Tracing learning in interaction

An analysis of shared reading of picture books at kindergarten

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RIJKSUNIVERSITEIT GRONINGEN

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Dankwoord

Dankwoord

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Chapter 1

Introduction

This thesis focuses on shared reading interactions at Dutch kindergartens. It aims to contribute to our growing understanding of the relationship between interaction and learning. From a sociocultural perspective on education, participation in interaction is seen as a key for children's development. The current study zooms in on kindergartners' participation in whole-classroom shared reading interactions. By discussing how and in what kind of interactions pupils participate during shared reading, this thesis contributes to our insight in learning opportunities and learning processes.

Previous research on shared reading interactions has primarily focused on the influence of forms of interactive shared reading and elaborated on the development of language and literacy. The current study adds to this by investigating the specific characteristics of shared reading interactions and how these are related to the development of content knowledge. The underlying idea is that talking about picture books whose content might be interesting and important to children contributes to the development of children's knowledge about these issues. By using Conversation Analysis, the interactional features that might contribute to this development become visible as is shown in the different chapters of this thesis.

In this introduction, all elements that play a role in this thesis will be presented. Subsequently, more information will be provided on the research setting (kindergarten classrooms), the activity (shared reading of picture books), the role interaction plays in both and how they are related to children's learning. At the end of this chapter, the data and the methodology of this thesis are described. The introduction ends with an outline of the remainder of this thesis.

1.1. Kindergarten

In the Netherlands, children normally go to primary school from the age of 4 to 12. Children of 5 years and older, are required to attend school. However, most Dutch children already enter school when they turn 4. As a consequence, new children enter school at different moments in a school year. Kindergarten (*Dutch: kleuterschool*) is a shorter term for grades 1 and 2 of primary school. These grades are taught in either separate or combined classes (grades 1 and 2 together).

The reason we use a shorter term for these two grades of primary school lies within the history of the Dutch school system. Before 1986, kindergartens were not part of primary school. Comparable with the current American school system, these kindergartens prepared children for the first grade of primary school. Nowadays, the former grade 1 is referred to as third grade. Nevertheless, the first two grades of primary school are still informally called *kleuterschool* and the children in grades 1 and 2 are generally referred to as *kleuters* (kindergartners). After attending kindergarten, children thus go to grade 3, which is comparable to the first grade in for example the American school system.

It should be noted that kindergarten is also used to describe preschool educational institutions around the world. In the Netherlands, we have two different kinds of optional early childcare facilities that are not integrated in primary schools and so are not referred to as kindergarten, but as *kinderdagverblijf* (day care) or *peuterspeelzaal* (preschool). Children might go to a *kinderdagverblijf* from a very early age, while *peuterspeelzalen* are aimed at children who are 2 to

4 years old. Both preschool educational institutions may use curricular programmes that are expected to prepare children for primary school.

Recent national developments emphasise the importance of improving the performances of young children in the Dutch educational system. To prevent disadvantaged children from falling behind, the Dutch government targets the further implementation of curricular programmes for early childhood education. Amongst others, this is constitutionalised in the *Wet Ontwikkelingskansen door kwaliteit en educatie* (law chances in development by quality and education) in August 2010 (http://www.wetoke.nl/). These early childhood educational programmes regularly consist of two parts, the pre-educational part which is implemented at preschool educational institutions and what is called the early educational part which plays a role at kindergartens.

The different available educational programmes suggest activities that are supposed to contribute to children's language and cognitive development in a more or less structured way. Working with these programmes or not, pupils in kindergarten generally participate in various forms of playful activities that prepare them for more formal schooling and contribute to their development. Activities pupils participate in range from play to creative work, from small group to whole group activities. They for instance participate in free play, pretend play or craft work in small groups and participate in whole-class activities such as circle time, gymnastics and shared reading. Pupils are generally encouraged to do what they like, but the activities are well organised so that they join in each activity more or less equally.

Although recent national developments have sparked several discussions on the institutionalisation of preschools and kindergartens, the first two grades of primary school are still mostly known for learning that takes place in a non-programmed manner. For preschools, this has been elaborately shown by Deunk (2009). She shows in an extensive way how preschoolers gradually learn to participate in different preschool activities and how this contributes to their development. The different activities at kindergarten can be expected to offer comparable opportunities for young children's development. One of these activities that is commonly linked to children's learning is the activity of shared reading.

1.2. Shared reading

Shared reading is a common practice in the home environment as well as in educational settings. Being read to influences children's knowledge and development. When children are not able to read yet, picture books play an important role. Picture books generally do not exceed thirty pages and can be characterised as texts that are accompanied by illustrations (Thiele, 2003). So, with picture books, the combination of text and pictures tells the whole story (Mooren, 2000; Nikolajeva & Scott, 2001; Thiele, 2003). Children are indeed found to make use of the pictures while listening to the story. As is shown by eye-tracker experiments of Verhallen and Bus (2011), children combine the two. Children in their study were found to look longer at elements in the pictures that are highlighted in the text (Verhallen & Bus, 2011).

It is impossible to imagine Dutch kindergartens without picture books. Ghonem-Woets (2009) distributed a questionnaire about the use of picture books in the first two grades of primary school amongst almost 700 teachers. Almost all teachers indicated that pupils get the chance to have a look at picture books amongst themselves on a regular basis. Shared reading is also a common activity at Dutch kindergartens. Ninety percent of kindergarten teachers read to their class at least three times a week. The majority of these shared reading sessions are classified as whole-classroom activities and to some extent include interactions accompanying the reading. Participating teachers indicated that their reasons for shared reading are most often developmental. With shared reading, they generally hope to contribute to children's language- and literacy development and their general knowledge development.

1.2.1. Developmental domains

Effects of shared reading on the language and literacy development are the best documented. Quite generally, shared reading teaches children how to interact with books. This ranges from learning how to hold a book and how to turn a page to the 'contracts of literacy' that include 'rules' such as books are for reading and not for manipulating, pictures can represent events and book events occur outside real time (Snow & Ninio, 1986). Additionally, shared reading provides insight into the properties of written language and the letter-sound relations (Sulzby, 1985). Shared reading also provides children with new vocabulary knowledge. The language used in books contains more uncommon words than prime-time television or everyday life conversations (Hayes & Ahrens, 1988) and the language mothers use during shared reading is richer and more varied than that used during mealtimes, toy play or dressing (Crain-Thoreson, Dahlin & Powell, 2001; Hoff-Ginsberg, 1991).

With shared reading, children also learn to enjoy stories and to use their imagination. Additionally, shared reading offers opportunities to orient to factual information that they did not yet meet in real life, such as other cultures, different people or situations they have not been into themselves. Children may extend their knowledge on different topical domains, ranging from non-existing creatures, animals and dinosaurs to more regular topics such as going to school. By this indirect experience by means of shared reading, children develop scripts, as for example a 'birth of a sibling-script' or a 'hospitalisation-script' (Leseman, 1998). Books may thus help children to generalise from fictitious situations to real-life situations, where empathy plays a role. Cress and Holm (1998) indeed show that teachers can stimulate empathy development by means of realistic books from the moment that children enter school.

The different settings of individual, small group and whole-class reading may cause differences in the above-mentioned developmental effects (Morrow & Smith, 1990; Van Elsäcker & Verhoeven, 1997; Van Kleeck & Beckley-McCall, 2002). In these studies, the effects of small group reading regularly outperform the effects of the other settings. Nevertheless, Morrow and Smith (1990) argue that children should be read to in different group sizes because it is also important to learn to construct knowledge in larger groups. The different effects of group sizes are closely related to the different opportunities the different group sizes offer for interaction.

1.2.2. Interactive shared reading

The language that children are exposed to in book reading is characterised by higher linguistic complexity. Adults regularly assist children in understanding the book by adding comments, by asking questions and by explaining potential difficult parts of the book (text). Their *fine-tuning* forms a bridge between written and oral language (Van Elsäcker & Verhoeven, 1997) to make the complex language used in books understandable. For parents or caretakers, it is easier to fine-tune than for teachers because of the small number of children in the home situation (Blok, 1997). However, in both settings interactive reading creates opportunities for children to participate in complex discourse which stimulates the language development of the child (Berenst, 2006; Massey, 2004).

In line with this, children's own active participation in shared reading interactions also contributes to children's development of their oral and more general communicative skills. Crain-Thoreson and Dale (1992) show that especially when children are encouraged to talk about the story and the pictures, their productive vocabulary can increase. Children's comprehension of stories also becomes visible in their verbal contributions during or after shared reading. Sipe (2002) for instance describes their different (language) activities as dramatising, talking back, critiquing/controlling, inserting oneself in the story and taking over the story. These possible responses suggest that children look at stories as invitations to participate and they display children's active engagement with the story (Sipe, 2002).

How much room is offered for children to actively participate before, during and after shared reading and what kind of contributions are invited, depends on the shared reading styles of adults. These styles differ with regard to the placement of commentary during shared reading and the demand level of the interactions. Concerning placement, adults may only create room for interaction before and after the complete shared reading of the book or may alternate talking about the book with the reading of the book text during the shared reading. Several comparative studies describe the uninterrupted styles as a *performance-oriented style* (Reese & Cox, 1999) or as *performance style* (Greene Brabham & Lynch-Brown, 2002). Reading styles characterised by alternately reading and discussing the stories are described as an *interactional style* (Greene Brabham & Lynch-Brown, 2002). Reese and Cox (1999) distinguish between two of these alternated styles, a *describer style* and a *comprehender style* (Reese & Cox, 1999).

Besides placement, these shared reading styles differ with regard to their demand level. The demand level ranges from a lower-demanding *describer style* (Reese & Cox, 1999) that focuses on describing and labelling pictures to a higher-demanding *comprehender* or *performance/performance-oriented styles* (Greene Brabham & Lynch-Brown, 2002; Reese & Cox, 1999). These higher demanding styles "require that the child goes beyond the immediate context of the text to understand why an event happened or to evaluate what that event might mean for the character or the reader" (Reese & Cox, 1999, p. 21). These styles can be characterised by the analytical nature of the talk (Dickinson & Smith, 1994). This requires "the child to step back from the story and reflect on the story line and, quite frequently, on the language of the story" (Dickinson & Smith, 1994, p. 117).

Practicing the use of these sorts of analytical talk assists children in deriving meaning from texts, as will be required from them in higher grades of school. Additionally, it contributes to the

construction of knowledge concerning the book that has been read. That participation in interactive shared reading influences the development of children has been shown concerning language and literacy development (e.g. Mol, Bus, de Jong & Smeets, 2008; What Works Clearinghouse, 2007), as well as for topical or conceptual development (Kwant, 2011; Van den Heuvel-Panhuizen, Van den Boogaard & Doig, 2009; Van der Pol, 2010).

These developmental effects of interactive shared reading are in line with a sociocultural perspective on learning, since this perspective associates participation in cognitively challenging talk with knowledge development (e.g. Rogoff, 1990; 2003; Wenger, 1998). As stated by Margutti (2006), "imparting knowledge to a new generation of learners in an institutional setting is primarily an interactional activity" (p. 313). There is a long tradition of studying classroom interactions to gain insight into the sequential organisation in relation to the pedagogical activity. This will be elaborated upon in the following section.

1.3. Classroom interactions

There is a considerable amount of literature on classroom interactions. Besides describing the general principles of different kinds of classroom interactions, these interactions are also often linked to the positive outcomes of participation in interaction. In the following, this will be outlined concerning whole-classroom and peer interactions in educational settings.

1.3.1. Whole-classroom interactions

The transition from home to school goes along with "a changing relationship with adults from intimate individual contact with parents to relatively impersonal contact with a teacher who is responsible for the care, control and education of a large group of children" (Geekie & Raban, 1994, p. 153). Therefore, the construction of knowledge goes hand in hand with the organisation of classroom order (McHoul, 1978; Mehan, 1979a). This is why the interactions that take place in the classroom are often described as rigidly structured and teacher-dominated: the teacher often initiates the (topics of the) conversations, requests something or asks questions and coordinates who speaks when and how. So, the teacher acts as the primary knower and as manager as well to make sure that the interaction proceeds in an orderly manner (Nassaji & Wells, 2000).

These two roles are related to a characterisation of classroom discourse that dates back to 1975. Sinclair and Coulthard (1975) then identified the *Initiation-Response-Feedback (IRF) exchange*. Typically in this exchange, the teacher begins with an initiating move, often in the form of a question. This if followed by a pupil's response and ends with feedback, for example in the form of an evaluative comment. Nassaji and Wells (2000) relate the two roles of the teacher to the possible *follow-up moves*, as they extend the notion feedback.

As the primary knower, the teacher asks questions to elicit pupils' knowledge by means of *known information questions* (Mehan, 1979b). The teacher already knows the answer and is therefore in the position to evaluate the pupil's response. This is why Mehan (1979a) uses the term *IRE exchange*, in which E stands for evaluation. These evaluations can be positive or negative. The positive evaluations end a sequence, while a negative one keeps the interaction moving until the

requested answer is given (Mehan, 1979b). Mehan refers to such extended sequences as topically related sets (Mehan, 1979a, p. 65).

The use of known information questions limits pupils' opportunities to try out their own ideas (Nystrand & Gamoran, 1991). Nassaji and Wells (2000) demonstrate that evaluations tend to suppress extended pupil participation. When the evaluative turn is not produced, "the opportunity for learner participation continues under the aegis of the teacher's question" (Lerner, 1995, p. 116). By avoiding evaluations and instead requesting justifications, connections or counter-arguments, pupils may get the chance to participate in an extended way. In these cases, the teacher's role can be described as manager.

The use of questions that do not have a single correct answer and in which the goal is to arrive at consensus after negotiation also stimulates more equal participation in dialogue. Nystrand and Gamoran (1991) argue that more authentic questions concerning challenging issues and interesting topics can open the floor for pupils. This establishes conversation instead of recitation. Additionally, when teachers ask subsequent interrelated questions, a series of question/answer pairs may "build a line of reasoning that will gradually guide students toward new forms of knowledge" (Margutti, 2010, p. 316).

Participation in these forms of what Mercer calls *educated discourse* (1995), is related to knowledge development. Educated discourse is described as discourse that challenges pupils to use language for reasoning and discussing. Only if pupils get the chance to *use* 'school knowledge' that is presented to them by the teacher, they may incorporate this into their view of the world and as such it can become 'action knowledge' (Barnes, 1976, p. 81). In this way, it reaches further than participation in (series of) IRF/IRE exchanges. If pupils learn to use discourse to think and communicate, they may actively refine their existing knowledge or try out new ideas. In whole-classroom interactions teachers are thus able to influence the educated nature of interactions by means of their questioning techniques and in their ways of responding to pupils' contributions. As will be shown in the following, peer interactions are also very suitable for forms of educated discourse.

1.3.2. Peer interactions

As we have seen, teachers are able to accomplish conversation-like interactions in the classroom where some or all pupils may participate in by asking challenging questions or avoiding direct evaluations. This contributes to a limitation of the teacher's role as primary knower. When pupils have the feeling that they are more or less equal to the teacher, they seem to contribute more freely to the interaction. This is related to their co-construction of knowledge.

Such a symmetrical participation structure is also realised within peer groups. At school, children have ample opportunity to interact with their peers. Without the difference in power and status children are more likely to take different points of view seriously and to compare them with their own. The internal conflict that arises by experiencing the different perspectives of equal participants in peer interaction is related to cognitive development, as suggested by Piaget (1932).

Peer interactions "may prove to be a crucial site for pragmatic development, offering children a wide range of opportunities for mutual learning of pragmatics as well as linguistic skills"

(Blum-Kulka & Snow, 2004, p. 294). Peer talk is considered an arena for practicing discursive skills. It can be described as, "the child's stepping stone to adult-like uses of language" (Blum-Kulka, Huck-Taglicht & Avni, 2004, p. 308). Additionally, by participating in peer interactions pupils also get the chance to get to know their own local peer culture.

As cooperative learning became increasingly used in classrooms, studies investigating peer interactions became more common as well. These studies show how peer interactions are organised (e.g. Thornborrow, 2003) and how they are related to pupils' learning. Peer interactions offer opportunities for the joint construction of knowledge. Ideally, pupils use these peer interactions for what Mercer and colleagues call 'talking and thinking together' (e.g. Mercer, 1995; Mercer & Littleton, 2007).

They generally characterise a three-part typology of talking together. The first, *Disputational talk,* is characterised by disagreement and individualised decision making. The second type of talk is *Cumulative talk*, where speakers build positively but uncritically on what others have said. Compared with these two types, the third kind of talk, *Exploratory talk*, makes knowledge and reasoning more publicly accountable and visible since speakers engage critically but constructively with each other's ideas. This third type of talk is a more adult-like way of interaction that children have to practice to function in different communities of discourse.

When pupils get a well-designed task and are encouraged to solve problems in a joint, interactive manner as is the case in their *Thinking Together programmes*, they are found to make progress (Mercer & Littleton, 2007). By testing pupils before and after collaborative group work on subject knowledge and problem-solving, pupils show both growth of knowledge and growth of reasoning skills in a wide range of classes in primary school.

Even for the youngest pupils at primary school, a comparable programme named *Talk Box lessons* contributes to their development (Littleton et al., 2005). Leseman, Rollenberg and Rispens (2001) also find that peer interactions during play may include higher-demanding verbal actions that are associated with young pupils' co-construction of knowledge. This indicates that young children also interact together at moments when no concrete task is given. These peer interactions can be characterised by longer silences, less overlap in speech and more topic shifts (Berenst & Mazeland, 2000) in comparison with regular interactions between adults. Whenever children run into a difference in motives, perspectives, or opinions, they are able to resolve these conflicts (Berenst & Mazeland, 2000; Danby & Baker, 1998). This illustrates that children are able to interact in an active and argumentative way even at a young age.

1.4. Tracing learning in interaction. An analysis of shared reading of picture books at kindergarten

As illustrated above, shared reading is a common activity for participation in challenging interactions. The activity of shared reading of picture books seems to be a very valuable method to create a setting in which children can interact with each other and with the teacher. Active participation in this activity is expected to contribute to pupils' joint construction of knowledge.

This has been the starting point of the PIcture Books and COncept Development (PICO) project, a cooperation between the Freudenthal Institute Utrecht, the University of Tilburg and the University of Groningen that started in 2005. This project departed from a sociocultural perspective and assumed that talking about concepts in picture books would contribute to the knowledge development of pupils. This hypothesis was confirmed by testing pupils' understanding of concepts before and after participating in an interactive longitudinal shared reading programme. With three quasi-experimental studies, the PICO-project successfully showed that shared reading interactions with a focus on respectively mathematical, literary and social-emotional themes affect children's conceptual development (Kwant, 2011; Van den Heuvel-Panhuizen et al., 2009; Van der Pol, 2010).

The current project started in 2008 and takes a closer look at the interactional characteristics of (participation in) shared reading interactions. Studying how pupils participate in these kinds of interactions contributes to our understanding of children's *learning processes* and *opportunities for learning*. With a close investigation of their interactions, this thesis moves beyond a general characterisation of interaction and points at specific aspects of interaction which benefit children's development. However, this thesis does not aim to pinpoint the child's individual development. Instead, it aims to describe the organisation and structure of interactions that make knowledge publicly available. As such, it describes the grounds for learning without explicitly claiming that individual children learned something.

1.4.1. General design and research question

The current project thus followes upon the PICO-project which effectively showed the effects of interaction on learning during shared reading but that did not study the productive interactional features of these interactions. So, the PICO-project could not account precisely for what factors contributed to these developmental effects. By presupposing that interaction affects pupils' test outcomes, the interactional features that cause these improvements were not studied in great detail. Therefore, the current project takes the interactions during shared reading and its relation to learning as a starting point. A selection of the books (appendix A) from the PICO-corpus and the accompanying shared reading instructions developed by PICO-members are used to stimulate interactions in a longitudinal shared reading programme of three months.

The PICO-project selected picture books on the basis of their topical orientation within either a literary, social-emotional or mathematical domain. Concepts that played a central role are for instance 'numbers and counting' and 'perspective' for the mathematical concept development, 'irony' and 'fictive characters' for the literary competence and 'specific emotions' and 'social behaviour' for the social-emotional development. Shared reading instructions are specifically formulated to stimulate discussions about the content of the books.

These instructions are developed to focus teachers and pupils on the most important concepts and events of the picture books that fit the conceptual domain. They include suggestions to start talking about these concepts and events. Teachers are encouraged to ask challenging questions, such as questions for explanations, predictions, exemplifications and opinions. In addition, teachers are asked to use other initiating techniques. They are for instance encouraged to provide a challenging statement or opinion to which their pupils could respond. More information

about the development of these instructions is available in the doctoral theses of Coosje van der Pol (2010) and Aletta Kwant (2011). An example of the format of the shared reading instructions as used in the current project is given in appendix B.

The instructions established a comparable set of shared reading interactions amongst the teachers participating in the project. By describing the shared reading interactions pupils participate in, this thesis adds to an understanding of the opportunities for the co-construction of knowledge in interaction. The analyses focus on how interactional learning as a situated practice takes place during shared reading sessions at kindergarten. The overarching research question is: *How do shared reading interactions contribute to pupils' knowledge construction?*

1.4.2. Data collection and corpus

To answer the above-mentioned question, 36 shared reading sessions are analysed in detail. These shared reading sessions are videotaped at three Dutch kindergartens from the northern part of the Netherlands. All kindergarten classes are combined classes with around 20 children aged 4- to 6-year. The teachers of these classes volunteered to participate in a longitudinal shared reading programme and all parents gave informed consent to the study. The three kindergartens are called *Frog*, *Duck* and *Rabbit*, based on book characters of Max Velthuijs' *Kikker (Frog)-serie*.

The teachers are asked to read two selected picture books a week to the entire class for a period of 12 weeks. These two books complement teacher's regular shared reading activities. Teachers are only allowed to read these books once without conducting other activities with the books. After the shared reading activity, the books remain available for the pupils during moments of 'individual reading'. The books are recognisable for the pupils as being different from their regular shared reading activities because they are labeled as *Bert-books* named for the Sesame Street character that is displayed on a sticker which is placed on every book in the project. This image is also used to indicate the shared reading activity in the classes' daily schedules. An example of this can be seen in picture 1.

Figure 1. *The shared reading activity in the daily schedule*

The shared reading activity is also recognisable for the pupils because of the slightly different set up. During the shared reading and accompanying interactions, the picture books are displayed on a book stand. This allows pupils to have continuous sight of the pictures while the teacher reads the book text and the supplementary shared reading instructions from a separate paper. A picture of this scene is given in figure 2.

Figure 2. *Picture of the shared reading scene*

In every class, two developmental domains are touched upon. This means that two teachers read the same books. How the books are distributed amongst the teachers is presented in table 1.

	Week 1-6	**Week 7-12**
Frog	Social-emotional domain	Literary domain
Duck	Social-emotional domain	Mathematical domain
Rabbit	Mathematical domain	Literary domain

Table 1. *Distribution of books amongst the teachers*

One out of the two shared reading sessions is videotaped in each class weekly. For the video recordings, two cameras are used which videotape the teacher and children from two different angles of the circle. The teachers wear an external microphone. The complete database thus consists of 12 shared reading sessions per class (36 sessions, ± 18 hours in total).

The database is transcribed in cooperation with a team of trained student assistants. This is done according to Jeffersonian transcription conventions in Conversation Analysis (Jefferson, 1984, see appendix C) by means of the transcription software Transana (Fassnacht & Woods, 2004). The transcribed data are analysed according to a Conversation Analytic methodology (e.g. Ten Have, 2007) in order to gain insight in children's learning in interaction.

1.4.3. Methodology

Conversation Analysis (CA) as a methodology is developed in the early 1960s by Harvey Sacks and his collaborators such as Emanuel Schegloff and Gail Jefferson to study "the details of the actual practices of people in interaction" (Ten Have, 2007, p. 6). The possibilities of recording interactions enabled them to repeatedly look at the data to get insight in the interactional details. To do so, they developed an extensive system of transcription (Jefferson, 1984).

Conversation Analysis studies naturally occurring conversation, wether 'regular' or institutionalised. The aim of studying these interactions is "to discover how participants understand and respond to one another in their turns at talk, with a central focus being on how '*sequences* of actions' are generated" (Hutchby & Wooffit, 1998, p. 14). By studying participants' sequential moves, we gain insight into their understanding of the ongoing event, as well as in their contributions to the same event by their own actions. This *next-turn-proof procedure* ensures that "analyses explicate the orderly properties of talk as oriented-to accomplishment of participants, rather than being based merely on the assumptions of the analyst" (Hutchby & Wooffit, 1998, p. 15).

