hogan (Eds.), *Researching Children's Experience: approaches and methods* (pp. 22–41). London: Sage.
- Howe, C. (2010). *Peer groups and children's development*. Oxford: Wiley-Blackwell.

- Hymes, D. (1972). Models of interaction in language and social life. In J. J. Gumperz & D. Hymes (Eds.), *Directions in sociolinguistics: The ethnography of communication* (pp. 35–71). London: Basil Blackwell.
- Linell, P. (2001). *Approaching dialogue. Talk, interaction and contexts in dialogical perspectives*. Amsterdam: John Benjamins.
- Linell, P., Gustavsson, L., & Juvonen, P. (1988). Interactional dominance in dyadic communication. *An Interdisciplinary Journal of the Language Sciences*, 26(3), 415–442. <https://doi.org/10.1515/ling.1988.26.3.415>
- Maine, F. (2015). *Dialogic readers: Children talking and thinking together about visual texts*. London: Routledge.
- Maine, F. (2017). The bothersome crow people and the silent princess : Exploring the orientations of children as they play a digital narrative game. *Literacy*, 51(3), 138–146. <https://doi.org/doi.org/10.1111/lit.12117>
- Maine, F., & Hofmann, R. (2016). Talking for meaning: The dialogic engagement of teachers and children in a small group reading context. *International Journal of Educational Research*, 75, 45–56. <https://doi.org/10.1016/j.ijer.2015.10.007>.
- Maybin, J. (2006). *Children's voices: Talk knowledge and identity*. London: Palgrave Macmillan
- Mercer, N., & Littleton, K. (2007). *Dialogue and the development of children's thinking*. London: Routledge.
- Mercer, N., Wegerif, R., & Dawes, L. (1999). Children's talk and the development of reasoning in the classroom. *British Educational Research Journal*, 25(1), 95–112. <https://doi.org/doi.org/10.1080/0141192990250107>
- Murphy, P. K., Wilkinson, I., Soter, A., Hennessy, M., & Alexander, J.(2009). Examining the effects of classroom discussion on students' comprehension of texts. *Journal of Educational Psychology*, 101(3). <http://dx.doi.org/10.1037/a0015576>

- Nikolajeva, M., & Scott, C. (2001). *How picturebooks work*. Oxon: Routledge.
- Nystrand, M. (2006). Research on the role of classroom discourse as it affects reading comprehension. *Research in the Teaching of English*, 40(4), 392–412.
- Palincsar, A. S., & Brown, A. L. (1984). Reciprocal teaching of comprehension fostering and comprehension monitoring activities. *Cognition and Instruction*., 1(2), 117–175.
https://doi.org/10.1207/s1532690xci0102_1
- Rajala, A., Hilppö, J., & Lipponen, L. (2012). The emergence of inclusive exploratory talk in primary student's peer interaction. *International Journal of Educational Research*, 70, 31–46. <https://doi.org/doi.org/10.1016/j.ijer.2011.12.011>
- Resnick, L. (1987). *Education and learning to think*. Washington, DC: National Academy Press.
- Rojas-Drummond, S., Maine, F., Alarcón, M., Trigo, A. L., Barrera, M. J., Mazón, N., ... Hofmann, R. (2017). Dialogic literacy: Talking, reading and writing among primary school children. *Learning, Culture and Social Interaction*, 12, 45–62.
<https://doi.org/10.1016/j.lcsi.2016.09.005>
- Rojas-Drummond, S., Mazón, N., Fernández, M., & Wegerif, R. (2006). Explicit reasoning, creativity and co-construction in primary school children's collaborative activities. *Thinking Skills and Creativity*, 1(2), 84–94. <https://doi.org/10.1016/j.tsc.2006.06.001>
- Rojas-Drummond, S., Mazón, N., Littleton, K., & Vélez, M. (2014). Developing reading comprehension through collaborative learning. *Journal of Research in Reading*, 37(2), 138–158. <https://doi.org/10.1111/j.1467-9817.2011.01526>
- Ruthven, K., & Hofmann, R. (2016). A case study of epistemic order in mathematics classroom dialogue. *PNA (Pensamiento Numérico y Algebraico)*, 11(1), 5–33.
- Saville-Troike, M. (2003). *The ethnography of communication: An introduction* (Third). Wiley.

- Soter, A., Wilkinson, I., Murphy, K., Rudge, L., Reninger, K., & Edwards, M. (2008). What the discourse tells us: Talk and indicators of high-level comprehension. *International Journal of Educational Research*, 47(6), 372–391.
<https://doi.org/10.1016/j.ijer.2009.01.001>
- Tan, S. (2000). *The Lost Thing*. Australia: Lothian Books.
- Warwick, P., Mercer, N., Kershner, R., & Staarman, J. (2010). In the mind and in the technology: The vicarious presence of the teacher in pupils' learning of science in collaborative group activity at the interactive whiteboard. *Computers and Education*, 55(1), 50–362. <https://doi.org/10.1016/j.compedu.2010.02.001>
- Wilkinson, I., Murphy, P., & Binici, S. (2015). Dialogue intensive pedagogies for promoting reading comprehension: What we know, what we need to know. In L. Resnick, C. Asterhan, & S. Clark (Eds.), *Socializing Intelligence Through Academic Talk and Dialogue* (pp. 35–48). United States of America: American Educational Research Association.
- Wilson, P., Sztajn, P., Edgington, C., Web, J., & Myers, M. (2017). Changes in teachers' discourse about students in a professional development on learning trajectories. *American Educational Research Journal*, 54(3), 568–604.
<https://doi.org/10.3102/0002831217693801>
- Wolf, M., Crosson, A., & Resnick, L. (2005). Classroom talk for rigorous reading comprehension instruction. *Reading Psychology*, 26(1), 27–53.
<https://doi.org/10.1080/0270271049089751>
- Wood, D., Bruner, J., & Ross, G. (1976). The role of tutoring in problem solving. *Journal of Child Psychology and Psychiatry*, 17(2), 89–100. <https://doi.org/10.1111/j.1469-7610.1976.tb00381.x>

Appendix A: Prompt cards for text discussion

- Before reading

Look at the front cover / title card – What might the story be about?

- During / After Reading

Talk about what the book is about

Talk about what you liked and disliked about the book and how it made you feel

Talk about what puzzled you in the story? What wasn't clear? / Discuss questions that you have about the story

Was it what you expected? Did anything surprise you?

Talk about what the book reminded you of (other stories, feelings that you have ever had, things you know about)

How do you think the pictures helped you understand the story?

Appendix B: Streamlined SEDA Coding

	CODE	DEFINITION
Invite	INV	Invite opinion/belief/idea/ or reason/elaboration/clarification Invite position Invite coordination or link Invite reflection
Reason	RS	Make reasoning explicit
Elaborate/clarify	EC	Elaborate clarify
State Opinion	O	Opinion/belief/idea Relevant contribution Possibility thinking
Position	P	Agree statement Disagree statement
Link	L	Coordinate and synthesise Link (external, intertextual, refer back)
Reflect	RF	Reflect on activity Reflect on dialogue Reflect on resource Reflect on language
Guide	G	Encourage peer to peer dialogue Propose action or inquiry activity Introduce authoritative perspective Provide informative feedback Focus and monitor
TOTAL	8	