In interaction, participants also display their orientation to the settings and tasks they participate in. This differentiates institutional talk from 'ordinary conversations' (Heritage, 2005). The interest lies within studying specific institutional activities, the specific interactional situation and its local, interactional requirements, and participants' orientation to these situations and requirements (Ten Have, 2007, p. 8).

In the current project, CA is used to study interactions within the institutional setting of kindergarten where we focus on a close investigation of a specific *type* of interactions, occasioned by the activity that children are participating in (Levinson, 1992). By means of CA, insight is gained in pupils' understanding of the activity within this particular setting and their understanding of the talk-in-interaction within the shared reading activity.

CA is a suitable methodology to study children's growing understanding or learning in interaction. This methodology extends more general based discourse studies because of the attention to interactional details that can be of great importance for children's development. Only by functioning in the sequential structures of the classroom can this be expected to contribute to pupils' knowledge development (Macbeth, 2003; 2011). Studying these structures may therefore contribute to the insights in knowledge development. There is a growing number of CA studies focusing on these underlying understandings which have already contributed to our insights in participants' development (e.g. Brouwer & Wagner, 2004; Melander & Sahlström, 2008; 2009; Mondada & Pekarek Doehler, 2004; Vine, 2003). The current study aims to contribute to this current strand of research in which learning is seen as anchored in and configured through social practices.

1.5. Outline of the thesis

Besides this chapter, the second and the final conclusive chapter, all chapters in this thesis are based on papers that are submitted for publication and can therefore also be read separately. All of the chapters are concerned with detailed analyses of interactions. The second chapter reviews the work done so far with respect to interaction and learning. This chapter concludes with suggestions for

future research within this field. It is stressed that we should study learning in greater detail and over time to gain a better insight into learning processes of participants in interaction.

Chapter 3 shows the different participation frameworks pupils may participate in during shared reading interactions. Besides a more traditional, instructional framework, it will be sketched how shared reading interactions also offer room for participation in a more or less free discussion. This case-study demonstrates how teacher and pupils participate in these two intertwining frameworks and how this supports pupils' growing understanding of book content.

The fourth and fifth chapter zoom in on these interactions during shared reading in which there is room for participation in forms of analytical talk. As elaborated upon before, practicing these forms of talk is expected to assist children in deriving meaning from texts. By analyses of the sequential details of such forms of talk, these chapters contribute to our insight in children's development. Chapter 4 illustrates the interactional structure of *explanatory interactions*, while chapter 5 reports on *problem-solving interactions* during shared reading. These chapters show how these interactions get established within the shared reading activity. This contributes to our awareness of the possibilities of shared reading interactions for the co-construction of knowledge.

Chapter 6 shows pupils' construction of knowledge by studying learning over time in shared reading. By the analyses of recurrent discussions of the same topic in single shared reading sessions, pupils' growing understanding of these topics is shown. These sets of interactions display the gradual development of understanding, as well as the application of already obtained knowledge. This chapter illustrates that close analyses of shared reading interactions indeed trace learning in discourse, as was suggested in the second, theoretical chapter of this thesis.

The final chapter draws conclusions and discusses theoretical and practical implications of the findings. The results of the different chapters are summarised, integrated and reflected upon. In addition, the relevance of the study is addressed and suggestions for future research are done.

Chapter 2

Tracing learning in discourse:
a discussion

Abstract

This theoretical chapter makes a plea for detailed interactional research to gain a clear understanding of learning processes. It will be specified that there is yet a whole amount of studies that prove that interaction plays a crucial role for learning. But so far, the exact role interaction plays in the construction of knowledge stays underexposed. Up to now interactional research with a sociocultural perspective on education primarily focused on test outcomes and on pedagogical instructions on how to establish discourse that encourages learning. These studies are invaluable in establishing the relationship between discourse and learning, but leave room for closer investigation of the specific characteristics of interaction that promote learning. A discussion of some valuable examples shows that concentrating on interactional details gives a closer insight into the learning *processes*. Therefore, it is recommended to investigate educational interactions in detail to understand the workings of learning.

2.1. Introduction

There is a growing amount of interactional research with a sociocultural perspective on education. This chapter discusses the work done so far. The research that is taken into account looks at interaction in relation to learning and studies the relevance of interaction for the learning process. Especially, participation in challenging forms of discourse is found to be interrelated with a child's conceptual learning and knowledge development. However, as will be pointed out, studies on the realisation and the effects of these forms of discourse prevail, while studying interaction in further detail might reveal more on learning processes and the role language plays in this. This chapter will therefore conclude with suggestions for research that includes detailed analyses of local interactions and interactional trajectories.

2.2. Sociocultural perspectives on learning

Learning and instruction in education have been viewed from an acquisition-oriented perspective for a long time. Within this view, knowledge is supposed to be processed in the individual mind, without relation to the context as summarised by Paavola and Hakkarainen (2005). In recent decades we have seen the increasing development of more sociocultural perspectives that describe learning as participation in cultural practices (e.g. Lave & Wenger, 1991; Rogoff, 1990; Wenger 1998). According to Sfard (1998), who uses the *acquisition* and *participation metaphor*, a shift is visible from discussion about (knowledge) states to more attention being given to (learning) activities.

A sociocultural perspective on learning assumes that context and environment are essential for learning and development. Learning is seen as an interactive process. This perspective was first expressed by Vygotsky (e.g. Vygotsky, 1978), who claimed that this intermental (social) activity promotes intramental (individual) development. This view is widely acknowledged by researchers who see learning as taking place by participating in a cultural community, in which learning might happen more or less incidentally.

Within this perspective, knowledge is constructed in exchange and in collaboration with other members of the same community. The members have to vary in skill and status, so learning can take place through *guided participation* (Rogoff, 1990; 2003). This is based on Vygotsky's *Zone of Proximal Development (ZPD)* that is described as the difference between what a child is able to do on its own and what a child can do with help of a more experienced member (e.g. Vygotsky, 1986).

It is assumed that a more experienced member and a less skilled participant co-construct the interaction, whereby the latter participant gradually develops the ability to do or say things without help. This process could more specifically be described as *scaffolding*: an adult controls the elements of interaction that are too difficult for a child so that the child can concentrate on elements that are within his range of competence (Wood, Bruner & Ross, 1976). *Scaffolding* in a broader sense points at strategies of adults (or more capable peers) to help learners accomplish a task they could not have done alone.

In the case of adult-child interactions, adult and child co-construct the interaction, while the adult adjusts the level of support to the child's current performance in interaction. Caregivers,

for instance, adapt the complexity of their language to the linguistic level of the child, which Snow (1995) refers to as *fine-tuning*. Helping children to become more adept at using language, helps them to express their thoughts and to engage with others in co-constructions of knowledge (Hardman, 2008).

However, forms of *apprenticeship learning* are not solely applicable to adult-child interactions and to language development. It has become more widely known through the concept *community of practice* described by Lave and Wenger (1991). If novices participate in communities of practice they follow experts in becoming full members of the community of practice. Their learning can be seen as the development over time of ways of participating from 'peripheral' to 'full' and is therefore described as *legitimate peripheral action*.

One can participate in activities and corresponding interactions that are established in a certain community of people with a similar learning history (Wenger, 1998). This indicates that communities of practice are everywhere and are available for people from all ages. For instance, Wenger, McDermott and Snyder (2002) examined the ways novices and experts participate in communities at work, at school, at home and in hobbies. This chapter, however, focuses on the educational communities of practice in particular, as for example explicitly described by Brown (2007).

2.3. Participation in interaction and the development of knowledge

By entering school, children become novices in this community of practice. This learning environment differs from the home environment because of the curricular subjects and the situation in which one expert, the teacher, interacts with a group of novices at the same time (in contrast to home where just one or a couple of children learn to participate in more everyday activities). Children are expected to learn to participate in this community and the accompanying 'school discourse'. In addition, children are expected to make gradual steps in the development of curricular subject knowledge. Since "knowledge is shared amongst members of communities; and people construct understandings jointly" (Rojas-Drummond & Mercer, 2003, p. 100), participation in school communities and in the accompanying discourse is of great importance for the development and understanding of children.

Initially, children learn to participate in the community of the classroom and the corresponding procedural, sequential structures. These kinds of 'prior understandings' of interactional structures are of interest because these show how novices are able to participate in their lessons, without yet having the accompanying curricular subject knowledge (Macbeth, 2003). Learning to participate in basic interactional structures in the classroom therefore seems to be conditional relevant for further understandings. As Pekarek Doehler underlines, "learning a specific content or activity inevitably involves learning to deal with the social situation in which that content or activity is being deployed" (2002, p. 22).

Macbeth describes these 'prior understandings' as, "the understandings that organize the sequential production and coherence of instructing occasions" and underlines that these

understandings underwrite, "understanding in matters of education as outcomes" (2011, p. 4). Learning to function within typical classroom structures is thus found to be necessary for pupils to make the subject content visible and to get access to knowledge (Macbeth, 2003).

Besides learning to participate in basic interactional structures, classrooms are found to be very suitable for participation in more challenging discourse offering children greater and extended participation opportunities. This becomes especially important as the learning demands increase and children are expected to be involved in more in depth learning of subject matter knowledge (Scott & Amettler, 2007).

The notion of learning by participating in more challenging or demanding discourse is not new. According to Barnes (1976), learning at school is not just about increasing children's knowledge via the input of the teacher. In addition, children should be given the chance to *use* the 'school knowledge' as presented by the teacher. Only then children incorporate the knowledge into their view of the world and as such it can become 'action knowledge' (Barnes, 1976, p. 81).

Mercer (1995) introduces the term *educated discourse* (in contrast to *educational discourse* that includes the ways children learn to take part in the earlier mentioned conventional exchanges of teaching-and-learning discourse) to focus on how pupils learn to use language to think and communicate. Educated discourse can be seen as discourse that challenges children to use language for reasoning and discussing. If pupils get the chance to actively refine their existing knowledge or to try out new ideas, this establishes a more equal participation pattern for teacher and pupils. This is considered to be pedagogical effective (Tabak & Baumgartner, 2004) and is expected to contribute to children's (subject) knowledge and development. When children learn to use talk for learning, this is found to lead to better learning and understanding, as for instance shown with regard to science education by Mercer, Dawes, Wegerif and Sams (2004).

Brown (2007) describes teaching as a partnership in which regular opportunities are provided for pupils to participate in collaborative learning activities. Teachers and pupils can work together to build new knowledge and understanding (Paavola & Hakkarainen, 2005). Sociocultural researchers advocate for this kind of collective meaning-making, "with the appreciation and elaboration of diverse expertise and interpretations during classroom interaction" (cf Kovalainen & Kumpulainen, 2005, p. 216). This could take place in the presence of a teacher, but also in interactions between peers. With regard to peer interactions, Mercer (1995) describes, following Barnes original characterisation (1976), *Exploratory talk* as stimulating discourse because children use their own and each others ideas.

When children get the opportunity to express their diverse knowledge and ideas, they get the chance to test their own knowledge and expertise with that of fellow pupils and the teacher. This testing and reflecting of ideas might lead to development of curricular knowledge. With guidance of the expert (mostly the teacher) children might clarify and revise their original understandings of subject matter. The clarification or revision that might take place is often referred to as *conceptual change* (as for example elaborated on by Vosniadou, 2007).

The following elaborates on research that shows that these forms of discourse are indeed found to have a positive impact on children's knowledge and development. Subsequently, studies are discussed that show how forms of educated discourse can be established.

2.3.1. Educated discourse and its learning effects

Studies that look at educated discourse and its learning effects generally focus on two interrelated effects. At first, children are tested on their collective and individual reasoning capabilities. These are expected to predict other, more substantive effects on children's (curricular) knowledge and development. In some studies, this second sort of content-effects is also tested to confirm this expected knowledge growth. Other studies just assume that improved reasoning capabilities will lead to conceptual improvement not only in the research situation but also in prospective, new situations. The underlying assumption here is that once children know how to reason (together), this will help them by the (later) development of subject curricular knowledge.

The best examples of studies exploring the learning effects of educated discourse on children's knowledge and development are given by Mercer and colleagues (e.g. Littleton et al., 2005; Mercer & Littleton, 2007). They investigate how effective group work can be stimulated by set-up activities and guidance of the teacher. Their so-called *Thinking Together programmes* are supposed to establish a different environment for talk in the classroom with room for active participation of children. Here, the activities are introduced during whole-class interaction. Alternately, children work together more actively in peer groups, in which the teacher takes a back seat role by observing and only intervening or assisting the peer interactions, when necessary. During this programme teacher-child and peer interactions are observed, but children in control and target schools (that took part in the Thinking Together programmes) are also tested before and afterwards, to get insight in the success of the projects.

By use of a measurement instrument for non-verbal reasoning (*Raven's Progressive Matrices*), Mercer and colleagues found that for 8- to 14-year old pupils, the Thinking Together project improved children's individual reasoning capabilities. They also observed that the Thinking Together programme has a positive impact on children's collective problem-solving capabilities and on their awareness of the possibilities of language use as a tool for reasoning (Mercer & Littleton, 2007).

Two other programmes that aim to improve children's reasoning capabilities and thinking skills are *the Philosophy for Children (P4C) program* and *Collaborative Reasoning (CR)* studies. In the P4C programme, children learn to act as a community of enquiry. Trickey and Topping (2004) evaluate ten of those studies that all found positive indications of improvement in thinking and reasoning. CR encourages more engagement of elementary school children by use of so-called 'big questions' that stimulate group discussions on controversial issues raised in their readings (e.g. Reznitskaya et al., 2009).

By use of the CR programme it is found "that giving students greater control over interpretation, turn taking, and topic may generally enhance engagement and elicit a higher rate of using beneficial cognitive processes" (Chinn, Anderson & Waggoner, 2001, p. 408). In the course of a CR programme pupils "gradually begin to challenge each other's ideas respectfully and with less teacher direction" (Clark et al., 2003, p. 186). This indicates that children improved their collective reasoning capabilities. In addition, CR programmes are also found to help pupils internalise argumentative skills and to transform them to new situations and challenges, as tested in an individual writing task (Reznitskaya et al., 2009). So, children also develop their individual reasoning

skills and seem to be able to use these skills in new situations. This supports the above-mentioned assumption that there is an interrelationship between developed reasoning capabilities and development of knowledge in a later stadium.

The above-mentioned studies mainly illustrate improvements in reasoning skills. Although this is thought to be a developmental learning effect in itself, development of individual and collective reasoning skills is also thought to lead to improvement of curricular knowledge. The developed reasoning skills are supposed to improve children's abilities to compare and develop ideas about subject matters.

Curricular improvement has been shown by several studies that measured cognitive gains. For instance, children that took part in Thinking Together programmes were not only tested concerning reasoning skills, but also concerning their math and science attainments. These tests pointed at an improvement of mathematical and scientific knowledge. Asterhan and Schwarz (2009) also show that peer discussions establish conceptual understanding, in their case, on the topic of natural selection. More specifically, they have shown that target groups that used argumentative dialogue, in contrast with control groups that were asked to collaborate only without the specific instruction to engage in critical discussions, showed superior conceptual understanding in post and delayed post tests.

That pupils are able to incorporate ideas of others, brought up in discussions, in their own reasoning is shown by Jadallah et al. (2010). They show that children internalise ideas and explanations brought up during CR group discussions and that they transfer this knowledge to the final discussion and to their individual writing tasks afterwards. Howe (2009) finds similar results for 8- to 12-year olds who showed conceptual growth in post tests.

However, she finds a difference in effects measured in immediate and delayed post tests that can be attributed to whether or not children achieved agreement during their group discussions. She finds that contradictions in discussions do not have to be resolved to get positive test results. Her study reveals conceptual growth in delayed post tests when children participate in discussions in which contradictions were brought to light without reaching consensus about it. However, children are found to perform better on immediate post tests, when joint construction is established in agreement during group work.

This indicates that children who reach agreement during discussions can reproduce this acquired knowledge immediately, while unresolved contradictions affect conceptual growth on the longer term. This might also point at development of individual reasoning capabilities because children seem to finish the reasoning about contradictory issues on their own in the time between the discussion and the delayed post test. So, although children might not have overcome their eventual misconceptions, they seem to be able to use language for thinking and by doing so seem to be able to make steps towards potential conceptual change.

The above-mentioned studies show that participation in educated discourse has a positive impact on children's reasoning capabilities and on their (later) curricular subject knowledge. The focus for these studies is on children of 8 years and older. However, one might expect that when young children learn to participate in forms of educated discourse, this could be beneficial for the

development of their argumentative and reasoning skills and (in a later stadium) on their development of subject curricular knowledge.

There are some studies that explore the development of participation in educated discourse for younger children. This might be somewhat surprising because participation in educated discourse might seem too complicated for younger children, as they are not used to collaboratively solve a task or to use argumentative discourse. However, the few studies that focus on novices at school show promising results.

That young children seem to be able to function within educated discourse is for example shown by Trickey and Topping (2004). Their, earlier mentioned, review of Philosophy for Children programmes explores studies with pupils from 5 years onwards and shows positive effects on reasoning. Littleton et al. (2005) also developed so-called *Talk Box lessons* for children in the age range of 5 to 7 in addition to the Thinking Together lessons for older children. This study confirms that children are able to interact in an active and argumentative way even at a young age. Furthermore, their language and reasoning skills improved as well (Mercer & Littleton, 2007, p. 101).

In addition, young children seem to be able to have a discussion about quite complex 'subject matters'. For instance, Segal (1997) or Tatsis, Kafoussi and Skoumpourdi (2008) show that children of respectively 6-8 and 5 years old seem to be able to express their ideas about relatively complex issues (the conceptual area 'light' and the fairness of games) and seem to be stimulated into considering or even adopting different ideas or conceptions. These studies demonstrate that young children are already able to talk and reason about quite complex issues. This might be beneficial for their (mathematical or scientific) conceptual development.

2.3.2. Establishment and characteristics of educated discourse

Following the positive results of educated discourse on children's knowledge and development, there are many studies with a focus on the establishment and the characteristics of these forms of promising discourse. The effect studies described above all incorporate whole-class and peer interactions, but the effects that are measured are almost all attributed to discussions within the peer group. The whole-class interactions are often set up to introduce or evaluate effective peer interactions. However, studies that focus on the establishment of challenging forms of discourse also focus on the opening up of whole-classroom interactions for extended pupil participation.

It is found that the common *Initiation-Response-Feedback (IRF)* structure (Sinclair & Coulthard, 1975), in which pupils participate by giving short responses, in whole-class interactions may become extended to interactional formats that establish a more challenging discourse. 'Within' the triadic dialogue, teachers can establish more equal interactions by means of both the initiation move and by the feedback moves after pupils' responses.

As for example Tabak and Baumgartner (2004) show, teachers expand the structure of the triadic dialogue by different use of the feedback position. It is found to be crucial for the establishment of joint thinking how teachers respond to contributions of pupils (Barnes, 2008). By taking seriously what pupils say and by building further on this, "teachers are key to creating classroom situations where pupils become engaged in challenging issues and interesting topics" (Nystrand & Gamoran, 1991, p. 275).

For instance, Nassaji and Wells (2000) demonstrate that evaluations of pupil responses tend to suppress extended participation. In line with this, Oliveira, Sadler & Suslak (2007) show that avoiding explicit evaluations helps pupils to articulate and structure their own ideas without validation of the teacher's authority. So, teachers can guide question-answer sequences to a more equal participation in interaction by avoiding evaluations and by requesting for justifications, connections or counter-arguments instead. Wells and Arauz (2006) also show that when teachers are instructed to use follow-up moves that do not evaluate the response, but ask for elaboration of the response, this leads to an increase of dialogic discourse.

A possible move teachers could use is what O'Connor and Michaels (1996) call *revoicing*. Here, by rephrasing or repeating (part of) the response of a pupil, which opens up a new slot for the pupil, an equal pattern is established, in which pupils are seen as thinkers instead of 'reciters'. If others are invited to expand a response, other pupils may come up with exemplifications, explanations or counter-arguments in a constructive way.

The use of non-evaluative feedback moves makes pupils aware that learning is about the *construction* of knowledge instead of the *demonstration* of knowledge only. Moves like these, create an environment in which pupils can take part in problem solving itself (Sharpe, 2008) and it shows them that learning has to do with "analysis and the extension of ideas" (Tabak & Baumgartner, 2004, p. 398).

Scott and Amettler add to this that "teachers should not only have expert knowledge of the concept, but should also have insight into the kinds of everyday knowledge that pupils might bring into the classroom and know how to respond to those existing ideas" (2007, p. 82). Sohmer, Michaels, O'Connor and Resnick describe the teacher's role as a coach, who helps pupils "to explicate, clarify and sharpen their theories" and supports "others in the group to understand, critique and improve the presenter's explanation" (2009, p. 115).

The use of questions that do not have already known and evaluable answer(s) and in which the goal is to arrive at consensus after negotiating about it, also stimulates more equal participation in dialogue and more space for constructive discussions. Nystrand and Gamoran (1991) for instance, argue that authentic questions concerning challenging issues and interesting topics open the floor for pupils for trying out own ideas.

Alongside the use of questions, teachers might also use other techniques in the initiative position that are challenging or stimulating for pupils. As shown by Clark et al. (2003) for instance, teachers challenge pupils by thinking out loud and as such raise (alternative) points of view. Additionally, teachers might use "low control moves like telling, speculating, acknowledging or suggesting" (cf Sharpe, 2008, p. 140). These alternative conversational procedures may open the floor for children to react more freely.

Teachers may not only be of influence on educated discourse within whole classroom interactions, but may also stimulate qualitative discourse between peers. Within these peer group activities, the teacher plays a minor role compared to whole-class interactions. Pupils are expected to work together, while the teacher is available in the background after introducing the activity in class. By observing the groups, teachers should avoid taking over or staying involved for too long

(Mercer & Littleton, 2007, p. 75). However, the teacher may briefly intervene to bring the interaction to a higher level.

Teachers can also encourage children to use forms of discussion by organising classroom activities. By employing materials and activities that ask for cooperation, teachers can stimulate collaborative interactions beforehand (Girolametto & Weitzman, 2007). Especially when situations with a challenging issue or problem as a starting point are created, opportunities for collaborative reasoning are established. In line with this, Engle and Conant indicate that "students should problematise intellectual problems, should be given authority in addressing these problems, should be made accountable for their work and should get access to resources to establish all this" (2002, p. 400-401). Mercer also stresses the importance of the design of activities that encourage co-operation instead of competition. Besides that, he indicates that teachers should encourage that children "must have to talk to do the task" (Mercer, 1996, p. 363).

Besides this, teachers may assert influence by means of personal arrangements. For example, they can strive to create a good atmosphere in which children can trust each other, since a link has been established between the success of qualitative interactions and the quality of relationships between partners as they interact and work together (Mercer & Littleton, 2007). Additionally, teachers might influence the peer interactions through careful arrangement of the groups. When pupils are arranged in peer groups that consist of children with different initial ideas, this is found to exhibit a greater conceptual change, as described by Williams and Tolmie (2000).

Teachers could also explicitly focus children on effective group work. This seems to be necessary because Mercer and Littleton (2007) summarise observational studies that have looked at group work in primary schools and showed that talk accompanying regular group work is often not as effective as it could be. According to them, children are often found to work *in* groups, but not *as* groups and to interact but not 'interthink' (Mercer & Littleton, 2007, p. 57). This indicates that pupils should have a "good, shared understanding of the point and purpose of the activity" (Mercer, 1996, p. 363) and that they should be made aware that it is not about winning or losing a debate, but about preserving a productive and constructive atmosphere of collaborative problem-solving (Asterhan & Schwarz, 2009).

Much is written on how to establish peer interactions that are thought to contribute to the development of pupils. However, these studies do not reveal in detail which interactional practices are typical for effective group work. Although, for instance, Mercer and Littleton (2007) differentiate between effective *Exploratory talk* and less effective *Disputational* and *Cumulative talk*, this stays restricted to a more general description of the three part typology.

They for example characterise *Disputational talk* by disagreement and individualised decision making and *Cumulative talk* as a type of talk where speakers build positively, but uncritically on what others have said. These typologies are taken up as an adequate way to describe pupils' interaction, as for example shown by Sewell (2011). Although these characterisations are often accompanied by examples, this does not give insight in the more precise details of the different sorts of talk. Mercer and Littleton indicate that "it is hard to see what value a much more complex differentiation would offer" (2007, p. 63). On the contrary, we would argue that it is worth while to analyse the characteristics of Exploratory talk and educated discourse in more detail. In the

following, we will demonstrate more elaborately why we think this is an important area for consideration.

2.4. Studying discourse in greater detail

So far, this chapter discussed studies that illustrate the relationship between participation in interaction and children's development. The discussion of studies confirmed the importance of dialogue for learning. In the remainder of this chapter, it will be argued that the above-mentioned studies should be supplemented by studies that investigate interaction in closer detail to unravel learning.

It has been shown that focusing on interactions reveals important information on learning. As far back as 1995, Mercer started with paraphrasing discursive practices in education that were found to be linked to the (guided) construction of knowledge. He, for instance, described the three above-mentioned general ways pupils talk and think together. These characterisations are found to function very well as a tool in describing peer interaction as more or less efficient. However, in order to gain an insight into what really makes *Exploratory talk* the most efficient interaction of the three and how this relates to the construction of knowledge, we advocate that the interaction needs to be studied in more detail. This implies going beyond the characterisation of peer interaction as one form of talk or the other. By examining classroom interactions in greater depth and by describing exactly what happens in discourse that is found to be constructive for knowledge development, a closer insight in learning processes can be gained.

In classroom research, a common chosen focus on test outcomes might cloud these insights in learning processes. Although in general, the descriptions of discourse are supported by positive test results showing that children improve by taking part in educated dialogues, there is a risk of losing understanding of the learning processes while focusing on outcomes. In these studies, the learning processes are just assumed to take place in between the two test moments. These processes that bring about the positive changes found in test results are not actually portrayed and therefore stay underexposed.

For instance, Furberg and Arnseth (2009) mention that assignments, tests or interviews that should uncover pupils' understanding of (in their case) genetics do not show everything in this respect. They problematise the use of assessments because it "black boxes the processes of conceptual change as these are realised through specific actions within specific situations" (Furberg & Arnseth, 2009, p. 158). By focusing on assignments, tests or interviews only, these contextual, interactional processes are not taken into account, while it would be interesting to know what exactly causes positive learning outcomes that are found in these assessments.

This is why Lyle suggests that "research into pupil outcomes [...] must be qualified by detailed analysis of actual discourse to further understand how talk can be used to promote meaning-making" (Lyle, 2008, p. 237). That detailed analysis of language use indeed complements the investigation of language as a tool in the learning process has been elaborated on by Vine (2008). She combines a detailed Conversation Analytic approach with a sociocultural perspective on learning in analysing interactions of a 5-year old boy and his teacher. By means of these detailed

analyses, she illustrates that a combination of the two points of view is needed to understand classroom interaction and its implications for learning.

So, the work done so far is invaluable, but should be extended with more detailed analyses of actual interactions. The following, will explore Conversation Analytic (CA) studies focusing on the interactional details of knowledge construction. These studies can be categorised in studies zooming in at the participation of learners in local interactions and in studies with a focus on longer interactional trajectories.

2.4.1. Studying learning in interaction

Especially in the last decade, quite a number of valuable studies investigating learning from a detailed interactional point of view have been published. Almost without exception, these papers use a CA methodology to study learning as occurring in interaction. By their sequential analyses, these studies display learning opportunities that are created locally. Generally, these studies focus on either the learning of a second or foreign language or on the learning of content.

Studies zooming in on learning a second or foreign language do so by describing how language learners get and make use of opportunities to participate in interactions that might contribute to their development. By doing so, these studies give insight in the 'potentials for language learning' (Hellerman & Pekarek Doehler, 2010). By describing how language learners shape their own learning experiences in interaction, these studies directly display the practice of learning a language.

Generally, these studies focus on one specific interactional practice. These practices might be specific language acquisition activities, such as word searches (Brouwer, 2003) and the planning and performance on language learning tasks (Hellermann & Pekarek Doehler, 2010; Mori, 2002; Pochon-Berger, 2011). Additionally, learning opportunities are described in a more general sequential way. For instance, by investigating the principles of turn design (Lerner, 1995), the workings of IRF-sequences in language learning interaction (Waring, 2008; 2009) and the characteristics of learner initiatives (Waring, 2011) it is displayed how language learners get and make use of opportunities for development.

Research has also been done into specific interactional practices that offer opportunities for learning in a more general sense in addition to interactional practices that are specifically related to the learning of a language. Zemel and Koschmann (2011), Szymanski (2003) and Margutti (2006; 2010) for instance show how a close analysis of question-answer activities in interaction provides insight in the activity of learning (Szymanski, 2003) or in the activity of instructing and being instructed (Margutti, 2010, p. 344) in regular classroom practices.

Additionally, there are studies focusing on the learning of content in educational settings. These settings range from typical classroom settings to instructional settings with for example medical students or junior physicists acquiring their professional skills. In all cases, learners amongst themselves or accompanied by their teachers are concerned with getting a grip on that what they are learning. The studies addressing this process generally describe it in terms of understanding.

These studies investigate how learners display their understanding in interaction, which gives direct insight in their learning processes. This is done quite explicitly by studying learners' use

of 'understand' (Lindwall & Lymer, 2011) or by investigating pupils claims or displays of understanding or knowing (Koole, 2010). On the other hand, there are studies that more implicitly investigate how pupils reach understanding of content during interaction. Roschelle (1992) and Koschmann and Zemel (2009) for instance investigate 'discoveries' in interaction by looking at groups working together on solving a task.

All above-mentioned studies show that studying how exactly learners participate in challenging interactions that may accomplish learning provides deeper insight in pupils' learning processes. By zooming in on specific interactional practices and the display of developing understanding, these learning processes become visible. The focus on learning *processes* plays an even more central role in these studies that zoom in on longer interactional trajectories, as will be illustrated below.

2.4.2. Studying interactional trajectories that reveal learning

Besides the above-mentioned studies that investigate learning in interaction locally, there is a growing amount of studies focusing on recurring interactions that show the processes of learning and growing understanding of the subject matter. These studies take interactions as a starting point and focus on what interactional trajectories might reveal about learning. As such, these studies try to display learning in the changes that become visible over time.

The call for studying interactional trajectories over time is not new. Mercer has already revealed: "As learning is a process that happens over time, and learning is mediated through dialogue, we need to study dialogue over time to understand how learning happens and why certain learning outcomes result" (2008, p. 35). In line with this point of view, several studies investigate recurring interactions in more detail.

Primarily, there are again studies that focus on learning a (second) language. For instance, Wootton (1997), Brouwer and Wagner (2004) and Mondada and Pekarek Doehler (2004) show that language learning can be traced in studying succeeding natural and similar interactions. Wootton shows changes over time in a 2-year old first language learner's ability to make requests. By focusing on the same interactional practice of making requests, he captured learning of these practices as changing participation in conversational sequences. The two latter studies show how second or foreign language learners gradually acquire the practices to participate in a specific activity or task. By describing changes over time in a collection of developmental data, they also get insight in the process of second language learners who become members of communities of practice. According to these studies, learning is situated in interactional practices and experiences in recurring interactions seem to be the key to display competence in a (second) language.

Secondly, studying comparable interactional practices is found to give insight in the learning of procedures or routines that are not always directly related to language learning. It has been shown that the understanding of procedures can be traced in recurring interactions. This might be related to language learning and the learning of school routines, like Vine (2003) shows by zooming in at recurring interactions of a 5-year old second language learner who learned to "work with a partner in class activities". Deunk, Berenst & de Glopper (2010) also elaborately show how

preschoolers learned the routine of closing craft assignments' over time by participating in succeeding craft assignments and in the accompanying interactional patterns.

In line with this are studies that focus on the learning of procedures or routines in a more unusual educational environment. Melander and Sahlström (2009), for instance, show how a student in the aviation academy learns to recover from unusual attitudes (deviant positions of airplane) within recurring flight lessons (in a simulator). The understanding of the procedure becomes visible in differences over time in her answers to questions of the teacher, both in speech and in embodied action (the recoveries it selves).

Comparable to this, Martin (2009) studied succeeding interactions in the physiotherapist practice and shows how a patient learned to identify and correct trouble in the performance of an exercise that should teach patients to re-stabilise their (injured) shoulder. In the long run, the patient displays, in interaction with the physiotherapist, that he could himself trace trouble in the realisation of the exercise. Additionally, he appears to be able to self-correct this physically, while at first the physiotherapist was the one who initiated (in interaction) and performed (other) repair (physically). So, in all cases, development of understanding of a procedure was traced in changes in talk and embodiment over time.

Thirdly are the studies with a focus on interactional trajectories that investigate topical changes in order to say something about the learning of content. For example, Melander and Sahlström (2008) take topic, in comparison with language or procedures, as a recurring issue, which makes interactions comparable. They illustrate this by showing how three 7-year old children return to one topic (the size of a blue whale) repeatedly over time in a book reading activity at school. The authors elaborately analyse how the children work together on the construction of a perception of the topic and how the knowledge and understanding of the topic evolve during the book reading activity. As such, they argue that these children learnt something by showing this in the interactional practices itself.

Reconsidering these three strands of research, we conclude that recurrence of comparable issues in language, procedure or content, might be a key to trace learning. Changes in participation in interactions in recurring (language learning) situations or changes in interactions about recurring procedures or topics might reveal something about understanding and knowledge construction.

2.5. Conclusion

This chapter focused at sociocultural perspectives on learning within education. Participation in cultural practices is found to be of crucial importance for the development of novices. In the case of educational settings, school-aged children learn, by talking with the more expert teacher and other pupils, to participate in the community of school. By doing so, they become familiar with different forms of discourse.

Children learn to participate in conventional exchanges of teaching-and-learning (educational) discourse which prepares them for their further school career. Besides this, children might be stimulated to participate in more challenging forms of educated discourse. If pupils are encouraged to participate actively in a more challenging discourse, more space for their own input is

created. Participation in these forms of educated discourse contributes to children's (collaborative) reasoning skills as well as to their deeper understanding of curriculum content.

Besides the effect of educated discourse on children's knowledge and development, this chapter outlined how educated discourse might be established in whole-classroom or peer interactions. Whole-classroom and peer interactions are distinguished, as teachers have a direct or an indirect influence by organising and guiding or witnessing the activities. By establishing rules that are supposed to contribute to effective and constructive interactions or by means of their questions or reactions, teachers can exert influence on the creation of a fruitful environment for joint knowledge construction.

So, the perspective that interactional practices are of influence on children's knowledge and development is not new. That learning takes place through dialogue has been the subject of this chapter from the introduction onwards. However, we have recommended detailed interactional investigation of these dialogues to gain a better and more direct insight into possible learning processes. We have discussed a range of promising examples that show the benefits of analysing interactions in more detail to investigate the development of understanding and knowledge on a smaller or larger, longitudinal scale.

Almost without exception, these studies made use of a Conversation Analytic (CA) methodology to study learning and development in interaction. The contribution of CA for educational research on learning has been explicitly discussed by earlier mentioned authors such as Sahlström (2009) and Pekarek Doehler (2010). As Sahlström summarises, "Conversation Analysis research can, and indeed does, provide for understandings of learning that allow scholarly discourse at a more general level, without having to lose sight of the inherently situated character of learning" (2009, p. 107).

In the discussed studies in this chapter, the situated character of learning ranged from non-educational settings to specific activities within educational settings. In their school career and beyond, pupils come across a whole range of different activities they learn to participate in and meet a great amount of subjects they develop knowledge about. To gain insight into these learning processes, we suggest studying the accompanying interactions. When this is studied from a detailed analytic perspective such as CA, this will contribute to our insight in the learning opportunities that are created locally and longitudinally.

By analysing these interactions in detail, we might not only conclude whether pupils made progression or not. In addition, these kinds of analyses unravel interactional practices that open up or close down opportunities for (extended) participation and, as a consequence, opportunities for learning. Insight in these practices will give us more information about the workings of learning in schools and the ways in which interaction can be used to promote the construction of knowledge.

Chapter 3

Understanding book content through participation[1]

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[1] Submitted as: Gosen, M.N., Berenst, J., & de Glopper, K. *Shared reading at kindergarten. Understanding book content through participation*

Abstract

This chapter shows how learning opportunities are created during shared reading of picture books at kindergarten. In line with a sociocultural perspective on learning, interactional learning opportunities are directly linked to participation in the shared reading practice. Based on this, it is expected that children's participation in shared reading interactions contributes to their understanding of book content. The chapter presents a single case-study from a longitudinal shared reading programme that took place at Dutch kindergartens with first language speakers of 4- 6-years old. As will be shown, children participate in a traditional instructional structure. Additionally, they participate in another participation framework, characterised by a more or less free discussion. These structures are found to establish an optimal learning environment together and in relationship to each other. This case-study demonstrates how teacher and pupils participate in these two succeeding frameworks and how this supports the construction of conceptual knowledge.

3.1. Introduction

Shared reading of picture books is a common activity in the kindergarten environment. Teachers using an interactive reading style (e.g. Greene Brabham & Lynch-Brown, 2002) provide room for whole-classroom interaction about the books before, after and during the shared reading session. As kindergarten is often a child's first contact with education and since shared reading in a classroom differs from the one-to-one type of shared reading done at home, children have to learn to participate in the shared reading activity and the accompanying interactions at school.

This chapter will illustrate the kind of interactional structures young children might come across during shared reading and how their participation in two different *participation frameworks* (Goffman, 1981; Goodwin & Goodwin, 2004) is thought to contribute to their development. A well established fact is that participation in whole-classroom interaction during shared reading activities is supportive for the language and literacy development of children (e.g. Mol, Bus, de Jong & Smeets, 2008; What Works Clearinghouse, 2007). This chapter will show that participation in two distinct participation structures during shared reading might also be supportive for the development of knowledge related to the topics, concepts and situations presented in the books.

3.2. Background

Learning has been seen as an interactive process since the days of Vygotsky (e.g. Vygotsky, 1978), who claimed that intermental (social) activity promotes intramental (individual) development. Context is thought to be essential for learning. This view is widely acknowledged by sociocultural researchers who see learning as taking place by participation in social practices in a cultural community, in which learning might happen more or less incidentally (Lave & Wenger, 1991; Rogoff, 1990; Wenger, 1998). Also language learning might be explained by participation of the learners in mundane communicative activities in the target language (Brouwer & Wagner, 2004; Pekarek Doehler, 2002).

In the community of school, children learn to participate in interactions with the teacher and their peers. A well known and intensively studied instructional structure, where pupils learn to participate in, is the routinised three-part-exchange structure. This *Initiation-Response-Evaluation (IRE) structure* (Mehan, 1979a) consists of rounds of initiation moves, which are predominantly taken by a *known information question* (Mehan, 1979b), followed by a reply of one or more pupils, which are evaluated by the teacher in third position.

The teacher dominates within this structure, while the role of the pupils is limited (as summarised by Mehan, 1998). It could be said that pupils only play a role in this structure by filling in the answer the teacher was looking for and by doing so contribute to the teacher's routinised way of getting this information across (to the whole class). So, this interactional structure makes knowledge public and witnessable to the whole class (Macbeth, 2003). However, the *access* to knowledge does not automatically lead to the *development* of knowledge. In addition to increasing knowledge by input of the teacher, children should get the chance to *use* knowledge themselves by putting their ideas into words. By doing so, knowledge could be really incorporated into their view of the world (Barnes, 2008).

Therefore, extended participation in interaction is also thought to be important from a developmental perspective. It is found that this can be established by extension of the IRE structure. In initiative position, teachers might pose an authentic question or give their own view concerning challenging issues and interesting topics to open the floor for pupils for trying out own ideas (Clark et al., 2003; Nystrand & Gamoran, 1991). In addition, when the third position is not used to close the initiation-response sequence, but to elaborate on it, this is found to open up opportunities for extended participation (Lee, 2007; Nassaji & Wells, 2000; Tabak & Baumgartner, 2004; Wells, 1993).

So, there are different interactional structures pupils might participate in with more or less opportunities for (extended) participation. This is found to be closely connected with the construction of content knowledge. As Pekarek Doehler underlines, "learning a specific content or activity inevitably involves learning to deal with the social situation in which that content or activity is being deployed" (2002, p. 22). Therefore, zooming in at participation in distinct types of classroom interactions might reveal something about learning (opportunities).

Teachers' and pupils' participation can be addressed by descriptions of their *participation statuses*. These statuses of participants "in a gathering at a particular moment constitute a participation framework" (Goffman, 1981, p. 137). In this chapter we will, more precisely, take a closer look at the participation in two intertwined participation frameworks during one specific activity, the shared reading of picture books.

There is quite an amount of research centred on shared reading interactions (e.g. Dickinson & Smith, 1994; Greene Brabham & Lynch-Brown, 2002; Pantaleo, 2007; Reese & Cox, 1999; Reese, Cox, Harte & McAnally, 2003; Wiseman, 2011). However, these studies did not investigate interactions in relation to participation and concept knowledge in close detail. Because picture books bring real-world topics and situations in the classroom that one might construct knowledge about, the question we asked ourselves is two-folded: *How do teacher and children participate in interactional structures during shared reading and how is the participation related to the construction of book-related knowledge?* To answer this question, we zoomed in on one shared reading fragment because this allows for a close analysis of participation in relation to the discussed topic.

3.3. Method

3.3.1. Participants and setting

Data are collected in a longitudinal shared reading programme in which three Dutch kindergarten teachers read two picture books a week for a period of 12 weeks. Each week, one shared reading session is videotaped in each of the kindergarten classes. For the video recordings, two cameras are used that videotaped the teacher and children from two different angles of the circle. The teachers wore an external microphone. The whole database consists of 36 shared reading sessions (± 18 hours of video material).

In the Netherlands, kindergarten is integrated within primary school and consists of the first two grades of primary school (4– 6-year old children). This is in contrary to Dutch preschools

that are optional for children from 2 to 4 years old. The picture books are selected with a special focus on three distinct developmental domains: the social-emotional, mathematic and literary domain. In addition, the selected books are accompanied by instructions developed to stimulate constructive discussions about the social-emotional, mathematic or literary content of the books.

The books are read to the entire class (around 20 children aged between 4 -6-years old) by the teacher while at the same time the books are placed on a stand, so that children could continuously look at the illustrations. Teachers read the text from a separate set of papers, including a copy of each page and the accompanying shared reading instructions (an example of the instructions can be found in appendix B).

3.3.2. Data Analysis

The whole database is transcribed according to transcription conventions (see appendix C, based on Jefferson, 1984) by means of the computer program Transana (Fassnacht & Woods, 2004). The shared reading sessions are analysed in detail according to the qualitative methodology of Conversation Analysis (e.g. Ten Have, 2007). Conversation Analysis as a methodology is used to gain insight into interactional practices by making use of participants' contributions to the interaction. By looking through the eyes of the participants, we get a closer look at how they interpret and design the interaction and as a consequence, how they interpret and design the overarching activity. Herewith, we get a better understanding of the activity and the organisation of the activity.

As illustrated above, this study focuses at the shared reading activity at kindergarten. To get closer insight in how pupils participate in interactions during this activity, we use Conversation Analysis to zoom in on one shared reading fragment. This enables us to illustrate the participation in interactional detail in relation to the discussed topic and the possible construction of knowledge about this topic. By doing so, we are able to give a complete overview of the participation in one episode as it happened, without risking jumping to conclusions too easily.

The selected fragment originates from a shared reading session of the picture book *Sssst!* (translated from *Shhh!*, written by Sally Grindley & Peter Utton, 1991). This book is about a castle belonging to a giant. The reader is taken deeper into the castle page by page and is advised to keep silent in order not to awaken the dangerous giant. This makes it is a very exciting book for children. Additionally, the shared reading programme uses this book for discussion point of the mathematical concept of 'perspective' with the children.

The fragment of the shared reading session is centred around one page and one topic in the book (the size of towers). As the picture used is of the giant's castle, the illustration in the book takes a bottom-up perspective to give the reader the impression that the castle is very big and that the reader is small. On the second page of the book (figure 1), the towers of the giant's castle therefore look smaller than they actually are. This is something we expect children to learn by looking at the picture and by talking and thinking about it. Before talking about this page, the teacher and the children talked about the giant's big footstep on the cover. Furthermore, teacher and pupils did not talk about the mathematical concept 'perspective' before this fragment.
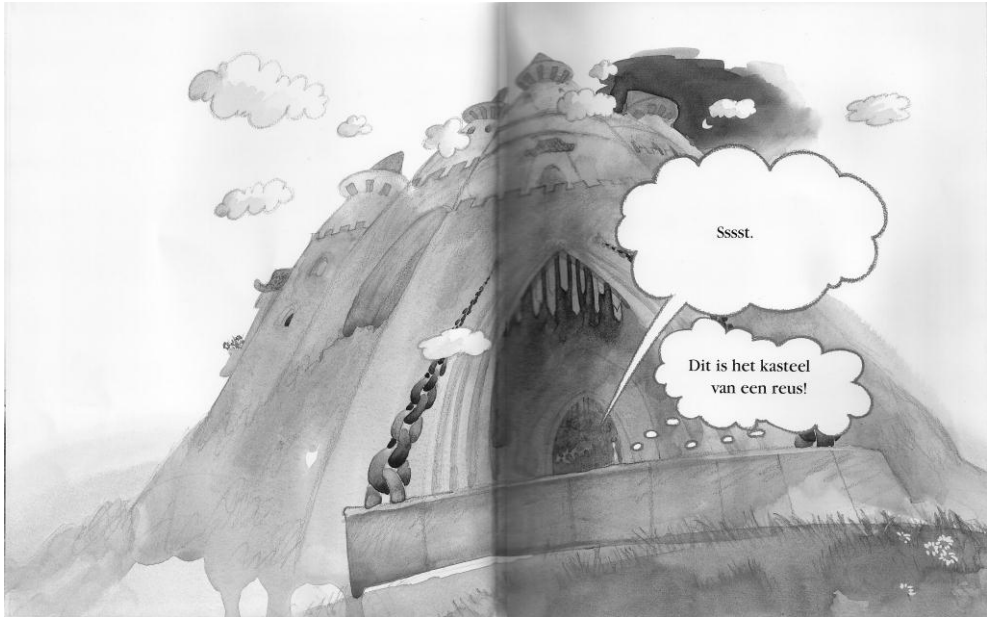
Figure 1. *Picture from the book Sssst!/Shhh! By Sally Grindley & Peter Utton, 1991*

3.4. Findings

This study demonstrates that children are able to participate in several interactional structures that establish a learning environment together. It illustrates that it is the combination of a more or less free discussion, with room for extended participation of children, followed by a more instructional, teacher-led structure that makes the interaction suitable for knowledge construction.

It will be shown that children are indeed talking about the 'mathematical perspective'. Initially they discuss different hypotheses concerning 'why is it the towers look that small?'. Next, the framework switches to a more instructional framework. The study demonstrates how teacher and pupils participate in these frameworks and how participation in these two succeeding frameworks is thought to be related to the construction of knowledge about the concept of 'perspective'.

3.4.1. Participation in a discussion framework

Before the start of the whole fragment, the teacher has read the book text to the class. Next, she focuses on the illustration, as can be seen in excerpt 1. This is the start of a discussion focused interaction or a *discussion framework* (Gosen, Berenst & de Glopper, 2009). This study will examine how the teacher creates this and how children adapt to their role as participants in the discussion.

In excerpt 1, the teacher explicitly asks the pupils to have a look at the house and the towers in lines 1-3 and 6-9 (and twice again in the continuation of the interaction which is not included in this excerpt). By doing so, she indicates that she wants to talk about the illustration and

not just about the story line. It should be said that the Dutch *torentjes* is translated into English as *little towers*. In Dutch the diminutive is included by the morpheme –tjes.

(1) Incomplete statement, 1-15

		Speaker	Transcript	Dutch Original
1	→	Teacher	<u>would</u> you have a *((points and*	<u>wil</u> je es naar *((wijst en kijkt in*
2			*looks at book))* (0.4) ↑look at	*boek))* (0.4) dat huis ↑kijken,
3			that house	
4			(.)	(.)
5		Rick	yes=	ja=
6	→	Teacher	=*((points at book))* and ↓have a	=*((wijst in boek))* en ↓kijk es naar
7			look at those *((moves finger back*	die *((beweegt vinger heen en*
8			*and forth))* (0.9) little <u>to</u>wers	*weer))* (0.9) <u>to</u>rentjes
9			up[there?	daarbo[ven?
10		Rick	[those are <u>also</u> bi:g	[die zijn <u>ook</u> groo:t
11	→	Teacher	I THInk those little <u>to</u>wers are	IK VInd die <u>to</u>rentjes eigenlijk een
12			actually a bit *((questioning look))*	beetje *((kijkt vragend))*
13			(0.5)	(0.5)
14	→	Daniel	[sma:ll	[klei:n
15	→	Rick	[scary	[eng

The teacher comments with a personal (incomplete) statement on the picture in lines 11-12. The teacher's comment, however, is incomplete and is an open invitation to the pupils to respond to this assessment, once the comment is completed. Margutti has described this practice as an *Eliciting Completion Device* (*ECD*, Margutti, 2006). This is an interactional practice a teacher might use to give pupils the opportunity to participate in the interaction by completing an incomplete statement (chorally). Besides the use of an ECD, the questioning look and the silence (line 13) also invite pupils to fill in the sentence.

That two pupils do so by filling in two different options simultaneously, as can be seen in lines 14 and 15, indicates that young pupils also know how to respond to such an ECD, as previously illustrated by Margutti herself concerning 7-8 year old children. Here, Daniel adds *small* (line 14), while Rick adds *scary* in line 15. The focus on scariness is interesting because Rick clearly does not agree with it, as can be seen in lines 21-22 of the following excerpt. Rick stresses there that he, himself, does not think that the towers are scary.

(2) Scary or small?, 17-22

		Speaker	Transcript	Dutch Original
17	→	Teacher	↑yes *((points at book))* (0.7)	↑ja *((wijst in boek))* (0.7) ↑kijk
18			↑have a look u:pwards (.) at	maar es naar bo:ven (.) naar die
19			those little towers	torentjes
20			(.)	(.)

21	→	Rick	I [↓don't think they are scary.	ik [vind ze ↓niet eng. *((schudt*
22			*((shakes head))*	*hoofd))*

The teacher confirms (one of) the contributions by means of *yes* in line 17. The comment of the teacher, once completed, functions as an open elicitation. At least, Rick treats it like this, by giving his own opinion after the confirmation of the completion of the comment and after the teacher's repeated focus on the picture and a short silence. By voicing his own opinion, Rick distances himself from the teacher's comment.

This shows that Rick participates in the interaction in two different ways, once in the framework of 'formally' filling in an ECD and once with a response to the content of the completed comment. That Rick filled in a characterisation that he does not agree with, confirms that an ECD invites pupils to complete a comment or an opinion of the teacher that the pupils do not necessarily share. An ECD does not elicit a pupil's own knowledge or opinion (until the ECD is completed).

However, there appears to be some confusion as to whether the towers look *small* or *scary*. The teacher asks Rick for clarification and when she finds out he is talking about scariness, she stresses that she meant small, as can be seen in the next excerpt (the repair sequences are left out here). This might indicate that her confirmation in line 17 of the previous extract confirmed the response of Daniel in line 14 of passage 1.

(3) Possible explanation, 35-41

		Speaker	*Transcript*	*Dutch Original*
35	→	Teacher	[I said <u>small</u>	[ik zei <u>klein</u>
36			(1.9)	(1.9)
37	→	Rick	yes that's because the (0.3) giant	ja dat komt omdat t (0.3)
38			castle (0.3) (ca)stle is <u>tha:t</u> big	reuzenkasteel (0.3) (ka)steel <u>zo:</u>
39			*((hand up flat))* that you *((points*	groot is *((vlakke hand omhoog))*
40			*up))* al (0.3) most (0.3) can't see:	dat je die *((wijst omhoog))* <u>tor</u>en
41			that <u>tow</u>er	bij- (0.3) na (0.3) niet kunt zie:n

With the repair in line 35, the comment started with an ECD, is now completed in the direction the teacher was aiming for. With the observation, the teacher seems to set an example to the pupils that giving your opinion about the picture in the book is legitimate. By doing so, the teacher opens the floor for discussion. That the opinion about the picture is indeed taken up as an open elicitation to contribute to the discussion, is again shown by Rick, in lines 37-41. Here, Rick self-selects and spontaneously comes up with a possible explanation as to why the towers look so small, which he illustrates by aligning gestures.

The spontaneous use of an explanation is interesting in contrast to Rick's contribution in lines 21-22, in which he gives his opinion concerning as to whether or not the towers look scary. This explanation indicates that Rick understands that the miniaturisation of the towers is something that needs further clarification, instead of just his opinion, so that the pupils are invited to discuss this in

more depth. This demonstrates that these young children are pupils that are oriented to specific participation structures and adapt to a discussion framework without being explicitly asked to do so.

Besides setting a good example by giving an opinion about the picture, the teacher also implicitly shows that pupils are invited to participate in a joint discussion on the implicit question 'why do the towers look that small' by avoidance of explicit evaluations. As shown further in the study, the teacher knows why the towers look that small and she is thus in the position to evaluate answers. However, the teacher seems to act like any other participant here, who does not know more about the topic than the pupils because she does not yet reveal 'why the towers look that small'.

Amongst others, she treats pupils' contributions as possible solutions instead of evaluating the contributions as correct or incorrect. For instance, she reacts to Rick's explanation in excerpt 3, by asking a question that leaves the accuracy of his solution unanswered, as shown in excerpt 4.

(4) Avoidance of explicit evaluations, 42-46

		Speaker	Transcript	Dutch Original
42	→	Teacher	would <u>that</u> be it?	zou <u>dat</u> t zijn?
43			(1.0)	(1.0)
44	→	Robert	↑yes=	↑ja=
45	→	Teacher	=>how would that be possible,<	=>hoe zou dat nou kunnen,<
46			*((looks at book))*	*((kijkt in boek))*

She does not evaluate the preceding contribution (line 37-41), but asks *would that be it* in line 42. By doing so, she acts as if the information (the explanation why the towers look that small) is not available to her either. Interestingly however, the question in line 42 is taken up as a request for confirmation by Robert in 44. This indicates that Robert understands that a discussion framework is relevant here because he accepts that he, in addition to the teacher, could be the one to confirm whether something is right or wrong. However, the teacher does not respond to Robert, but stimulates further discussion on the issue of the small towers by asking another question in line 45.

The teacher also reacts to possible explanations by use of facial expressions like a frown or by raising her eyebrows which most often expresses surprise or amazement. The next excerpt that is the follow-up of the previous quote shows an example of such a facial expression in context.

(5) Surprised expression, 48-52

		Speaker	Transcript	Dutch Original
48	→	Tim	because that is <u>to</u> the *((points*	want dat is <u>tot</u> de *((wijst*
49			*up))* clouds=	*omhoog))* wolken=
50	→	Teacher	=*((surprised expression, points at*	=*((kijkt verbaasd, wijst in boek,*
51			*book, nods))*	*knikt))*
52			(2.3)	(2.3)

In lines 48-49, Tim gives a possible explanation as to 'why the towers look that small', after the open question in line 45 of excerpt 4. By doing so, he also displays that he understands that they still operate within the discussion framework. His use of *because* indicates that he is elaborating on previous contributions and the teacher's open question with an argument.

This is taken up in a non-verbal way by the teacher, by pointing at the book, nodding and by her surprised expression (lines 50-51). By doing so, she acknowledges Tim's contribution and confirms the discussion framework, in which participants are allowed to come up with possible explanations and in which self-selection is approved. The surprised expression indicates that she is not evaluating the contribution, but only accepts it as being a new, possible explanation. Through the use of such expressions, she shows that she had not thought of it like that and in that way she acts like any other participant who is thinking along.

In the continuation of the fragment it can be seen that the discussion resumes and that pupils maintain their *participant status* (Goffman, 1981) as participants in the discussion. In the following, Tim elaborates on his own contribution in lines 48-49 of the previous excerpt.

(6) Maybe, 53-68

		Speaker	Transcript	Dutch Original
53	→	Tim	°maybe to the moo:n°	°misschien tot de maa:n°
54			(0.3)	(0.3)
55	→	Teacher	may [be ↑yes ((looks at Dries))	mis[schien ↑wel ((kijkt naar
56				Dries))
57	→	Dries	[ma- (.) maybe the st-	[me- (.) misschien zijn de st-
58			((hands somewhat apart)) (.)	((handen stukje uit elkaar)) (.)
59			towers that stand there	torens die daar op staan
60			(0.3)	(0.3)
61			[are very bi:g	[wel heel groo:t
62	→	Kyra	[((brings hand upwards))	[((hand omhoog))
63			(0.4)	(0.4)
64		Teacher	[((nods))	[((knikt))
65	→	Dries	[only (.) >maybe it is< so big (.)	[alleen (.) >misschien i:s ie< zo
66			that you •h can't see them (.)	groot (.) dat je •h ze niet kunt
67			[((hands apart)) how big they are	zien (.) [((handen uit elkaar)) hoe
68				groot ze zijn

After a relatively long silence in line 52 (excerpt 5), Tim adds something to the discussion in line 53. The use of the adverb *maybe* and the softer tone of voice indicate that this is not a straightforward answer to a question, but a more uncertain contribution to a discussion, in which such input is allowed. After all, the teacher reveals that she is not clear about the issue of the small towers either. Tim seems to adapt to this by his formulation in line 53. Here, the teacher accepts his contribution by repeating *maybe* in line 55. By doing so, she is (again) not explicitly evaluating Tim's contribution, but accepting the suggestion he offered in line 53.

Also interesting in this respect, is Dries' use of *maybe* from line 57 onwards. He creates overlap with the teacher in line 57. This is accepted by the teacher, according to her gaze towards him in line 55, which indicates that she is focusing on him and as such, acknowledges that he takes a turn. He uses *maybe* twice (the start of maybe in line 57 has been not included) and as such also accepts the discussion activity. As Tim, Dries also presents no straightforward solution to the issue of the small towers, but frames his contributions as hypotheses by the use of *maybe*. In addition, he may also display his thinking during his turn by the relatively long silences and hesitations. The hesitation also leads to an ungrammatical sentence structure in lines 65-68.

The use of *maybe* shows that children bring in hypotheses, that can be reacted upon, and that they contribute cumulatively to the general discussion. Even Kyra, who is not contributing verbally, appears to think about the general issue in line 62 of the previous excerpt by bringing her hand upwards when they talk about big towers. That children also react to the contributions of other children verbally can be seen in for example the following excerpt.

(7) Yes because, 69-81

		Speaker	Transcript	Dutch Original
69		Teacher	[((nods, points at Dries))	[((knikt, wijst naar Dries))
70	→	Tim	[yes because <u>we</u> are totally	[ja want <u>wij</u> zijn helemaal *((hand*
71			*((hand low))* <u>down</u> [looking	*laag))* be<u>ne</u>den [aan t z:ien
72	→	Teacher	[*((surprised*	[*((kijkt verrast,*
73			*expression, points at Tim))*	*wijst naar Tim))*
74	→	Tim	•h and the little towers are ve:::ry	•h en de torentjes zijn hee::l
75			high *((hand up))* [because that	hooge *((hand omhoog))* [want dat
76			castle is a very h- *(both hands*	kasteel is een heel gr- *((beide*
77			*up))*	*handen omhoog))*
78	→	Teacher	[*((nods))* °look°=	[*((knikt))*
79				°kijk°=
80		Tim	big buil[di:ng,	groot ge[bou:w,
81	→	Teacher	[*((nods, looks in book))*	[*((knikt, kijkt in boek))*

When the teacher nods and points at Dries in line 69 and as such accepts his contribution (in excerpt 6), Tim speaks in overlap (lines 70-71). The *possible completion onset overlap* (Jefferson, 1986), which occurs when Dries' *turn constructional unit* (TCU) is completed, shows that Tim adds something to Dries' explanation. Tim's use of *yes because* also indicates that Tim is building on Dries' contribution. Tim starts his explanation by selecting himself, while the teacher is still focused on the previous speaker, Dries. The teacher clearly accepts his self-selection (and acts as a discussion leader) by pointing at Tim in lines 72-73. Therewith, she also uses a surprised facial expression, which indicates that she treats it as new information to her. This again shows that the teacher is not evaluating, but accepting his contribution as input for the discussion. Her contributions in lines 78-79 and 81 function the same way (*look* is not an imperative here, but a phrase used to express her 'surprise' comparable to 'I see').

Tim's use of *yes because* that makes the connection between the earlier contribution from Dries and his own input, can be seen as a form of *Exploratory talk*, in which pupils build critically but constructively on each other's contributions (Mercer, 1995). In this particular case, Tim is building on another pupil's contribution constructively because he gives an argument in addition to the statement made by Dries. *Exploratory talk* is described as a useful form of speech for reasoning and discussing together in the case of peer interactions. In this case, it could be said that children reason together as participants in a discussion within a whole-classroom discussion framework, while the teacher is present more or less as a bystander.

Tim himself carries on his explanation, started in excerpt 7, into the next passage. Once again Tim uses the adverb *maybe*. In this case, *maybe* is used to predict what might happen next. This indicates that Tim accepts that the teacher will not reveal anything about the size of the towers and that she will not evaluate his contributions during the discussion, but that he can still contribute by speculating concerning the issue of 'why the towers look that small'.

(8) Maybe we will come up too, 83-89

		Speaker	Transcript	Dutch Original
83	→	Tim	[and uh and if- (0.4) maybe we	[en eh en als- (0.4) misschien
84			will come ↑<u>up</u> too and then	komen we ook nog ↑<u>bo</u>ven en
85				dan
86	→	Dries	[((forms a 'telescope' with hands	[((maakt van handen 'telescoop'
87			and looks upwards))	en kijkt omhoog))
88		Tim	those towers will ↑also be very	zijn die torens ↑ook heel groo:t
89			bi:g	

Tim hesitates and seems to change *if* into *maybe* after a relatively long pause (line 83). At this moment, Tim not only uses *maybe* to express his hypothesis, but he uses *maybe* to predict what will happen further on in the book and by doing so almost postpones the issue of the small towers until the factual solution will be shown by the picture book itself. This could be seen as a proof that Tim acknowledges the fact that even the teacher does not have the solution to the problem, but that the book might possibly help to unravel the uncertainty they are jointly hypothesising about during the ongoing discussion.

The same extract also shows a non-verbal movement of Dries in lines 86-87. Although his gestures are not taken up by any of the other participants, they seem to show that he is still contributing adequately by 'looking upwards through a telescope'. It could be said that this is an elaboration of his contribution in lines 65-68 of excerpt 6, in which he says that the towers might be big, but that they could not be seen. Looking through a telescope might indicate that Dries is thinking of a solution to his own formulated problem of 'not being able to see the towers'.

3.4.2. Instructional interaction

So far, we have seen that pupils and teacher accept their participant status of participants in a discussion and of discussion leader and act in accordance with it in a discussion framework.

However, the following will demonstrate that this is not the only framework relevant in the entire fragment. It is found that children adapt just as easily to the discussion framework, as they do to an *instructional framework* that is more typical for traditional classroom interactions and that is built on IRE structures. The next excerpts will show how children follow the teacher when switching to this framework in a shared reading setting. In addition, it will be shown how the combination of the two different succeeding participation frameworks contributes to the learning possibilities of the children.

The next excerpt shows that the teacher does not continue with the possible solution proposed by Tim in extract 8. Instead, she asks a question that could be described as a *known information question*, since the teacher can provide the answer herself, and thereby projects an assessment of the reply, as can be observed in excerpt 9. This excerpt that follows after Tim's prediction can also be seen as a turning point to a more instructional framework.

(9) Turning point, 91-103

		Speaker	Transcript	Dutch Original
91	→	Teacher	°yeah° (0.3) because [how do-	°jah° (0.3) want [hoe kij- (0.3) hoe
92			(0.3) how do we look at it tim,	kijken wij d'r tegen aan tim,
93	→	Dries	[maybe	[misschien nog
94			even bigger than the school *((two*	groter dan de school *((twee*
95			*fingers up))*	*vingers omhoog))*
96	→		(0.6)	(0.6)
97	→	Tim	strai:ght	re:cht
98			(0.5)	(0.5)
99		Teacher	↑not totally ↓straight	↑niet heemaal ↓recht
100			(.)	(.)
101	→	Tim	[a bit slanti:ng *((indicates the*	['n beetje schui:n *((geeft met*
102			*slant with hand))*	*hand aan hoe schuin))*
103	→	Rick	[slanti:ng	[schui:n

Interestingly, the teacher uses the linking word *because* in her question (line 91), implicating that she builds further on an earlier contribution as, for instance, in excerpt 7. However, here in particular it seems to function as a sequential linking to the next phase of the fragment.

The question in lines 91-92 is addressed for the first time in this shared reading session. In whole classroom interactions, teachers are normally supposed to be the ones who direct speakership (McHoul, 1978). In the discussion framework however, the teacher does not select pupils for a turn, as she does in line 92. This is why this question can be seen as an indication that the framework is switching from a discussion framework to a more traditional instructional framework. The use of *how* in combination with *we* also suggests that the question is a *known information question*. Especially the use of *we* indicates that the teacher is in search of something that belongs to general knowledge and that is not an opinion, nor a hypothesis.

The switch between frameworks is confirmed by the treatment of Dries' contribution by the teacher. Apparently, it is not clear to Dries yet that the framework is switching to a more instructional one, as we can see in lines 93-95. He adds another contribution to the previous discussion, in which he uses *maybe* again to hypothesise further on the size of the towers. For the first time in the fragment, this is not taken up by the teacher as we saw her doing before. The absence of acceptation of his contribution (instead there is a relatively long silence in line 96) could serve as an indication that the participation changed into an instructional framework.

Tim and Rick adapt to the instructional framework by participating as respondents instead of participants in a discussion in lines 97, 101-102 and 103. Both Tim and Rick contributed to the discussion by means of elaborated hypotheses. But in this framework, their responses are kept brief, which indicates that they understand that another 'game' is played here. The teacher indicates that Tim's answer (line 97) is not completely correct, and in doing so she starts a correction sequence (Macbeth, 2004) that is answered by Tim and Rick simultaneously (lines 101-103). This kind of evaluation and correction sequences is typical for traditional whole-classroom interaction. However, Tim and Rick's answers are not taken up, as we can see in excerpt 10.

(10) What did you say just before, 104-115

		Speaker	*Transcript*	*Dutch Original*
104	→	Teacher	[((*points at Tim*)) we are- yes uh	[((*wijst naar Tim*)) wij zij- ja eh wij
105			we ↓are (.) what did you say just	↓zijn (.) wat zei jij net [al,
106			be[fore	
107	→	Rick	[in the classroom	[in de klas
108			(0.4)	(0.4)
109	→	Teacher	we ↓are [no: ((*points at book*))	wij ↓zijn [nee: ((*wijst in boek*))
110	→	Kris	[small ((*flat hand from*	[klein ((*vlakke hand*
111			*top to bottom*))	*boven naar beneden*))
112	→	Teacher	no ((*points at book*)) we ↓are (.)	nee ((*wijst in boek*)) wij ↓zijn (.)
113			here- when we ↓look here	hier- als we hier naar ↓kijken
114	→		(0.4)	(0.4)
115	→	Tim	°yes°=	°ja°=

In this excerpt the instructional framework is continued because the teacher is obviously in search of a specific answer. She nominates Tim by pointing and addressing him to answer her initial, instructional question by focusing, in lines 104-106, on what Tim said earlier during the discussion. Normally, this functions as a request to repeat what was said before. However, as this excerpt shows, Tim does not respond immediately and as such does not give the preferred response to the request. As we have seen, he contributed to the discussion in several turns, so for Tim it might be unclear what the teacher is aiming for now. Nevertheless, he seems to understand that he has been selected to provide the answer. This can be seen in line 115, where he joins in by a soft-voiced *yes*, after another hint from the teacher in lines 112-113 and after a relatively long silence of 0.4 seconds (line 114).

Previously, Tim did not respond at all. Instead, Rick and Kris try to fill-in the '*we are* sentence' in lines 107 and 110-111. The teacher evaluates both contributions negatively with a prolonged *no* in line 109 and a stressed *no* in line 112. Although the contributions offered by Rick and Kris do not appear to be what the teacher requires, they participate in the instructional sequences correctly because they understand that they are asked to fill in the sentence starting with *we are*.

Additionally, Tim finally adapts to his role as selected respondent. Although he does not come up with a repetition of what he said before, he does show that he knows how to function within the instructional sequence by acknowledging that he previously alluded to something that might be relevant. So, all three pupils participate without knowing the requested information. Excerpt 11 shows that Tim remains aware of his role as selected respondent.

(11) Be-ne-den, 116-122

		Speaker	Transcript	Dutch Original
116	→	Teacher	=you [↑said it just before,	=je [↑zei t net al,
117		Rick	[do-	[bene-
118			(0.4)	(0.4)
119		Rick	below=	beneden=
120		Simon	=[slanting	=[schuin
121	→	Teacher	[be[low ye:s ((nods))	[bene[:den ja: ((knikt))
122	→	Tim	[low	[neden

The teacher, once again, focuses on what Tim said before in line 116 and therewith repeatedly indicates that she is aiming for a specific contribution. Rick and Simon adapt to this instructional elicitation by coming up with potential, short answers. When the teacher acknowledges Rick's answer *below* by repeating it and adding a prolonged *yes* in line 121, Tim creates overlap in line 122 by completing the teacher's repetition. It should be mentioned that in Dutch *below* is a three syllable word (*be-ne-den*) so this makes that a slightly delayed joint completion can be realised. In fact, he joins in by producing the last two syllables *ne-den*. This completion suggests that Tim still aims to give the answer the teacher is looking for.

That the teacher indeed is aiming for a specific expression to address the issue as to 'why the towers look so small' can be seen in the following excerpt. In this part of the interaction the teacher gives a clear-cut description, since the children did not come up with the complete description she was looking for in the preceding instructional sequences.

(12) You know how we also say that?, 123-132

		Speaker	Transcript	Dutch Original
123		Teacher	and be[low,	en bene[den,
124	→	Max	[and that tower is ↑above	[en die toren is ↑boven
125			((hand above his head))=	((hand boven hoofd))=
126	→	Teacher	=>yes< (.) that one is very tall heh	=>ja< (.) die is heel hoog heh

127			(0.3)	(0.3)
128	→		>yes< because you <u>look</u> from- you	>ja< want je <u>kijkt</u> er- weet je [hoe
129			know [how we also say that?	dat ↓ook wel heet
130	→	Walter	[I can't see: anything	[ik
131				kan niks zie:n
132	→	Simon	ye:s=	ja:=

In line 124, Max self-selects and contributes with the opposite term *above*, accompanied by raising his hand. The teacher acknowledges his contribution by use of *yes* in the first position and subsequently by rephrasing Max's contribution (line 126). This is used as a starting point to arrive at the characterisation of the perspective taken in the book that she seems to be aiming at.

The teacher clearly introduces the characterisation in lines 128-129. After responding to Max' previous contribution in line 126, there is a silence of 0.3 seconds. Then, she links this to the upcoming, explicit instruction by use of *yes* and starts a sentence with *because you look from…*? However, she restarts in line 128 by posing the question *you know how we also say that*? that can be seen as a pre-announcement. In doing so, she emphasises that instruction on the characterisation of the small towers will be given. The contributions in lines 130-132 appear to be unrelated to the teacher's question. The lack of relevant contributions indicates that pupils suppose that they are expected not to answer here.

Her very quick response (lines 133-134 of the next excerpt) to her own question indeed indicates that the pre-sequence did not serve as a question for the pupils, but as an announcement of the instruction.

(13) Look up at it from down below, 133-141

		Speaker	*Transcript*	*Dutch Original*
133	→	Teacher	=you look up at it from <<u>do:wn</u>	=je kijkt er van <<u>o:n</u>der <u>af</u> (0.4)
134			(0.4) below>	tegenaan>
135			(0.9)	(0.9)
136	→	Rick	yes [because-	ja [want-
137	→	Dries	[when you-	[als je-
138	→	Teacher	[and then it just ↑<u>looks</u> like	[en dan ↑<u>lijkt</u> het net *((wijst*
139			*((points at Tim))* what you said	*naar Tim))* wat jij al zei, (.) of die
140			before, (.) as if those [little towers	[torentjes ↓heel ↑klein zijn
141			are ↓very ↑small	

The instruction *look up at it from down below* (lines 133-134) is marked by a slowdown and a relatively long silence and by stress on part of the Dutch phrase *van onder af tegenaan* (translated into *from down below*). This indicates that this phrase is found to be important, which was also indicated by the pre-sequence (lines 128-129 of excerpt 12) that announced this characterisation.

This emphasis on the characterisation of the towers implies the plausibility that Rick and Dries spontaneously elaborate in a discussion-like manner in lines 136-137. After a relatively long

silence in line 135, they elaborate on what they took up as a statement requiring reactions from the pupils. Especially Rick's turn is interesting in this respect, since the start of his turn being *yes because* is comparable to Tim's discussion contribution in excerpt 5, which was characterised as a typical discussion formulation. However, the teacher interrupts in line 138 and by doing so she seems to take hold of the instructional framework. Both the pupils break down their turn. This indicates that they recognise that it is not the discussion but the instructional participation framework that is relevant here.

With the characterisation of *looking up at it from down below*, the interaction concerning this page of the book seems to come to an end. In the continuing interaction, the teacher focuses on the illustration in line 145, as she did in the beginning of the whole fragment. The use of *you see* focuses the children on the picture of the book and was found to stimulate discussion, as seen in excerpt 1. In the following extract, we see that Dries takes this utterance in line 145 as a starting point to further discuss the issue of the small towers.

(14) But that is not true, 145-154

		Speaker	Transcript	Dutch Original
145	→	Teacher	=((looks at book)) you [see?	=((kijkt in boek)) zie [je dat?
146	→	Rick	[I: said that	[dat zei I:K
147	→	Dries	[but that	[maar dat <is
148			<is not true>	niet waar>
149			(0.3)	(0.3)
150		Rick	I: said that=	dat zei i:k=
151	→	Teacher	=I <u>think</u> it is ↓not true	=het is <u>denk</u> ik ↓niet waar
152		Rick	°I: [said that°	°dat [zei i:k°
153	→	Teacher	[right [exactly *((turns page))*	[klopt [precies *((slaat*
154				*bladzijde om))*

The focus on the picture in line 145 follows the characterisation of the small towers. It is therefore not surprising that Rick and Dries react to this in lines 146 and 147-148. Rick contributes by (repeatedly) claiming that he was the one who already gave the answer that was aimed for. By doing so, it looks like he is asking for a delayed evaluation of something he said before.

Dries complements the teacher's contribution (line 138-141 of excerpt 13) by adding *but that is not true* in line 147-148. By doing so, he *demonstrates* acquired knowledge (Koole, 2010) by displaying that he understands that the towers *seem* to be small, but that that is not the case. It should be noted however, that this indicates that Dries learnt something, but that it does not provide information on whether he understands why the towers look so small (*because we look upwards at it from below*).

The teacher responds to his contribution in line 151, by which she uses *I think* with emphasis on *think*. Normally, this is used to display some uncertainty so it looks as though the teacher is not certain about the perspective taken in the book either. By doing so, she acts like a regular, unknowing participant again, as she did during the discussion framework. However, she

counters this immediately by offering a clear positive evaluation in line 153, which appears the same as her behavior during the instructional structure.

Nevertheless, in overlap with this positive evaluation, Robert also spontaneously takes a next step by hypothesising why the towers are indeed big (excerpt 15). By doing so, he also acts like a discussant and *demonstrates* knowledge.

(15) Ending of the fragment, 155-165

		Speaker	Transcript	Dutch Original
155	→	Robert	[I know why that [tower	[ik weet waarom dat die [toren
156		Rick	[I said-	[dat
157				zei-
158		Kris	beuh ((sound with hands as a	beuh ((geluid met handen als
159			horn in front of mouth))	toeter voor mond))
160	→	Robert	is that bi:g=	zo groo:t is=
161		Rick	=I said that (.) not [tim	=dat zei ik (.) niet [tim
162	→	Teacher	[well [we- we	[nou [we- we
163			will carry on now	gaan es even verder
164		Robert	[(because)	[(want) d'r
165			a giant lives there	woont een reus in erin

As is the case with Dries, Robert shows in lines 155 and 160 that he understands the essence of the fragment, namely that the towers are not small, but big. However, the teacher does not use this as a possibility to re-open the discussion framework, but makes clear that the interaction on the subject of the towers ends here. She does not respond to Robert, but turns the page, expresses verbally that they will read along in lines 162-163 and indeed starts reading the next page. Herewith, the fragment about the small towers definitely comes to an end.

3.5. Conclusion

The fragment from the shared reading session of the book *Shhh!* serves as an example of interaction that takes place during shared reading. In this interaction, the teacher takes an illustration from the book as a starting point. She also focuses the pupils' attention on a particular topic: the small size of the towers, shown in the picture. The analysis of this fragment shows that she creates two different participation frameworks for the pupils to participate in.

At first, the teacher establishes a more or less free discussion by the use of open questions, by creating room for complex contributions and by not assessing the contributions of the children. Children adapt to this structure by spontaneously hypothesising concerning the issue 'why the towers look so small', for which they use the modality adverb *maybe*. These hypotheses are often built on previous contributions of other children. That means that some children are really reasoning in this discussion framework. However, the role of the teacher is still different from the role of the children. The teacher is the only one who is involved with turn allocation. She does not

necessarily allocate turns beforehand but indicates who made an interesting contribution by looking or pointing at children during or after their turns. This shows that she is the only one who *acknowledges* that pupils hypothesise and assesses their contributions dependent on their suitability and interest by use of, amongst other things, facial expressions and pointing. This indicates that the teacher does not withdraw from the (traditional classroom) teacher participation status completely, but that her status extends to that of a discussion leader within this discussion framework.

During the instructional part of the fragment, pupils only come up with short answers that are not hypothesising in nature. They seem aware of the search for one specific, correct answer and adapt to that by making (short) attempts to give the right answer to a specific question. The teacher accomplishes this by addressing a *known information question*, by focusing on a specific phrase and by working towards this characterisation during the interaction, by evaluating contributions and by a clear focus on something one pupil said during the discussion. Here, the teacher does not just lead the discussion but guides the interaction step by step in an instructional manner.

So, it is shown that pupils, even at this relatively young age and with little experience in an educational setting, are able to participate in different interactional structures. This understanding of interactional structures seems to underwrite Macbeth's observation of "understanding in matters of education as outcomes" (Macbeth, 2011, p. 4). Within the sociocultural perspective on learning in school, participation in classroom interaction is the first, important step towards learning of content. The analysis of this fragment shows that even young pupils are able to process this step in different frameworks.

In addition, it is also the particular participation in problem-solving that seems to create a suitable context for conceptual change (Vosniadou, 2007) and knowledge construction (Bereiter, 2002). By specification of their ideas in interaction, they are able to construct knowledge (together with their peers and/or teacher) by problem-solving activities. Especially the extended participation in the discussion framework is promising in this respect.

However, the analysis of this fragment shows that it is not the discussion on its own but the combination of both frameworks that leads to a solution of the issue raised as 'why the towers look so small'. This indicates that it is not just the realisation of extended participation that might lead to knowledge development, but that the instructional framework based on an IRE structure contributes to this in its own right. By participating in the discussion framework, pupils are stimulated into thinking and talking about the issue introduced by the teacher. They do so by contributing to the teacher's and to each other's contributions. Children also appear to think along as could be seen by their non verbal behavior. For instance, Kyra pointed upwards (excerpt 6), when another child mentioned that the towers were big, and Dries made a telescope using his hands (excerpt 8), which shows that he is pondering 'how one can look up'. These non-verbal movements also indicate that pupils are thinking about the issue of the small towers.

Therefore, the instruction in the IRE sequences that follows the discussion has a joined point of departure already. When the teacher starts her instruction on 'how we can also say that', children already turned their mind to the issue as shown in their verbal and non-verbal contributions during the discussion. Since children have struggled with the mathematical aspect of the problem, it

is expected that children will be more receptive to the final explanation and that information given by the teacher may sink in better.

The conclusion from our research is that it is the IRE in the context of a previous discussion that provides the basics for successful knowledge construction because of the possibility for children to come up with their own questions and their own solutions or explanations for the problem at hand. In this way the grounds are made fertile for the instruction sequences that might bring the children to the next level.

This finding about the importance of instructional sequences in classrooms is in agreement with the idea of Hall (1998) who already pointed out that the important role of IRE sequences in classroom interaction should not be underestimated regarding instruction activities. She stressed the importance of a teacher's effort in providing opportunities within and around these IRE sequences to participate in discursive practices in which pupils can display and test their knowledge. Sharpe (2008) also showed how teacher talk in instructional IRE sequences might support the learning of pupils in classroom if a teacher uses this to guide pupils through a cooperative process of inquiry.

Although a lot of the literature points at a participation framework with opportunities for extended participation for the pupils, like the discussion framework in this case-study, as the ultimate route to knowledge, it thus appears that we should not wipe out the importance of a more instructional, routinised framework. In line with Mortimer and Scott (2003) and Mercer and Littleton (2007) we have shown in close-up that it is useful that teachers use different approaches during different stages of (series of) lessons.

Acknowledgements

Chapter 4

The interactional structure of explanations[2]

Abstract

It is thought that, taking a sociocultural perspective on education, participation in extended discourse during shared reading contributes to children's knowledge and development. This chapter reports on a study of 36 whole-class shared reading sessions at three Dutch kindergartens, with the ages of the participating children being between 4 to 6 years of age. The structure of explanatory interactions in whole-class shared reading sessions is presented in the analysis. Both teachers and pupils display an orientation to objects of joint attention in the picture books that might need further elaboration to understand the course of events in the book. It will be shown that those explanatory interactions are initiated by the teacher but also by pupils, to some extent through the same practices. The continuation of the interaction is concerned with two structures: the first one follows the usual structure found in whole-classroom interactions with a teacher who is in control and is assessing pupil contributions, while the second one can be described as a *discussion framework* with a specific orientation on the activity of shared reading.

4.1. Introduction

Shared reading is generally known for its positive contribution to the language and literacy development of young children (e.g. Bus, IJzendoorn & Pellegrini, 1995; Sénéchal & LeFevre, 2002). This is especially so when parents use an interactive reading style, which affects vocabulary knowledge and oral language development (e.g. Mol, Bus, de Jong & Smeets, 2008). These findings are also relevant to shared reading in a school environment (e.g. Greene Brabham & Lynch-Brown, 2002; What Works Clearinghouse, 2007), where shared reading is one of the common activities.

The positive effects of shared reading are interrelated to the amount and characteristics of interaction before, during and after shared reading. Dickinson and Smith for instance, distinguish between talk with lower cognitive demands and cognitively challenging talk during shared reading at preschool (Dickinson & Smith, 1994). The second type of talk moves beyond the labeling of objects and actions or the recalling of events and offers opportunities for interaction about characters and events on a meta-level. Participation in cognitively challenging talk is thought to extend pupils' knowledge related to the topics, concepts and situations presented in the books, according to a *sociocultural perspective on learning* (Rogoff, 1990; Wenger, 1998).

Vine shows that a conversation analytic perspective and a sociocultural theory of learning may be "useful partners in understanding classroom interactions" (Vine, 2008, p. 691). Detailed studies investigating classroom interactions provide valuable insight in the organisation of learning activities and the ways children participate in them. There is a considerable amount of literature on teacher-led classroom interactions and peer interactions in an educational setting.

Probably best known concerning whole-classroom interaction is work based on the three-part-structure starting with a teacher's question, followed by one or more student replies which are evaluated in third position (Mehan, 1979a; Sinclair & Coulthard, 1975). However, not all teacher-led interactions starting with a question can be considered as "self-contained units, each reaching its conclusion with the teacher's third evaluative turn" (Margutti, 2010, p. 316). When the evaluative turn is not produced, "the opportunity for learner participation continues under the aegis of the teacher's question" (Lerner, 1995, p. 116). This does not necessarily mean that there is no involvement of the teacher in the continuation of the interaction started by an eliciting question. Margutti (2010) for instance illustrates that a teacher may ask subsequent interrelated questions. She finds that a series of question/answer pairs "build a line of reasoning that will gradually guide students toward new forms of knowledge" (Margutti, 2010, p. 316). Extended interactions like those offer opportunities for pupils to react upon and to learn from each other during whole-classroom interactions. Opportunities for this also come up during peer interactions.

With the introduction of group work as a mode of teaching becoming increasingly implemented in classrooms, studies zooming in at peer interactions became more common as well. Not only do these studies reveal how peer interactions are organised (e.g. Thornborrow, 2003), but they also contribute to insight about children's learning. Szymanski, for instance, describes how children cooperatively talk and think about written-question-answering tasks based on their reading of a story and how this is related to their literacy learning (Szymanski, 2003). Mercer and colleagues chose talking together as a starting point in their *Thinking Together programme*, in which they

encourage pupils to solve problems in a joint, interactive manner. They conclude that children not only made progression concerning their problem-solving skills, but also showed growth with respect to their subject knowledge (Mercer & Littleton, 2007).

Features of interaction have thus been linked to knowledge development and learning outcomes. These features are influenced by the *activity type* (Levinson, 1992) that children are participating in. It differs whether children participate in whole-classroom interaction or peer interaction. In addition, it matters what subject pupils are talking about and on what occasion.

Previous studies on shared reading have described shared reading interactions as more or less demanding (Dickinson & Smith, 1994; Greene Brabham & Lynch-Brown, 2002; Reese & Cox, 1999; Reese, Cox, Harte & McAnally, 2003) and have described challenging shared reading interactions in general terms (e.g. Pantaleo, 2007; Wiseman, 2011). However, these studies have not described with sufficient detail the organisation of shared reading interactions that are thought to positively influence children's development. Since participation in higher-demanding talk is related to children's development, one would expect an interest for the formats and overall structure of challenging interactions. So far, the specific organisation and characteristics of challenging shared reading interactions are underinvestigated.

The current study aims to contribute to this by zooming in on the interactional structure of one sort of higher-demanding talk during shared reading. This study focuses on the interactional structure of explanations. Giving explanations for what is happening in the book being read by the teacher to the pupils appears to be a general feature of shared reading interactions.

4.2. Explanations in interactions

Explanations are part of daily life, since we frequently ask or explain why something has happened or why someone behaves in a certain way. From a discourse analytic perspective, giving an explanation can be described as an "interactional move which takes place when one partner offers a piece of new information (*explanans*) which refers to an object of joint attention (*explanandum*)" (Barbieri, Colavita & Scheuer, 1989, p. 131). The need for an explanation "may be directly expressed by the partner by verbal or non-verbal means, or it may be presupposed by the speaker for the sake of goals related to the on-going interaction" (Barbieri et. al., 1989, p. 131).

Children come up with explanations either when explicitly asked to do so or spontaneously, for instance during mealtime (Aukrust & Snow, 1998; Blum-Kulka, 2002) or peer play (Aukrust, 2004; Blum-Kulka, Hamo & Habib, 2010). They generally use explanations to ground behaviour and/or to explain physical events. Barbieri et. al. suggest that the older the child is, the more explanations "will become instruments for building up knowledge about the physical world" (Barbieri et. al., 1989, p. 152). Their study shows that the type of explanations imparted by three-year olds is mainly used to influence their play partner's behaviour. This seems to be of the greatest interest for children in this age range, while older children are expected to be more interested in the wider world and will use explanations to get a grip on objects and situations farther away from them (Barbieri et. al., 1989).

By using picture books during shared reading, young children are able to talk about topics outside the direct environment of the classroom. As such, children might provide explanations for objects of joint attention farther away from them, but made relevant on the basis of the book content. Therefore, the lack of knowledge or understanding addressed in explanations concerns the picture book and its events, situations and actions that come up during the shared reading. The goal of the on-going activity (Barbieri et. al., 1989) is making sense of the course of events presented in the book. If there are problems with the interpretation of these events, explanations may be encouraged (Aukrust, 2004).

These explanations differ slightly from explanations given during everyday interactions, since teacher and pupils try to understand why something happens in the book, what this means and why a protagonist *in the book* wants, feels or does something (based on a typology of Aukrust & Snow, 1998, p. 239). During shared reading, participants do not explain their own behaviour and/or events that they are part of as they would do in personal narratives (Blum-Kulka, 2002), but they explain the events and behaviour that the book characters come across. To do so, pupils need to make inferences to fill in what might be left implicit by the authors of picture books (Zucker, Justice, Piasta & Kaderavek, 2009).

The interactional organisation and characteristics of explanations are thus expected to be influenced by the *activity type* (Levinson, 1992) of shared reading. As will be shown in the following, a closer look at shared reading conversations, gives insight into the interactional structure of explanations and into how teacher and pupils co-construct knowledge on the basis of the (implicit) events in the book. This also adds to an understanding of explanatory interactions in general, since the sequential structure of explanations has not been investigated in so much detail before.

4.3. Data and methodology

In the Netherlands, although it is compulsory for all children to attend school from the age of 5 onwards, most children actually start at the age of 4 years old. The first two grades of school are referred to as kindergarten (Dutch: *kleuterschool*). These grades are taught in either separate or combined classes (grades 1 and 2 together). After attending kindergarten, children go to grade 3, comparable to the first grade in for example the American school system. Kindergarten can be seen as a transitional stage between the home situation and more formal schooling.

In kindergarten, pupils participate in various forms of playful activities which prepare them for more formal schooling and which contribute to their development. Activities pupils participate in range from play to creative work, from small group to whole group activities. Shared reading is a typical whole group activity, taking place during circle time. A recent study on shared reading in the Netherlands reveals that ninety percent of the kindergarten teachers read to their class at least three times a week (Ghonem-Woets, 2009).

Three schools with combined kindergarten classes from the northern part of the Netherlands participated voluntarily in the current study. The teachers are asked to read two selected picture books a week for a period of three months to the entire class, which consisted of around 20 children ranging from 4 to 6 years old. During the shared reading and the accompanying

interactions, the book is displayed on a book stand, so pupils have continuous sight of the corresponding picture. The teachers read the book text and the supplementary shared reading instructions from a separate paper. These instructions are specifically formulated to stimulate discussions about the content of the books. They suggest which book content should be discussed at which moments during the shared reading. Besides this, the instructions propose elicitation techniques such as more open-ended questions or *reader responses* (Kwant, 2011) to establish extended pupil participation in interaction.

The shared reading sessions are videotaped in each class weekly. For the video recordings, two cameras are used that videotaped the teacher and children from two different angles of the circle. The teachers wear an external microphone. The complete database consists of 12 shared reading sessions a class (36 sessions, ± 18 hours in total). The whole database is transcribed according to transcription conventions in Conversation Analysis (appendix C) by means of the computer program Transana (Fassnacht & Woods, 2004).

A collection is made from all the interactions that include explanations. The collection is established by repeatedly looking at the data to find all the instances in which pupils present an *explanans* referring to a joint object of attention. At first, we focused on the moments when pupils used causal terms, such as (translated) *because, cause, so* and *if* and when teachers asked *wh-questions* using question words like *why* and *how*. We complemented these instances with sequences used to accomplish explaining activities without the use of explicit causal terms. In total, the study drew a collection of 164 fragments, which are divided quite equally amongst the three teachers (45-58-61 fragments a teacher).

This collection is analysed in detail according to the qualitative methodology of Conversation Analysis (e.g. Ten Have, 2007) to gain insight into how participants constitute explanatory interactions. Questions we asked ourselves to consider the sequential emergence of explanations were: "why is an explanation justifiable in the co text and how does the explanation emerge and develop" (Blum-Kulka et. al., 2010, p. 441).

4.4. The interactional structure of explanations

Giving explanations about picture books within the setting of shared reading at kindergarten entails a specific kind of interactional structure. Explanatory interactions are structured in a comparable, orderly manner during shared reading sessions in all three of the observed kindergarten classrooms. In the following, it will be shown that teachers and pupils are oriented to the interactional possibilities of explaining issues in picture books. As will be elaborated upon in the first two paragraphs, this becomes visible in their orientation to issues in the book that may be in need of an explanation and in their (joint) establishment of a first explanation. Hereafter, it will be illustrated that these first explanations might be treated by the participants as the starting point for extended explanatory interactions consisting of several interrelated sequences. As will be shown, the explanatory interactions involve two different roles teachers play in the continuation of the interactions.

4.4.1. The start of explanatory interactions: objects of attention and requests for explanations

Teachers and pupils are oriented towards reading as an activity that involves providing additional information. Therefore, they are concerned with topics in the book that might need further elaboration. This is reflected in teacher's and pupils' orientation to objects of attention that may need further explanation and in teacher's requests for explanations.

Regularly, one or more initial explanations are established after a *request for explanation* (based on a characterisation of *Begründungsfragen*) (Wunderlich, 1976, p. 185). In excerpt 1 for instance, the teacher constructs a turn (line 637) by means of a *wh-question* with the question word *why*, which is a common practice in requests for explanations. Rick aligns to that by answering this question (lines 638-641) using the causal conjunction *because*, which is often found at the start of an explanation following a request for explanation. This conjunction is preceded by the adverb *just*. This particle serves as a way of downgrading the status of the contribution.

(1) Duck, Van mij!, 631-642[3]

		Speaker	Transcript	Dutch Original
631		Teacher	what do you <u>think</u> (.) is the ghost	wat <u>denk</u> je (.) is het spook bij
632			at merel's also the ghost from the	merel ook het spook van het
633			castle	kasteel
634			(.)	(.)
635		Pupils	ye::s	ja::
636			(0.4)	(0.4)
637	→	Teacher	why do you <u>think</u> so	waarom <u>denk</u> je dat
638	→	Rick	=just because-he from the very	=gewoon omdat-ie op het eerst
639			be- ginning didn't want to sha:re	van het be- gin niet wou de:len en
640			and he still has merel's sock on on	hij heeft nog steeds merels sok op
641			his head=	op z'n hoofd=
642		Pupils	ye::s	ja::

Preceding the request for explanation, the teacher asked a *yes-no interrogative* in line 631-633. This question immediately follows the reading of the text of the book *Van mij!* (*Mine!*) in which a small egoistic ghost shows up at Merel's house. During the book, she teaches him how to be sociable instead of selfish. In the story, someone is looking for a ghost who ran away from a castle and describes him as being egoistic, although by then, the ghost has become very unselfish. The yes-no interrogative elicits pupil's display of understanding that he is looking for the same ghost. By the interrogative, the teacher thus directs pupils' attention to an object of joint attention (the *explanandum*) that might need further explanation.

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[3] All excerpts are characterised by a fictional kindergarten name (Frog, Duck, Rabbit), the title of the picture book (in Dutch) and the line numbers of the original transcripts.

The orientation of pupils to an *explanandum* that became relevant in the book text or in the picture that has just been shown, is found to precede every explanatory interaction in the collection. This orientation phase functions as a *topic proffering sequence* (Schegloff, 2007) and is comparable to the announcement of news in *pre-announcements* in non-institutional, informal interactions (Schegloff, 2007, p. 37) or to the characterisation of a topic to be discussed in a *headline* in institutional news interview openings (Clayman & Heritage, 2002). Usually, the orientation to an *explanandum* is established in the first one or two positions by means of a question-answer sequence or a statement as will be elaborated on below.

Orienting questions are designed as *polar questions*, *alternative questions* or *content questions* (Stivers & Enfield, 2010). As in excerpt 1, pupils give a short answer to such a question in second position, which finishes the topic proffering sequence. However, such a topic proffering sequence can also be followed by an accepting *sequence closing third* (Schegloff, 2007) or the sequence might be expanded by a *non-minimal post-expansion* (Schegloff, 2007), should there be no agreement on the issue after the first sequence.

In excerpt 2, both possibilities are illustrated. The content question in lines 319-320 proffers the topic of the protagonist's state of mind as visible in the picture of a specific page of the book *Woeste Willem* (*Wild Will*). The answer to this question is not agreed upon, as can be seen in the two successive follow-up questions (lines 325 and 327-329). After Megan's response in lines 330-332, the teacher continues by repeating it (lines 333-334) prior to the request for explanation of one specific emotion in particular in lines 335-336.

(2) Frog, Woeste Willem, 319-336

		Speaker	*Transcript*	*Dutch Original*
319		Teacher	how do you think he feels right	hoe denk je dat ie zich <u>nou</u> voelt
320			<u>now</u>	
321			(0.8)	(0.8)
322		Jack	happy	blij
323		Pupils	happy	blij
324			(0.3)	(0.3)
325	→	Teacher	↑yes do you think so,	↑ja denk je dat,
326		Pupils	( )	( )
327	→	Teacher	could it also be something else	zou 't ook nog iets anders kunnen
328			could he also feel- could he [also	zijn zou die zich [ook nog anders-
329			feel dif-	zou die zich ook anders kunnen v-
330		Megan	[a	[een beetje
331			little bit sad ↑and a little bit	droevig ↑en een klein beetje blij
332			happy	
333	→	Teacher	a little bit <u>sad</u> and a little bit	een beetje <u>droe</u>vig en een beetje
334			happy	blij
335		Teacher	why could he also be a bit sad.	waarom zou die ook een beetje
336				droevig kunnen zijn.

Besides question-answer pairs, the orientation to the *explanandum* can also be established by a statement in one position. An example of this can be seen in excerpt 3. Here, the teacher comments on the behaviour of a book character in lines 263-264 by means of an explicit *assessment* (Pomerantz, 1984). She assesses the fox's behaviour after he has trapped other animals in a picture book version of the classical story *Stone soup*. After a pause of 0.5 seconds, she continues with a request for explanation (line 267) to check whether pupils understood the trap.

(3) Frog, Steen Soep, 263-268

		Speaker	Transcript	Dutch Original
263	→	Teacher	*((looks in book))* hmm I think that	*((kijkt in boek))* hmm ik vind die
264			fox is <u>really</u> smart *((looks round*	vos wel <u>ontzettend</u> slim *((kijkt*
265			*the circle))*	*kring rond))*
266			(0.5)	(0.5)
267	→		↑why was that fox so smart,	↑waarom was die vos nou zo
268			*((looks around circle))*	slim, *((kijkt kring rond))*

Alongside teachers, pupils also use statements that refer to an object of joint attention that is subsequently taken up as something in need of an explanation. The teacher might explicitly accept this in second position before she makes a request for explanation, but the statement can also be accepted implicitly when the teachers asks for an explanation right away in the second turn. An example of this can be seen in excerpt 4.

(4) Rabbit, Sssst!, 410-438

		Speaker	Transcript	Dutch Original
410	→	Mandy	that one is fat	die is dik
411	→	Teacher	how is that possible,	hoe kan dat nou,
			((19 lines omitted))	
433		Teacher	I think that is because we also	ik denk dat het komt omdat we
434			look from bo::ttom ↑up	ook van bene::den ↑naar
435			↑upwards and that it looks like	↑boven kijken en dat lijkt net
436			*((points in book))* that what is in	*((wijst in boek))* dat wat voor is
437			front is very big TAG don't you	dat dat heel groot is he denk je
438			think so	ook niet

Here, a pupil assesses the look of a book character on the page shown by use of an indexical element *that* that draws the other participants' attention to the issue (the cat that looks fat). The teacher then continues on this by making a request for explanation. In this case, she uses a *wh-question* starting with the question word *how*. The full phrase *how is that possible* is more often

found in the data and seems to be a variation on the *wh-question* starting with the question word *why* that elicits an explanation.

The cat looks fat, since the picture they are discussing is drawn from a lower level perspective. By asking for an explanation, the teacher asks pupils to display whether they understand this. This becomes visible in the teacher's feedback in the continuation of the interaction (lines 433-438), when she explains the issue herself after pupils did a couple of unsuccessful attempts.

The orientation to an *explanandum* may also be done more implicitly. In these cases a request for explanation is preceded by an indicative comment or by non-verbal behaviour of the teacher that directs pupils attention to an *explanandum*. In the following excerpt for instance, the teacher says *hey* and looks in the book before making a request for explanation (lines 172-173). This indicates that there is something in the picture that might need additional information.

(5) Duck, Kikker is bang, 169-173

		Speaker	Transcript	Dutch Original
169		Teacher	and he ran and he ran into the	en rende en rende het donkere
170		(reading)	dark woods to duck's house	bos in naar het huis van eend
171			(1.2)	(1.2)
172	→	Teacher	hey *((looks in book))*	hee *((kijkt in boek))*
173			why does frog look behind ↑him	waarom kijkt kikker achter↑om

So, there are several practices to orient (other) pupils to an object of joint attention that might need further explanation in order to make sense of the book. Teachers use question-answer pairs and more or less explicit statements that orient pupils to an *explanandum*, and pupils produce statements, that highlight an object of joint attention that can be explained.

By requesting explanations for what is happening in the book, teachers are showing to be oriented to explanatory interactions as a regular practice during shared reading. As will be shown in the following, pupils are also oriented towards the explanatory nature of shared reading interactions without being explicitly asked to explain something.

4.4.2. The start of explanatory interactions: orientations only

Pupils do not always need an explicit request to deliver one or more explanations. In those cases the orientation to a specific object of attention seems to be enough to elicit an explanation. If the orientation points at an object of attention that (so far) remained unclear in the shared reading activity, pupils might conclude that an explanation is needed in the following interaction. Pupils then seem to be oriented to their *interactional identity* (Zimmerman, 1998) as *explainers*, even when they are not (yet) explicitly invited to explain something. Following Stiver and Rossano's discussion on response relevance (Stivers & Rossano, 2010), we could say that an explanation is subtly *mobilised* by the orientation to a possible *explanandum*. The orientation on explanations is clearly displayed in pupil's regular use of causal terms, comparable to how they design their turns following a request for explanation.

In those cases in which an explanation is realised without an explicit request for explanation, the explanation regularly follows a topic proffering sequence with a teacher question in first position and with the next turn assigned to pupils. Pupils then use this turn for more than answering the orienting question. They extend their answer with an explanation of the phenomenon that is referred to in the orienting question. The sequential structure in those occasions looks like a pattern described as pre-requests in informal interactions, where the answer to the pre-request and the request itself are 'left out'. Levinson showed that a "position 1 turn might get position 4 responses in second turn" (1983, p. 363), as in one of his examples:

[from Levinson, 1983, p. 361]

Speaker	Transcript	Action	Position
S	have you got Embassy Gold please	pre-request	1
H	Yes dear *((provides))*	compliance	4

The explanations however are usually preceded by a short response in second position. So, in these cases, only a request for explanation is left out, as for instance in excerpt 6, in which an orienting polar question (lines 81-82) is answered in short by an answer in unison (*no*) in lines 83-84. This is then followed by an explanation starting with the causal conjunction *because* (*want*)[4].

(6) Frog, De prinses met de lange haren, 80-86

		Speaker	Transcript	Dutch Original
80		Teacher	*((bending over to look in book))*	*((buigt voorover en kijkt in boek))*
81			hmmm the more the better is	hmmm hoe meer hoe beter is dat
82			that actually so,	eigenlijk wel zo,
83		Pupils	no	nee
84	→	Jack	no because the <u>more</u> <u>hair</u> that	nee want hoe <u>meer</u> <u>ha</u>ren komt
85			comes the *((spreads arms))* fuller	hoe *((houdt armen uiteen))* voller
86			the house can get with hai:r	het huis kan komen met haa:r

This excerpt is taken from a shared reading session of the book *De prinses met de lange haren* (*The Long Hair Princess*). Here, the king thinks that the most precious thing about his daughter is her hair. Therefore, the princess is not allowed to cut her hair. So the king says: 'the more the better'. The teacher orients pupils to this possible *explanandum* by asking a polar question. As is shown by his response, Jack then displays his *interactional identity* as an explainer by giving an explanation right away.

It is also frequently seen that pupils are oriented to their identity as explainers when teachers explicitly state that they do not understand something. When this takes place, the pupils also immediately follow-up with an explanation. This illustrates that they take up the orientation to an *explanandum* and the teacher's problem in understanding it as a request for explanation. An

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[4] In Dutch, there are two distinct words (*want* and *omdat*) with one English meaning: *because*.

example of this can be seen in excerpt 7 of the book *Kleine Muis zoekt een huis* (*A New House for Mouse*), in which the teacher explicitly expresses that she does not understand something (lines 156-162). This is taken up as an implicit request for explanation in line 165.

(7) Rabbit, Kleine Muis zoekt een huis, 156-165

		Speaker	Transcript	Dutch Original
156	→	Teacher	but susan *((points in book))* now	zeg maar susan *((wijst in boek))*
157			please have a loo:k cause I don't	nou moet je eens even kij:ken
158			understand it at ↑all *((leafs*	want ik snap er ↑ni:ks va:n
159			*back))* because ↑here mou:se	*((bladert terug))* want ↑hier kon
160			could see the whole ↑apple	mui:s die ↑appel helemaal zien
161			*((leafs forwards))* but he::re	*((bladert vooruit)))* maar hie::r
162			*((points in book))*	*((wijst in boek))*
163		Mandy	not=	niet=
164		Teacher	=could (mou-)	=kan (mui-)
165	→	Dave	lower part (.) and upper part	onderdeel (.) en bovendeel

In this story, little Mouse visits all her animal friends in order to find a new house that will be large enough to accommodate both her and her huge apple. Here, she is visiting Mole who is sitting deep inside his hole. Therefore, Mole has a different perspective on the apple than Mouse had a couple of pages earlier, when she was standing right at the opening of her hole. The teacher's expression shows that she does not understand this difference in perspective. This is reacted upon by an explanation from Dave, which is the first in a longer explanatory interaction based on this *explanandum* as shown in excerpt 10 later in this chapter.

A third category of cases in which an explanation is seen without an explicit request for explanation consists of interactions in which an explanation is given that has been addressed earlier in the same shared reading session. In those cases it appears to be the repetitive nature of picture book stories that establishes explanatory interactions. If teacher and pupils have explained something already that reoccurs in the book, pupils may repeatedly explain the same issue spontaneously as is the case in the following excerpt.

Here, one pupil draws the attention to the pictures in the book that are displayed upside down. This is the case for every page in the book *Fladdertje op zijn kop* (*Fledolin upside down*), since the protagonist is a bat who is hanging upside down. In an earlier fragment of the same shared reading session, the teacher already made a request for explanation that was concluded by an explanation quite similar to the one given in this excerpt. Once a pupil re-orients others back to the same subject, explanations seem to become relevant once more, since another pupil immediately starts an explanation in lines 425-426, again using the causal conjunction *because* (*omdat*).

(8) Duck, Fladdertje op zijn kop, 422-426

	Speaker	Transcript	Dutch Original
422	Kyra	the church is upside down	de kerk staat op de kop *((wijst*
423		*((points at book))* <u>all</u> the houses	*naar boek))* <u>alle</u> huizen staan op
424		are upside down	de kop
425	Tim	because <u>fladdertje</u> is hanging	omdat <u>fladdertje</u> op de kop
426		upside do::::wn	ha:::ngt

So, the demonstration that pupils appear to be oriented to the possibilities of explaining something during shared reading is strongest in those cases in which comparably designed explanations are delivered without an explicit request for explanation. This displays pupils' awareness of the underlying goal of the activity of making sense of the book during shared reading and shows their orientation to their potential *interactional identity* as *explainers*.

4.4.3. The continuation of explanatory interactions: evaluating and scaffolding explanations

After a first explanation has been given, peers and/or the teacher may respond to this. It will be illustrated that these first explanations might be evaluated or might be treated by the participants as the starting point for extended explanatory interactions consisting of several interrelated sequences. As will be shown in the next two paragraphs, these explanatory interactions may take two distinguishable forms characterised by two different roles teachers play in the continuation of the interactions.

At first, the teacher may play the traditional role that is often described for whole-classroom interactions. In these instruction sequences, the teacher displays more epistemic authority than the pupils and is checking pupils' understanding of the book content by asking them for explanations on something that has occurred in the book. In these cases, she is searching for *right* explanations instead of *possible* explanations. This was clearly shown in excerpt 4, when the teacher gives an explanation herself after pupils displayed that they were not able to give the correct response.

The teacher's epistemic authority becomes clearly visible in the feedback on the given explanation(s). Teacher's feedback visualizes that the teacher is testing whether pupils understand something that occurs in the book and that they assist pupils in developing this understanding when it appears to be lacking. As will be shown, teachers either close down the interaction conform to this classical structure or they make use of continuing feedback that guides pupils in the right direction.

In these cases in which pupils produce explanations that display an understanding of what is happening in the book, the teacher may close the interaction by means of a *sequence closing third* (Schegloff, 2007), which assesses pupils' explanations. An example of this can be seen in excerpt 9 from the book *Kleine Ezel en jarige Jakkie* (*Little Donkey and the Birthday Present*). In this book, Little Donkey bought a kite as a birthday present for his friend Jakkie. He likes it so much that he tries all kinds of tricks to keep the kite for himself. Here, one of his attempts failed and Little Donkey is

obviously disappointed about this. The teacher asks for an explanation for his sadness (line 232). Kyra responds to this (line 235), which is evaluated non-verbally by the teacher in line 237. Rick's addition (line 238) is also evaluated in line 241. The teacher's evaluations confirm that she questioned pupils' understanding.

(9) Duck, Kleine Ezel en jarige Jakkie, 232-241

		Speaker	Transcript	Dutch Original
232	→	Teacher	but <u>why</u>- why is he sad then	maar <u>waa</u>rom- waarom is die dan
233				verdrietig
234		Rick	well becau[se he th-	nou om[dat-ie d-
235	→	Kyra	[cause he could not	[omdat hij niet de vlieger
236			have the [kite	[mocht
237	→	Teacher	[((points at Kyra))	[((wijst naar Kyra))
238	→	Rick	but they have bought it for jakkie	maar ze hebben hem wel voor
239				jakkie gekocht
240		Simon	[yehes	[jaha
241	→	Teacher	[tha:t's right=	[z:o is dat=

As the first explanation is not closed by means of a *sequence closing third*, "the opportunity for student participation continues under the aegis of the teacher's question" (Lerner, 1995, p. 116). In those cases, the teacher asks closely related questions that direct pupils towards the correct explanation and hereafter evaluates the final explanation explicitly. By doing so, she builds an explanatory "line of reasoning that will gradually guide students toward new forms of knowledge" (Margutti, 2010, p. 316).

      The following excerpt shows how such a line of reasoning is established. This excerpt shows the continuation of the explanatory interaction started in excerpt 7, in which teacher and pupils started talking about two pictures in the book *Kleine Muis zoekt een huis* (*A New House for Mouse*). After some insufficient explanations following the implicit request for explanation (not in excerpt), the teacher explicitly establishes the need for an explanation by making an explicit request for explanation as can be seen in lines 173-175 of excerpt 10.

(10) Rabbit, Kleine Muis zoekt een huis, 173-213

		Speaker	Transcript	Dutch Original
173	→	Teacher	<u>why</u> can <u>mouse</u> see the who::le	<u>waa</u>rom kan <u>muis</u> de he::le appel
174			apple, and why can mole <u>not</u> see	zien, en waarom kan mol
175			the apple?	helemaal <u>geen</u> appel zien?
176	→	Steve	[cause he SITS in the <u>HOLE</u>	[omdat ie in het <u>HOL</u> ZIT
177	→	Sarah	[((points up)) <u>high</u>er high and	[((wijst naar boven)) <u>hog</u>er hoog
178			down ((points down)) looking	en naar beneden ((wijst naar
179				beneden)) kijken

180			(0.5)	(0.5)
181	→	Mandy	he looks at *((points in book))* at	hij kijkt naar *((wijst naar boek))*
182			<u>mouse</u> [not at the apple	naar <u>muis</u> toe [niet naar de appel
183	→	Dave	[no (he-) from bottom up	[nee (hij-) van
184			upwards *((gestures))*	onder naar boven *((gebaart))*
185	→	Teacher	of- <yes because I think that	van- <ja want ik denk dat
186		Sarah	YES	JA
187	→	Teacher	the mole is sitting a bit further in	de mol een beetje verder in z'n
188			his ↑<u>hole</u> TAG>	↑<u>ho</u>lletje zit he>
189	→	Pupils	yes	ja
190	→	Teacher	so he sits totally- and *((points at*	dus die zit er helemaal- en *((wijst*
191			*Dave))* he has to from bottom up	*naar Dave))* die moet dan van
192			upwa:rds >and then you can't	onder naar bo:ven >en dan kan je
193			look that far< and wha- what is	niet zo ver kijken< en wa- wat
194			mouse doing here then, *((leafs*	doet muis hier dan, *((bladert*
195			*back))* does he also-	*terug))* zit die ook-
196		Mandy	he looks like thi:s *((pretends*	die kijkt zo: *((doet alsof ze ergens*
197			*looking through something))*	*doorheen kijkt))*
198	→	Teacher	but where is he in his hole,	maar waar is die in het holletje,
199			(0.6)	(0.6)
200		Mandy	in his own hole	in z'n eigen hol
201	→	Teacher	but ve:::ry deep down in his	maar hee:::l diep beneden in z'n
202			↓hole,	↓holletje,
203		Mandy	no very closeby:	nee heel dichtbij:
204	→	Teacher	close to the little ↑opening	bij het ↑openingetje *((maakt*
205			*((gestures))*	*handgebaar))*
206	→	Teacher	and then you can see everything	en dank an je alles vee::l beter
207			mu::ch better TAG and then you	zien he en dan kan je ook *((maakt*
208			can also *((gestures))* see much	*handgebaar))* veel ↑mee::r zien
209			↑mo::re	
210		Pupils	yes	ja
211	→	Teacher	yes so that is absolutely right	ja dat klopt dus helemaal he,
212			TAG, *((turns page))* very ↑well	*((slaat bladzijde om))* ↑hartstikke
213			done	goed

The request is responded to by two simultaneously constructed but alternative explanations from Steve and Sarah (lines 176-177). After a silence of 0.5 seconds, Mandy, and hereafter Dave, also offer an alternative explanation without being directly asked for it (lines 181-184). Hereafter, the teacher asks for confirmation of her own alternative explanation in lines 185 and 187-188. By the confirmation *yes* and the conjunction *because* (*want*) she shows her orientation to the pupils' contributions, but addresses a different aspect of the issue. She makes it a joint orientation, by using

the tag-question *hè*. Pupils respond to this with a collective *yes* (line 189). The teacher then provides additional evidence as well as the element previously brought up by Dave in her conclusive summary of the explanation (lines 190-195). That she is oriented to earlier contributions of the pupils is illustrated by her use of *so*, and by an explicit reference to Dave's evidence by pointing to him while concluding.

The teacher then addresses the other part of the topic, the visual perspective of mouse in relation to that of mole, by asking three questions that are scaffolding the pupils to the right explanation. When Mandy fills in the three elements the teacher asked for, she connects these elements by explicitly addressing the explanation herself (lines 206-209). The use of the conjunction *and* relates this to the evidence filled in by Mandy and the use of the superlatives *better* and *more* relate it to the earlier conclusive summary. The tag question with *hè* is responded to by a confirmation from two pupils who turn the reasoning led by the teacher into a joint one. The teacher also treats it as a joint constructed line of reasoning, in which the pupils play a substantial role by indicating that their contributions are of value (lines 211-213).

This excerpt shows that teachers may play a substantial role during the explanatory interaction. They do so in a way that is commonly found in classroom interactions, in which teachers use *scaffolding strategies* (e.g. Pentimonti & Justice, 2010) to assist pupils in their answering, in this case explanatory, sequences. This does not leave much room for pupils to depart from the chosen path. The teacher guides the pupils through the elements that are needed for the final explanation, by asking closely related questions that elicit parts of a sufficient explanation.

4.4.4. The continuation of explanatory interactions: joint problems of understanding

Teachers may also play a less substantial role in the continuation of explanatory interactions. These interactions can be characterised by a *discussion framework* (Gosen, Berenst & de Glopper, 2009) as also illustrated in chapter 3. This can be compared to symmetric interaction with older pupils in which a teacher plays an interactional role that can be described as *partner* (Koole & Berenst, 2008; Oliveira, Sadler & Suslak, 2007; Smith & Higgins, 2006; Tabak & Baumgartner, 2004). During shared reading, these young pupils also offer alternative explanations and contribute to the line of reasoning without being invited to do so. The teacher does not show epistemic authority, but indicates that she occupies the same unknowing epistemic position as the pupils. She does so more or less explicitly by her feedback and by her endings of the explanatory interactions, as is for instance shown in excerpt 11.

Here, the teacher does not guide or explicitly evaluate pupils' contributions, but remains in the background after the initial request for explanation (lines 25-27). She treats pupils' alternative explanations as possibilities by providing non-evaluative feedback (lines 29, 33-34, 44) and she ends the explanatory interaction without evaluating one explanation as correct. Instead, the teacher ends the interaction by pointing at the book as a possible epistemic source (lines 81-82).

(11) Duck, Sssst!, 20-82

		Speaker	Transcript	Dutch Original
20		Teacher	please have a look	kijk maar eens eventjes
21			(0.9)	(0.9)
22		Teacher	<because the name of this book	<want dit boek heet dus *((vinger*
23			is *((finger for lips))* shhh>	*voor mond))* sssst>
24		Rick	[who wrote it	[door wie is het geschreven
25	→	Teacher	[<u>why</u> *((shakes head))* I- why	[<u>waa</u>rom *((schudt hoofd))* ik-
26			would the book- would the book	waarom zou het boek- zou het
27			be called this way	boek zo heten
28	→	Rick	maybe someone is asleep	misschien slaapt er iemand
29	→	Teacher	·h ˚oh˚ [*((looks around in circle))*	·h ˚oh˚ [*((kijkt kring rond)*
30		Daniel	[or maybe there is a giant	[of misschien is er een
31			close by who wants to eat them	reus in de buurt die hun wil
32				opeten
33	→	Teacher	*((glances questioning from D to*	*((kijkt vragend van D naar boek))*
34			*book))*	
35		Rebecca	(that you [therefore have to be	(dat je [daarom stil moet zijn)
36			silent)	
37		Dries	[*((stamps on floor))*	[*((stampt op de vloer))*
38			boom boom [boom	doem doem [doem
39		Teacher	[what did you say	[wat zeg je rebecca
40			rebecca I don't catch what you	ik versta het niet
41			said	
42		Rebecca	that you therefore have to be	dat je daarom stil moet zijn [wat
43			silent [what daniel said	daniel zei
44	→	Teacher	[could be	[zou
45				kunnen
			((33 lines omitted))	
79	→	Rick	maybe it is that (.) <u>little</u> guy that	misschien zegt dat (.) <u>man</u>netje
80			says ssh [cause he sits (.) there	wel sst [want hij zit (.) daar
81	→	Teacher	[well who knows, let's	[nou wie weet we gaan
82			have a look	eens even kijken

The excerpt comes from the book *Sssst!* (*Shhh!*). Before the teacher makes a request for explanation in lines 25-27, she orients the pupils to the title and the front of the book. The initiating request for explanation asks pupils to speculate about the title, which is made clear by the use of *would*. Hereafter, Rick offers a first explanation by the use of *maybe* (line 28), which shows that he aligns with this speculative nature of the interaction. The teacher addresses Rick's initial explanation as newsworthy by expressing *oh* and by looking around at the other pupils (line 29). Daniel's alternative explanation is also not explicitly evaluated but reacted upon in a non-verbal way by

glancing at Daniel in a questioning manner (lines 33-34). The same goes for her feedback on Rebecca's possible explanation to which she responds by saying *could be* (lines 44-45).

Hereafter, 33 lines are omitted from this transcript. In the omitted part, teacher and pupils discuss who wrote the book and, as some pupils started to make snoring noises, the teacher restores order in the class. Hereafter, Rick shows, by his use of *maybe* and the explicit reference to *shhh*, that he is still oriented to the earlier teacher question about the book title (lines 79-80). Although his contribution starts similarly to the earlier explanations from Rebecca and Daniel, he does not offer an alternative explanation, but completes his earlier explanation by pointing at the potential book character who is uttering *Shhh!*. By doing so, he reinitiates the explanatory interaction with what looks like a delayed post-expansion.

The teacher responds to this by saying *who knows*, and continues with closing the explanatory interaction by saying *let's have a look* (lines 81-82). Herewith, the teacher explicitly orients pupils to the book as an external source of possible confirmation of what they have just attempted to explain. This indicates that her discursive identity is equal to the *interactional identity* of the pupils as *explainers*, since they all try to make sense of what is (going to) happen(ing) in the book. The possible implicitness of picture books thus creates joint problems of understanding, since both the teacher and the pupils have to fill in what is not made explicit in the book (yet).

Confirmation that teachers and pupils indeed both use the book as an external source, will be illustrated in chapter 6. On a smaller scale, an example of this can be seen in excerpt 12. This example illustrates that teachers also point at the book as a source to verify the given explanation(s) in a more explicit way. Here, the book *Fladdertje op zijn kop* (*Fledolin upside down*) is read. The pictures in this book are displayed upside down, in order to demonstrate how bats (who hang upside down) see the world. The class tried to find various explanations for why specific items on the pictures were displayed upside down. When they eventually come to the conclusion that the whole picture might be upside down instead of particular items, the teacher indicates that she will turn the book around to validate pupils initial explanations. By turning the book, it will be shown that all the pictures are indeed displayed upside down.

(12) Rabbit, Fladdertje op zijn kop, 157-172

		Speaker	Transcript	Dutch Original
157		Teacher	OH have they made the	OH hebben ze de ↑tekening
158			↑picture *((gestures as if she*	*((maakt handgebaar alsof ze iets*
159			*turns something))* upside down	*omdraait))* op de kop gedaan
160			then,	dan,
161			(0.9)	(0.9)
162	→	Teacher	sh- shall I turn the book around	z- zal ik het boek eens
163				omdraaien
164		Pupils	yes	ja
165		Teacher	*((turns book))*	*((draait boek om))*
166		Mandy	YE::S	JA::
167		Pupils	yes	ja

168	Mandy	that's how it should be	zo moet 'ie
169	Steve	but then the other ones are	maar dan staan die anderen op
170		upside down	de kop
171	Teacher	but that's right because what did	maar dat klopt want wat had ik
172		I just read to you?	net gelezen?

After turning the book, pupils return to the issue by making some additional comments. This shows that they verify their initial explanations and confirm those hypothetical explanations. The teacher also points them in the right direction, by referring to what she has previously read. So, on these rare occasions, in which a book is suitable for a small 'experiment' in addition to the continuation of the reading, teachers use this to involve pupils in an active way in the confirmation of explanations.

These instances of interactions that are concluded by reference to the relation between explanations and (the continuation of) the book, show again that participants may be oriented to a joint construction of explanations. That the teacher is able to take such a role without less epistemic authority is caused by the possibilities offered by the page by page unfolding of picture books. Explanatory interactions are thus not only characterised by the usual nature of whole classroom-interactions. Besides, it appears to be the specific activity of shared reading that offers possibilities for a different kind of explanatory interactions.

4.5. Conclusion

Explanatory interactions during shared reading can be characterised by a specific interactional pattern. Once participants are oriented to an object of attention from the picture book that might need an explanation, initial explanations become established. This regularly occurs right after a teacher's request for explanation. However, an orienting question or special types of orienting statements alone can also be enough to establish a first explanation from the pupils. Pupils seem to presuppose that an explanation might be needed, in this kind of interaction.

Once a first explanation has been given, teachers may play two different roles in the continuation. Explanatory interactions during shared reading can be characterised as more typical whole-classroom interactions with a traditional role for the teacher. In these instances, a teacher's greater epistemic authority is displayed in their use of evaluative feedback and scaffolding strategies. As has been shown, this does not mean that these explanatory interactions are limited to cycles of the instructional three-part sequence. In line with Margutti's findings (2010), teacher and pupils also form a line of reasoning during shared reading in explaining that what is happening together, by creating lists of subsequent questions and accompanying answers.

On the other hand, explanatory interactions within this activity can be characterised by a *discussion framework*. The teacher's more symmetric role is commonly observed concerning interactions with older pupils (Koole & Berenst, 2008; Oliveira et al., 2007; Smith & Higgins, 2006; Tabak & Baumgartner, 2004). It appears to be the *activity type* (Levinson, 1992) of shared reading that influences the teacher's restrained role in this kind of explanatory interactions with younger pupils. The page by page unfolding of a picture book, offers room for reciprocal co-construction of

knowledge (Blum-Kulka et. al., 2010), since all participants are jointly making sense of what is (going to) happen(ing) in the book and the teacher nor the pupils have epistemic authority over the *explananda*.

In these cases, a teacher's *interactional identity* during explanatory interactions can be described as the ignorant facilitator of the explanations. Teachers create opportunities for pupils to come up with a range of possible explanations without playing a principal role themselves. They orient to pupils as *explainers* in their ways of accepting pupils' explanations without explicitly evaluating them and in the endings of explanatory interactions that point at the book as epistemic source.

Pupils themselves are thus not only oriented towards their *interactional identity* as *answerers* but also towards their identity as *explainers* in this activity. This means an extension of the *situated identity* of the category 'pupil' (Zimmerman, 1998), which is frequently described as a solely responsive participant. During shared reading, pupils thus appear to be oriented to both identities. Their orientation to the identity of *explainers* is most obviously displayed in these instances in which explanatory interactions are started without an explicit request to explain something. The orientation to an *explanandum* appears to be enough to activate their identity as explainers.

Pupils' orientation to the identity of explainers is also visible in the continuation of the explanatory interactions after a first explanation has been given. By offering alternative explanations or by expanding each other's explanations, pupils display a continuous orientation to the central activity of explaining. Pupils make use of each other's contributions to compare and display their own (alternative) explanations or to come to an accumulative explanation.

So, shared reading offers different kinds of opportunities for explanatory talk. Participation in these forms of talk has been evaluated as valuable from a developmental perspective. Children practice their reasoning capabilities and by doing so they co-construct knowledge. By participating in explanatory interactions in kindergarten, pupils are expected to be well prepared "for the literacy and the language demands of schooling" (Aukrust, 2004, p. 394).

Detailed analyses of the interactional practices that design explanatory interactions, contribute to our insight into how explanations get established and extended during shared reading interactions and therewith answer the questions "why an explanation now: why is an explanation justifiable in the co text and how does the explanation emerge and develop" (Blum-Kulka et. al., 2010, p. 441). This contributes to our awareness of the possibilities of classroom interactions within the institution of the school. Insight into these practices might for instance contribute to thinking about the deliberate practices of teachers to promote learning in classrooms.

Acknowledgements

Chapter 5

Problem-solving during shared reading[5]

Abstract

This chapter reports on problem-solving interactions taking place during shared reading at three kindergartens in the Netherlands. Whole-classroom interactive shared reading offers opportunities to discuss problematic events or experiences encountered by the characters in picture books. The study shows how teacher and pupils orient to problems that come up in the events in the picture books and how they discuss protagonists' attempts to solve these. Teachers and pupils use *descriptions* and *assessments* to address potentially problematic state of affairs occurring in the book. They do so as *readers of the book*. But teacher and pupils also discuss descriptions and assessments *of the protagonist* that become apparent in the picture book. Both starting points launch problem-solving interactions in a comparable way. During these problem-solving interactions, teacher and pupils explore several possibilities of a book character to overcome an undesired or unexpected situation, action or event. Since it is the book character that has to solve the problem, teacher and pupils do not end the problem-solving interactions with a decision about the best possible solution. This detailed study of problem-solving interactions during shared reading extends the insights in interactional characteristics regarding problem-solving. The chapter shows when pupils from 4 to 6 years old are given the chance to participate in cognitively challenging dialogue like problem-solving, how these interactions are accomplished and how they fit naturally within the shared reading activity.

5.1. Introduction

Shared reading of picture books is a common activity in Dutch kindergartens. Ninety percent of kindergarten teachers read to their class at least three times a week (Ghonem-Woets, 2009). Teachers nowadays interact with their pupils before, during and/or after the shared reading of a book. These interactions may take several forms. Teachers might for instance explain words or ask questions about the illustrations or the theme of the book (Ghonem-Woets, 2009, p. 35). These forms of interactive or dialogic reading are repeatedly found to positively influence the development of (young) children (Mol, Bus, de Jong & Smeets, 2008; What Works Clearinghouse, 2007).

This study investigates shared reading interactions of three kindergarten teachers and their pupils, who participated in a longitudinal shared reading programme in which talking about books played a significant role. During this 3-monthprogramme, teachers are videotaped once a week. The database therefore consists of 36 shared reading sessions. These sessions are transcribed and analysed according to Conversation Analytic conventions (e.g. Ten Have, 2007). This chapter takes a closer look at one form of shared reading interactions.

Teachers and pupils are found to use shared reading interactions for problem-solving. The events central to the picture books that are read to the children and more specifically, the (problematic) experiences of the book characters, occasion classroom interactions that are centred on solutions. After outlining the theoretical background of this study, this chapter will explain how problem-solving interactions are accomplished during shared reading in classrooms and what participants do when discussing book characters' problems and possible solutions. As will be shown in the first half of the chapter, solutions during shared reading interactions are initiated in several more or less explicit ways. The second half of the chapter will illustrate how the problem-solving interactions continue and how these interactions explore tentative possibilities and solutions for the book characters.

5.2. Theoretical background

Problem-solving is a frequently investigated subject in studies with an educational perspective. These studies frequently link problem-solving to interactions. Children are expected to solve problems together by talking it through. For instance, programmes of *problem-based learning* use problems as an instructional start to get pupils to work together and to establish student-learning (e.g. Hmelo-Silver & Barrows, 2006).

That learning can be established by interacting with one another is in line with the *sociocultural theory of learning*. This theory does not consider learning as something internal, but as something that is established in interaction. Analysts working in line with this approach examine how participants in interaction jointly construct potential learning opportunities through their joint construction of meaning (Vygotsky, 1978; and others such as Barnes, 2008; Rogoff, 1990; 2003; Lave & Wenger, 1991). Concerning problem-solving, participants in interaction are thus thought to manage and display their solving of a problem *in* interaction.

Problem-solving in interaction is for instance investigated by Mercer and his colleagues (e.g. Mercer, 1995; Mercer & Littleton, 2007). They consider problem-solving to be part of

reasoning. In their *Thinking Together programmes* pupils are stimulated to talk and *think* together in collaborative group work that is meant to stimulate pupil's reasoning skills and by doing so to extend their subject knowledge. Mercer and colleagues analyse the effect of collaborative problem-solving by testing pupils before and after the collaborative group work on subject knowledge tasks and on problem-solving tasks to see whether pupils are able to solve problems on their own. Thinking Together studies in a wide range of classes in primary school (including Key Stage 1: Littleton et al., 2005) show both growth of knowledge and growth of reasoning skills.

Additionally, Mercer and colleagues analyse the reasoning interactions pupils participate in and broadly distinguish three types of talk: *Disputational*, *Cumulative* and *Exploratory talk* (Mercer & Littleton, 2007). Exploratory talk is most successful in terms of reasoning. By participating in Exploratory talk, pupils engage critically but constructively with each other's ideas (Mercer & Littleton, 2007, p. 59). Involvement in this type of talk is found to be related to the development of joint and individual problem-solving skills. Classroom interactions can thus have more or less positive effects in terms of problem-solving.

To gain insight into what it is exactly that makes interactions successful, we encourage studying classroom interactions in more detail. We agree with researchers such as Lyle who suggest that "research into pupil outcomes […] must be qualified by detailed analysis of actual discourse to further understand how talk can be used to promote meaning-making" (Lyle, 2008, p. 237). More specifically, this means that the interactional structure of problem-solving requires closer investigation to gain deeper insight as to the precise workings of the kind of interaction that is found to contribute to children's development.

As far as can be determined there are no known detailed discourse studies investigating problem-solving in kindergarten classroom interaction that have been conducted in an extensive manner. Children of around 4 years of age are found to be capable of solving problems. They are for instance able to talk and think about problems they encounter in play situations that involve one of their caregivers (e.g. Hoogsteder, Maier & Elbers, 1996). It is thus expected that young children will be able to talk about problems they encounter in the classroom.

Whole-classroom interactive shared reading is one of the activities in which young children can talk and think about problems that they may run into. The reason for this is that picture books read to children often offer opportunities to discuss problematic events or experiences encountered by the book characters. That children are able to recognise problematic events and book characters' attempts to solve a problem, is shown by Stein and Glenn (1979) who analyse children's recalls of stories. During shared reading activities, teachers and pupils also remark on problems that come up in the events in the picture books and discuss a protagonist's attempts to solve these. How these problem-solving interactions are accomplished verbally and how these interactions can be characterised has not been studied in detail yet.

5.3. Data and methodology

The collection of problem-solving interactions is drawn from 36 shared reading sessions of three kindergarten teachers from the northern part of the Netherlands. These teachers volunteered to

participate in a longitudinal shared reading programme of 12 weeks duration. They are asked to read two picture books a week to their classes of around 20 children of 4-6-years old. The picture books are chosen by a team of experts and are supplemented by shared reading instructions to stimulate comparable interactions about the books. The books are displayed on a separate book stand so pupils have continuous sight of the pictures during the reading of the books. The teachers read the book text and the supplementary shared reading instructions from a separate paper.

Each week, one out of the two shared reading session is videotaped in every class. For the video recordings, two cameras are used that videotape the teacher and children from two different angles of the circle. The teachers wear an external microphone. The 36 video recorded sessions of around 18 hours in total are transcribed in accordance with transcription conventions in Conversation Analysis (appendix C) by means of the computer program Transana (Fassnacht & Woods, 2004).

The collection of problem-solving interactions is established by selecting the instances in which pupils' contributions are to be defined as solutions. Solutions can be described as suggestions that are thought to change a supposedly problematic event or experience a book character comes across or is expected to come across. The collection consists of 43 fragments originating from 21 different shared reading sessions. These fragments are analysed in detail according to the qualitative methodology of Conversation Analysis (e.g. Ten Have, 2007) to gain insight into how participants accomplish problem-solving interactions. The results are described in terms of patterns, explicated and illustrated by examples from the data (Freebody, 2003; Ten Have, 2007).

5.4. Results

Based on the complete collection of 43 fragments, problem-solving interactions are found to be launched in more or less explicit ways. The most obvious start of problem-solving interactions during shared reading is when teachers explicitly initiate such an interaction by raising a question (9 fragments). The other 34 fragments of the collection more interestingly show that pupils are also oriented to problem-solving without being explicitly asked for it and that this leads to comparable problem-solving interactions. It will be shown that in these cases the usual starting point of a problem-solving episode consists of a *description* or an *assessment* of a current state of affairs relevant in the book that is read to the pupils.

These starting points are found to share interactional characteristics with the start of adults' decision-making episodes during management meetings as described by Huisman (2000; 2001). She examines decision-making episodes in a detailed manner and concludes that decisions made during such meetings are largely invisible in interaction, although identifiable by close analysis of the turn-by-turn sequences. In these decision-making episodes, "participants recursively (1) formulate states of affairs, which can consist of events, situations, and actions, and (2) assess those states of affairs" (Huisman, 2001, p. 72).

Assessments explicitly evaluate state of affairs. Regularly, *first assessments* are followed by a *second assessment* (Pomerantz, 1984) or by some sort of a *reciprocal affect display* (Goodwin & Goodwin, 1987). A first assessment is thus followed by an affiliation of some sort with the first

speaker's assessment. However, in this setting evaluating something as unexpected or undesired also elicits solutions for the evaluated state of affairs which is interpreted as problematic. When speakers only formulate or describe a state of affairs this is found to elicit solutions in the same sense. These *descriptions* entail an implicit assessment (Huisman, 2000), since by formulating it participants make a state of affairs into the topic of attention. Co-participants expectedly search for a reason for the description and might find something problematic in the state of affairs that they address with one or more possible solutions positioned right after a description is given. In the following, it will be shown that during shared reading *assessments* as well as *descriptions* are found to project a solution to a problem that is apparently implied.

Within the activity of shared reading of picture books at kindergarten, teachers and pupils are found to use descriptions and assessments that address a certain state of affairs presented in the books. Due to the presence of picture books, all participants have access to events, situations and actions in the books that are offered as 'assessable' (Goodwin & Goodwin, 1987) and they are therefore able to talk about this. The use of descriptions and assessments displays that participants *empathise* and *identify* themselves (e.g. Mar, Oatley & Peterson, 2009) with the protagonist and other book characters in the story. By reading a book, one "experiences thoughts and emotions congruent with the events presented by these narratives" (Mar & Oatley, 2008, p. 173). Responding to those events, situations, and actions during shared reading is therefore very common. Participants most regularly produce descriptions or assessments right after a page of the book has been read and/or the accompanying picture has been shown, since the states of affairs have become assessable just before.

In the following two paragraphs, it will be shown how problem-solving interactions are established around sets of circumstances brought up by means of a *description* (12 fragments) or an *assessment* (22 fragments). The first paragraph will describe how participants start a problem-solving interaction on the basis of a description or an assessment of a state of affairs relevant in the book. The second paragraph will illustrate the special role of the picture books in the start of the problem-solving interactions in the shared reading activity. As will be shown, problem-solving interactions are also launched when a description or an assessment *performed by a book character* has been made into the topic of attention.

The third paragraph will concern the continuation of the accomplished problem-solving interactions. The practices of pupils will be shown when they are solving problems during the shared reading sessions. As will be illustrated, problem-solving interactions during shared reading can be characterised as *tentative*.

5.4.1. The start of problem-solving interactions: describing or assessing state of affairs

In 18 fragments of the collection, either teachers or pupils describe or assess state of affairs from their own point of view. By doing so, they reflect on the book text and/or on the pictures in the book. This launches one or more solutions.

The descriptions function as first pair parts, which take the form of a statement accomplished by either the teacher or by a pupil. In excerpt 1 for instance, the teacher is reading the

book *Ik wil groot zijn* (*I want to be*) about a little princess who wants to be taller than she is right now. Every page she asks someone else how she may become taller. Every page, someone gives her advice that she has to keep track of. Here, she has just been given the sixth piece of advice and is recollecting the earlier ones by naming them. The accompanying picture shows the princess counting on her fingers. The teacher copies this by explicitly counting on her own fingers, while summing up the book text. When she calls out the fifth piece of advice, she looks at her hand and describes a current state of affairs in lines 586-587. As can be seen, pupils offer a solution in second position (line 589-592). This indicates that they take the description as implying that the teacher evaluates 'the rest not fitting in' as something problematic.

(1) Rabbit, Ik wil groot zijn, 567-592

		Speaker	Transcript	Dutch Original
567		Teacher	•hh oh dear [the little	•hh oh lieve help [dacht de
568		(reading)		
569		Mitch	[she sits on a ↑pot	[ze zit op een
570				↑pot
571		Teacher	princess thought *((counts on*	kleine prinses *((telt op handen))*
572		(reading)	*hands))* I- I have to be nice and	i- ik moet aardig zijn en [lief en
573			[sweet and clean	schoon
574		Steve	[be sweet and clean	[lief zijn
575				en schoon
576		Lydia	*((counting on hands))*	*((telt mee op handen))*
577		Teacher	and bra[ve and good in swi-	en dap[per en goed in zwe-
578		(reading)	*((looks at hand))*	*((kijkt naar hand))*
579		Steve	[brave	[dapper
580			(1.0)	(1.0)
581		Steve	swim[ming	zwem[men
582		Teacher	[oh *((looks at hand where*	[oh *((kijkt naar hand*
583			*she is counting on))*	*waarop ze de dingen aan het*
584				*tellen is))*
585			(0.8)	(0.8)
586	d→[6]	Teacher	the rest absolutely does not fit	de rest kan d'r helemaal niet
587			any↑more	meer ↑bij
588			(1.6)	(1.6)
589	s→	Mandy	[it does with your other hand	[wel je andere hand *((steekt*
590			*((moves hand forwards))*	*hand naar voren))*
591	s→	Steve	[(sure with the other) *((moves*	[(echt met de andere) *((steekt*
592			*hand forwards))*	*hand naar voren))*

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[6] d stands for *description*, s for *solution*, a for *assessment* and e for *evaluation*. Numbers indicate that the assessments consist of two parts.

In excerpt 2, it is a pupil who describes a state of affairs in a statement (lines 202-204). When the teacher reads the book text of *Kleine Muis zoekt een huis* (*A New House for Mouse*) in which the protagonist has found an apple that she wants to take into her hole, Tim supposes that accomplishing this might be problematic as the picture of the hole and the apple suggests this will be so. Other pupils respond to his description by elaborating on it and by offering a solution to the implied problem.

(2) Duck, Kleine muis zoekt een huis, 195-215

		Speaker	Transcript	Dutch Original
195		Teacher	mmm how nice said little mouse	mmm wat lekker zei kleine muis
196		(reading)	I will take the apple into my hole	die appel neem ik mee naar mijn
197				holletje
198			(0.4)	(0.4)
199		Daniel	home	huis
200			(1.3)	(1.3)
201		Teacher	*((looks in book))*	*((kijkt in boek))*
202	*d→*	Tim	but I think that the apple does	maar ik denk dat die appel niet
203			not fit in h- his little ↑hole	in z- ze ↑gaatje past door de
204			through the door	deur
205		Walter	yeh [for sure pretty big	jah [vast wel erg dik *((duidt*
206			*((indicates size with his hands))*	*grootte aan met handen))*
207		Kyra	[I think that (.) I think [that	[ik denk dat (.) ik denk [dat
208		Teacher	[*((points*	[*((wijst*
209			*at Kyra))* kyra=	*naar Kyra))* kyra=
210		Kyra	=I think that the apple is too big	=ik denk dat die appel te dik is
211			and I think that •h the mouse	en ik denk dat •h de muis de
212			cannot hold the apple either	appel ook niet vast kan houden
213	*s→*	Simon	*((looks at teacher))* BU:T he	*((kijkt naar leerkracht))* MAA:R
214			should eat it ( ) *((looks at Kyra))*	hij moet 'm opeten ( ) *((kijkt*
215				*naar Kyra))*

Tim's description is confirmed by Walter (lines 205-206), and Kyra elaborates on it by describing a related state of affairs in lines 207 and 210-212. Hereafter, Simon offers a first solution (lines 213-215). This shows that a description of one pupil, might elicit a solution from another pupil. This is shown clearly in Simon's use of the conjunction word *but* which shows his orientation to the earlier contributions. With this he connects the description to his contribution that offers a solution.

The foregoing excerpts show that a solution follows a *description* accomplished by either a teacher or a pupil. Assessments get established in a comparable way. An example of a pupil's assessment can be seen in the following excerpt. Here, the teacher reads the book text that reveals the problematic initiating event of the book *Wie is de liefste* (*Second Best*). The pupils are told that

Bear is a soft toy belonging to Else, who is allowed to take her favourite cuddly toy to school the next day. Bear is really excited, since he is convinced that he will accompany Else to school. However, here the book text communicates that it is actually Dog that Else chooses to take to school with her. Having heard this, Jack shows his empathy with Bear in an assessment (line 54).

(3) Frog, Wie is de liefste, 45-79

		Speaker	Transcript	Dutch Original
45		Teacher	in the morning else always says	s ochtends zegt else altijd dag
46		(reading)	bye bear bye dog before she	beer dag hond voor ze naar
47			leaves for school today she will	school gaat vandaag zegt ze
48			only say bye dog bear thinks	alleen dag hond denkt beer blij
49			happily but when else leaves she	maar als else weggaat neemt ze
50			takes dog bye bear she says and	hond mee dag beer zegt ze en
51			then she runs downstairs the	dan holt ze naar beneden de
52			front door closes with a bang	voordeur slaat dicht
53			(2.4)	(2.4)
54	a→	Jack	how sad	wat zielig
55			(1.5)	(1.5)
56		Teacher	yes	ja
57			(0.7)	(0.7)
58		Jack	he really [wanted to go with her	hij wou [net zo graag mee
59		Samuel	[h o o *((looks at Jack))*	[h o o *((kijkt naar Jack))*
60		Teacher	*((looks at Jack)) ((nods))*	*((kijkt naar Jack)) ((knikt))*
61			(1.0)	(1.0)
62		Samuel	but ACTUALly (.) >(cause the)<	maar EIGENlijk (.) >(want die)<
63			•h (1.0) but ↑ACTUALly (no) the	•h (1.0) maar ↑EIGENlijk (ne)
64			do- dog cannot ( ) alone	kan die ho-hondje ( ) niet alleen
65			(1.3)	(1.3)
66		Teacher	no (.) but [it does happen	nee (.) maar [t gebeurt wel
67	s→	Tobias	[or together take both	[of samen allebei de
68			the soft toys	knuffels nemen
69		Teacher	yes	ja
70			(0.7)	(0.7)
71	e→	Jack	yes but that is not possible	ja maar dat kan nu niet meer
72			anymore cause she is already on	want nu is ze al onderweg
73			her way now	
74		Teacher	*((looks at Jack)) ((holds hands up*	*((kijkt naar Jack)) ((houdt*
75			*and hits with papers on her lap))*	*handen op en slaat met papieren*
76				*op schoot))*
77			(1.5)	(1.5)
78		Teacher	*((looks in book))* I think it's really	*((kijkt in boek))* ik vind t ook wel

79		sad too	heel erg zielig

In line 54, Jack expresses that he feels sorry for Bear in an assessment. Here, he negatively evaluates the situation in the book. Prior to Tobias offering a solution in lines 67-68, the assessment is taken up by the teacher, elaborated on by Jack and reacted upon by other pupils. Jack aligns with Tobias' solution to the problem but indicates that *that is not possible anymore* (lines 71-73). The teacher then ends the problem-solving interaction by producing a delayed second assessment (*I think it's really sad too*) in lines 78-79. This indicates that an assessment might elicit *solutions* as well as *second assessments* as commonly found in everyday interactions (Pomerantz, 1984).

Besides assessing a certain state of affairs in a statement, teachers also *ask* for assessments. This establishes problem-solving interactions in a comparable manner. An example of this can be seen in the following excerpt from a shared reading session of the book *Kikker is bang* (*Frog is frightened*). The protagonist, Kikker (*Frog*), is frightened by some noises he hears while lying in bed, so he starts running to his other animal friends for help. They, in their turn, become influenced by each other's fear. Here, the first friend Eend (*Duck*) is infected by Kikker's fear, as becomes apparent in the book text. Then, the teacher asks a yes-no interrogative addressing an assessment of a protagonist's behavior. Once completed, the collaboratively established assessment is followed by a solution.

(4) Frog, Kikker is bang, 181-193

		Speaker	*Transcript*	*Dutch Original*
181	a-1→	Teacher	[hey samuel would it be	he: samuel zou 't wel <u>no</u>dig zijn
182			<u>ne</u>cessary that duck is afraid as	dat eend nu ook bang is
183			well now	
184			(0.4)	(0.4)
185		Teacher	what do you think	wat denk jij
186	a-2→	Samuel	ye:s	ja:
187		Teacher	you think [so	jij denkt [van wel
188		Mike	[yes	[ja
189	s→	Samuel	bu- bu- bu- but may↑be (.) (you	ma- ma- ma- maar mis↑schien
190			know) maybe not afraid but they	(.) (weet je) misschien niet bang
191			should, (0.3) have a light if the	maar ze moeten, (0.3) een lamp
192			ghost is not coming and a uh	hebben als die spook d'r niet
193			flash light	aankomt en eenu:h zaklamp

In this excerpt, Samuel is asked to indicate whether Eend should be afraid or not (lines 181-183). He answers the question (line 186) and then follows up with a reformulation of his response linked to a possible solution (lines 189-193). He suggests chasing away the earlier mentioned possible cause of the fear (a ghost). The collaboratively established assessment thus seems to orient him to Eend's fear, for which he offers a solution.

Just as descriptions, assessments thus also clearly project one or more solutions, either by a statement or by a collaboratively established assessment. These findings will be confirmed in the next paragraph. Here, it will be indicated that descriptions and assessments do not only address participants' stances towards situations, actions and events in the picture books. Descriptions and assessments based on *book characters' own stances* towards these state of affairs are found to establish similar problem-solving interactions.

5.4.2. The start of problem-solving interactions: book characters' descriptions and assessments of state of affairs

Besides, describing and assessing the actions, situations and events that occur in the book as *readers of the book*, teacher and pupils also discuss descriptions and assessments *of the protagonist* that become apparent in the picture book. As will be shown, these kinds of descriptions and assessments also lead to a problem-solving interaction in 16 cases.

The descriptions by a book character differ from pupil or teacher descriptions illustrated in paragraph 5.4.1., since pupils launch solutions on the basis of the book text that includes a description. In excerpt 5, this concerns a description of Butterfly, one of the characters of the book *Beer is op vlinder* (*Bear loves Butterfly*). The initiating event in this book is that Bear is in love with Butterfly, but that he is too shy to tell her right away. Bear's goal is thus to convince Butterfly of his love for her. The whole book is centred on several attempts to do so. Here, Bear just picked all the flowers he could find and gave those to Butterfly in a bouquet. Butterfly then describes in the book text (lines 655-657) that she does not know how to get through winter without the honey from these flowers. This description implicitly displays Butterfly's negative stance towards Bear's attempt. This description is strengthened by a description of the teacher in lines 659-660, in which she stresses Bear's ignorance. However, Rebecca already offers a solution in overlap with the teacher in lines 661-662 and line 664.

(5) Duck, Beer is op vlinder, 651-667

		Speaker	Transcript	Dutch Original
651		Teacher	but bear (.) why did you pick all	maar beer (.) waarom heb je alle
652		(reading)	the flowers (.) you have to leave	bloemen geplukt (.) je moet ze
653			them there otherwise they do	laten staan anders geven ze
654			not give honey anymore (.)	geen honing meer (.)
655	d→		and how do I have to get	en hoe moet ik nu de winter
656			through winter now butterfly	doorkomen vraagt vlinder
657			asks	
658			(0.9)	(0.9)
659		Teacher	↑o:↓:h bear did not think	↑o:↓:h daar had beer niet aan
660			about [that	ge[dacht
661	s→	Rebecca	[but then she can still get	[maar dan kan ze thuis toch
662			that at home from the ehm	wel dat uit dat ehm

663			(0.4)	(0.4)
664	s→		nectar=	bloemenhoning halen=
666		Teacher	=yes but you know- ↑yes that	=ja maar weet je wat- ↑ja dat
666			would be a possibility *((turns*	zou ook nog kunnen *((slaat*
667			*page))*	*bladzijde om))*

The assessments of a protagonist display a response of a protagonist to a situation, action or event in the book. This becomes a topic of conversation by either a statement or a question-answer pair establishing an assessment. In the latter cases, the teacher invites the pupils to fill in the assessment of a book character that became apparent in the preceding book text and/or picture as in for instance excerpt 6.

This excerpt originates from a shared reading session of the book *Van Mij!* (*Mine!*). In this book, an egoistic ghost suddenly shows up at a little girl's house and takes over everything by saying *van mij* (*mine*)! The girl, Merel, reacts calmly to all the incidences that ghost is not sharing something. Then, she teaches the ghost to share and play together. The story ends with the ghost changing for the better even being able to say *voor jou* (*yours*). In this excerpt, the teacher reads about the ghost's second attempt to take everything from Merel. In the interaction that follows, Merel's response to, or her assessment of the ghost's behavior is made topic of conversation.

(6) Duck, Van mij!, 137-162

		Speaker	*Transcript*	*Dutch Original*
137		Teacher	he quickly took all the bathing	hij pakte vlug alle badspulletjes
138		(reading)	things mine merel shrugged her	van mij merel haalde haar
139			shoulders and got into bath with	schouders op en met een plons
140			a splash	stapte ze in bad
141			(0.8)	(0.8)
142		Dries	pedoem=	pedoem=
143		Teacher	=hee[:	=hee[:
144		Dries	[poe	[poe
145			(.)	(.)
146		Teacher	merel shrugged her shoulders	merel haalde haar schouders op
147			(0.3)	(0.3)
148		Simon	*((laughs))*	*((lacht))*
149	a-1→	Teacher	what is it merel wants to say	wat wil merel daarmee zeggen
150			with this	
151			(.)	(.)
152	a-2→	Rick	well that she	nou dat ze
153			(.)	(.)
154		Teacher	[°ri°	[°ri°
155	a-2→	Rick	[kind of likes it that he is in bath	[het wel leuk vindt dat-ie in bad
156			but he-	is maar hij-

157		(0.3)	(0.3)
158	s→	I think- (.) if I like it when a ghost	ik denk- (.) als ik het leuk vind als
159		gets into bath (0.3) then I just	er een spook in bad ga (0.3) dan
160		get out then (0.3) I will climb on	ga ik er gewoon uit dan (0.3)
161		the toilet then I will open the	klim ik even op de wc dan doe ik
162		window p:oins	dat raam open p:oins

In response to the teacher's question in lines 146 and 149-150, Rick gives an answer that displays that he knows what shrugging your shoulders means (lines 152 and 155-156). Therewith, he also indicates that he understands Merel's assessment of the ghost's behavior. Rick then immediately illustrates the unexpectedness of Merel's assessment by saying how he himself would assess the ghost's behavior should there have been a ghost in his own bath (lines 158-162). So, by addressing the assessment *of* Merel a solution is launched in a comparable interactional way as when teacher and pupils themselves assess the behavior or events in the books.

The two previous excerpts show that pupils make no difference between descriptions or assessments by their teacher and/or peers and descriptions or assessments of book characters. Both sorts of descriptions and assessments launch similar problem-solving interactions. In the following, it will be shown how these problem-solving interactions continue after the first solution is offered and how teacher and pupils explore possible solutions in these longer problem-solving interactions that can be characterised as *tentative*.

5.4.3. Exploring a book character's possible solutions

Problem-solving interactions are launched at moments when something unexpected or undesired comes up in the book. Teacher and pupils might recognise these moments when they keep track of the story line, of a book character's goals and of his/her attempts to achieve these goals. When an event, situation or action comes up that does not match the expectations based on the story line so far, teacher and/or pupils may express this by describing or assessing this unexpected or undesired state of affairs. The first solution that follows such a description or assessment confirms that pupils recognise these set of circumstances as potentially problematic.

In 35 of the collection of 43 fragments, the interaction is not ended directly after a first solution has been given. Either other pupils or the teacher react to the first solution. These longer problem-solving interactions within this setting can be characterised as *tentative*. In interaction, teacher and pupils explore the possibilities a book character has to overcome an undesired or unexpected situation, action or event. Pupils do so by evaluating the earlier given solutions and/or by bringing up several possible solutions within the boundaries of the book that is been read. Teachers express their awareness of the problematic state of affairs in the light of the story line in their feedback on the offered solutions and in the way they end the problem-solving interaction and link it to the reading of the following page. The problem-solving interactions during shared reading never end with a decision about the best possible solution.

In the following excerpt from the book *Beer is op vlinder* (*Bear loves Butterfly*), it can be seen how pupils come up with a list of possible solutions without deciding what the best possible

solution would be. Here, the picture is shown where Bear is demolishing his final attempt, a house he built for Butterfly as a labour of love, but which she did not like because of her fear of heights. Walter suggests in a first solution to 'build the house smaller' to solve Butterfly's fear (lines 1034-1035).

Hereafter, pupils subsequently propose other possible solutions (lines 1038, 1042, 1045, 1050, 1052-1055). This is done quite explicitly by a series of *or*-prefaced possible solutions. Conjunctions like *or* mark the relation to earlier proposed solutions and underline them as potential alternatives. In this way, a list with several possible solutions is constructed that all follow syntactically and intrinsically upon Walter's contribution. Comparable to the *and*-prefaced contributions Mazeland describes concerning *position expansions* (Mazeland, 2009), these *or*-prefaced contributions also illustrate that pupils rely on Walter's first contribution and elaborate it.

(7) Duck, Beer is op vlinder, 1034-1061

		Speaker	*Transcript*	*Dutch Original*
1034	*s→*	Walter	he has to build the HOUSE	hij moet t huis KLEINER
1035			SMALLER	BOUWEN
1036	*e→*	Teacher	yes ((nods)) that was ↑also a	ja ((knikt)) dat was ↑ook wel
1037			good idea of yours.	een goed idee van jou.
1038	*s→*	Kris	or [closer to the grou:nd	of [dichter bij de gro:nd
1039		Teacher	[yes	[ja
1040		Dries	[OR- ((stands up from chair))	[OF- ((staat op))
1041	*e→*	Teacher	yes exa:ctly ((nods))	ja precie:s ((knikt))
1042	*s→*	Kris	or totally <u>at</u> the ground	of heemaal <u>op</u> de grond
1043	*e→*	Teacher	yes that would also be a good	ja dat zou ook een goed idee zijn
1044			idea [heh if he would do that	[heh als ie dat zou doen
1045	*s→*	Rick	[O:R as high as the flowers	[O::F zo hoog als de bloemen
1046	*e→*	Teacher	((points at Rick)) <u>ex</u>↑actly	((wijst naar Rick)) <u>pre</u>↑cies
1047			(0.4)	(0.4)
1048		Teacher	[well-	[nou-
1049		Rick	[°then° [then she can-	[°dan° [dan kan ze-
1050	*s→*	Tim	[or <u>close</u> by the flowers	[of <u>bij</u> de bloemen
1051	*e→*	Teacher	yehes ((nods)) right	jaha ((knikt)) klopt
1052	*s→*	Kris	or building a small house far	of een huisje bouwen ver van de
1053			away from the flowers but then	bloemen maar dan een tuintje
1054			build a little garden with a lot of	met allemaal bloemen bouwen
1055			flowers	
1056	*e→*	Teacher	yes	ja
1057			(0.4)	(0.4)
1058		Teacher	well we will have a ↑look	nou we zullen es even ↑kijken
1059		Walter	yehes	jaha
1060		Teacher	what bear will do ((turns page))	wat beer gaat doen ((slaat

The contributions illustrate that pupils have interpreted Butterfly's undesired fear of heights as a problem, although this is a minor problem compared to the predominant problem that Bear keeps failing in his attempts to convince her of his love. Still, pupils display orientation to 'assist Bear' in succeeding. Walter is the first to come up with a possible solution. He is quite confirmative in his suggestion by using *he has to* (*hij moet*) (line 1034). The other pupils align with this by linking their solutions to the first one. This displays that pupils indeed think along with a book character's actions and talk about his possibilities to overcome this problem.

By evaluating the solutions as *good ideas* (lines 1036-1037 and 1043-1044), the teacher also shows her orientation to the offered solutions as possible suggestions for Bear. Especially her use of *if he would do that* (line 1044) illustrates her consideration of a given solution in the light of the story line. Her use of a conditional clause (*if*) also underlines the tentative nature of the interaction. Moreover, this is reflected in her ending of the problem-solving interaction. She concludes the problem-solving interaction by explicit reference to the solution the protagonist, Bear, might choose (lines 1058 and 1060). This explicates that pupils might explore possible solutions together, but that the decision is left to the book, since it is the protagonist who will decide how to solve this problematic situation. By reading along, they will find out what Bear will do next. This thus orients pupils to the continuation of the story in general and to Bear's attempts to achieve his goal in particular.

That pupils consider possible solutions in the light of the story so far, can also be seen in their evaluations of solutions offered by others. In the shared reading activity, they seem to be well aware of their dependency on the line of the book, as shown for instance in excerpt 3. Here, Jack rejected a possible solution by reference to the story in lines 71-73 (*that is not possible anymore*). By use of the adverbs of time *now* and *not anymore*, he is pointing back to what happened earlier in the book and uses this to reject the solution offered by another pupil. This illustrates that he thinks along with the book character and the possibilities he still has to overcome the problem.

In the following excerpt, Daniel also evaluates earlier given solutions. This excerpt shows the continuation of excerpt 6. Here pupils suggested getting rid of the egoistic ghost by throwing him out of the window, which is followed by several other quite cruel attempts to chase away the ghost. Daniel then reacts to this by suggesting a 'considerate' solution.

(8) Duck, van mij!, 179-195

		Speaker	Transcript	Dutch Original
179		Daniel	no I will tell something [that is	nee ik zou ook iets vertellen
180			really [sweet	[wat pas lief [is
181		Teacher	[merel	[merel [wat wou je nog
182			[what did you want to say	zeggen
183			(0.3)	(0.3)
184	s→	Daniel	well ehm (0.3) if there is a ghost	nou ehm (0.3) als er een spook
185			with you you should not (0.6)	bij je is moet je 'm niet (0.6)

186			you should not put him in the	moet je 'm niet in de wc doen
187			toilet but just bring him back to	maar gewoon weer naar het
188			the <u>haunting</u> ↑house	<u>spook</u>h↑uis terugbrengen
189			(.)	(.)
190		Robert	[yes	[ja
191	e→	Teacher	[((*nods*)) that's also possible TAG	[((*knikt*)) dat kan ook TAG ((*slaat*
192			((*turns page*))	*bladzijde om*)))
193			(.)	(.)
194		Dries?	the ghost=	het spook=
195		Teacher	=that is also possible	=dat kan ook

In lines 184-188, Daniel offers his alternative solution. He generalises the solution by the use of a conditional subordinate clause *if … then* and by the use of *je* (generic *you*). This shows that pupils are also able to move beyond the book context and may offer general solutions that anyone in a comparable situation may use. This is not surprising since this problem-solving interaction started (excerpt 6) by addressing Merel's unexpected assessment of the ghost's behavior as 'normal' where one would expect her to assess this behaviour negatively. This therefore elicits an interaction about how one in general would react upon such an event. Daniel's contribution is accepted as a possibility by the teacher in line 191 and 195, saying *that's also possible* which again underscores the tentative character of the interaction.

Pupils may also express their alignment with an earlier provided solution by elaborating on it. An example (excerpt 9) is the continuation of excerpt 4. Here, Samuel suggests using a flash light to scare the ghost that is frightening Eend. Ruth explicitly aligns with this by confirming with *yes* and by expanding on the possible solution (lines 194-195), by an argumentation. Jack and Mike display their agreement too, by an agreement token (line 198) and by partial repetition of the offered solution (lines 196-197).

(9) Frog, Kikker is bang, 194-207

		Speaker	*Transcript*	*Dutch Original*
194	e→	Ruth	yes cause uh [cause uh ghosts	ja wantuh [want uh spoken
195			cannot stand the light	kunnen niet tegen licht
196	e→	Mike	[when he is coming	[als die eraan komt
197			you can just [( )	dan kan je gewoon [( )
198	e→	Jack	[no	[nee
199		Ruth	[ghosts cannot	[spoken
200			stand [that ((*shakes head*))	kunnen daar niet [tegen ((*schudt*
201				*hoofd*))
202		Teacher	[well [I am curious	[nou [ik ben
203				benieuwd
204		Samuel	[( )	[( )
205			(0.6)	(0.6)

206	Teacher	everywhere [were ↑ghosts	overal [waren ↑spoken (.) ↑en
207	(reading)	(.)↑and scary monsters	enge monsters

Again, this excerpt shows that the teacher orients pupils concerning the chosen alternative, to their dependency on the book, by expressing *I am curious* in lines 202-203. Just as with her explicit reference to the solution Bear will choose in the continuation of the book (excerpt 7), she here indicates in a more implicit way that they have to wait and see what the protagonist will do next. The teacher's references indicate that solutions are treated in the light of the story and that exploring possible solutions for the protagonist is all that occurs without the children deciding what to do next themselves.

The continuation of the initiated interactions shows that pupils are oriented towards problem-solving as a tentative activity. They think along with the book characters by offering possible solutions they *could* use in the continuation of the book. The unfolding of the story page by page offers opportunities to discuss possible, future solutions taking into consideration what happened in the story so far. As will be shown in chapter 6, pupils are enabled to compare their proposed solutions with the protagonist's solutions as the story continues. As such, pupils may learn from a protagonist's experiences without having experienced all of these themselves. The shared reading activity thus offers possibilities to talk and think about potential problems and to consider possible solutions in the light of the book. Because of this tentative character, these problem-solving interactions are well interwoven with the moments of shared reading.

5.5. Conclusion

As has been shown, problem-solving during shared reading of picture books takes place on a regular basis. Not only when directly asked for by the teacher, but pupils are mainly oriented to problem-solving without being explicitly invited to do so. In these cases, it is the action implied in a description or an assessment that is found to launch one or more solutions. These actions can be characterised by the attention that is drawn to an unexpected or undesired state of affairs that comes up in the book. Teacher and pupils recognise these state of affairs as potentially problematic in the light of the story line so far.

By a description of such a potentially problematic situation, action or event central to the picture book or by an assessment of a certain state of affairs, pupils are found to launch one or more solutions. Interestingly, descriptions and assessments may take two distinguishable forms leading to a comparable problem-solving interaction. Both descriptions and assessments *by participants* (in this case teacher and pupils) as well as descriptions and assessments *of book characters* elicit one or more solutions. So, pupils do not differentiate between descriptions or assessments by their teacher and/or peers and descriptions or assessments of book characters. Both sorts of descriptions and assessments launch similar problem-solving interactions.

Assessments and descriptions take the form of statements, while assessments are also established collaboratively in question-answer adjacency pairs started by the teacher. This means that in these latter cases a *first assessment* is only completed in the second position of a question-

answer pair instead of being completed in first position occupied by a statement. Once completed, the collaboratively established assessment launches a problem-solving interaction in a comparable manner as an assessment taking the first sequential position in a statement. This means that no matter what position the first assessment is in, it might elicit one or more solutions instead of or in addition to a *second assessment* or a *reciprocal affect display*.

Surprisingly, problem-solving during shared reading at kindergarten shows interactional similarities with discourse during work meetings. Problem-solving interactions begin in a comparable way (Huisman, 2000; 2001) and positions become comparably expanded in the continuation of the problem-solving interactions (Mazeland, 2009). The differences between the two sorts of interactions can be accounted for by the decision-making process. Frequently, work meetings are centered on decisions. These decisions can be traced in interaction (Huisman, 2001). During shared reading, decisions are left to the book characters. This is reflected in the tentative nature of the problem-solving interactions, in which participants offer and critically consider one or more alternative solutions without deciding on the best possible option themselves.

Teachers play a role during these interactions by evaluating the solutions as possibilities and by ending the problem-solving interactions with a reference to the continuation of the book, in which the solution may be revealed. That teacher and pupils are both dependent on the book content to find out how the problem of the book character will be solved enables all the participants (teacher *and* pupils) in problem-solving interactions to explore possibilities from an equal epistemic position. This in contrast to instructive classroom interactions in which teachers show epistemic authority by bringing something up in interaction and proceed to test pupils' knowledge on the subject.

The conclusions mentioned above could only be reached by a close analysis of problem-solving interactions during shared reading. Others like Mercer and Littleton (2007) already stressed the importance of problem-solving in interaction and elaborated on the general characteristics of these kinds of interactions. By a detailed study of problem-solving interactions during shared reading, this study has extended the insights in interactional characteristics regarding problem-solving. We have demonstrated how the activity of shared reading influences the establishment and nature of the interactions. It has been shown that pupils of around 4-6 years of age are concerned with talking about potentially problematic state of affairs occurring in picture books. In their reasoning about these problematic state of affairs pupils display their thinking about possible solutions within the boundaries of the picture book that is being read. These detailed analyses thus showed how pupils get the chance to participate in cognitively challenging dialogue like problem-solving, how these interactions are accomplished and how they fit naturally within the shared reading activity.

Chapter 6

Tracing learning in
recurring interactions[7]

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[7] Submitted as: Gosen, M.N., Berenst, J., & de Glopper, K. *Tracing learning in shared reading at kindergarten. An investigation of recurring interactions*

Abstract

This study describes recurrent discussions of topics during shared reading sessions, and shows how these discussions display pupils' growing understanding of these topics. Data come from a database of 36 shared reading sessions videotaped during a 3-month shared reading programme in the Netherlands. The three participating teachers are encouraged to read interactively to their classes of around twenty 4- to 6-year old pupils. Two different types of sets of recurring interactions are found in the data. The first type can be characterised by the development of understanding over time. In these cases, the first interaction of a set of interactions can be described as hypothetical and ends without deciding on the matter that is discussed. In the following interactions, participants link back to this when conclusions can be drawn on the basis of the continuation of the book reading. The second type of sets can be characterised by children's application of obtained knowledge. In these sets, teacher and pupils recurrently discuss a topic that has been concluded upon in the first interaction, but that becomes relevant again in the continuation of the shared reading. A close analysis of both types of sets of interactions shows pupils' learning over time.

6.1. Introduction

It is impossible to imagine Dutch kindergartens without picture books. Ninety percent of Dutch kindergarten teachers read to their class at least three times a week (Ghonem-Woets, 2009). This shared reading is regularly accompanied by time for interactions before, after and/or during the shared reading activity. These interactions may take several forms, ranging from explaining words to asking questions about the illustrations or the theme of the book (Ghonem-Woets, 2009, p. 35). The current study followed three kindergarten teachers and their classes for a period of three months while they participated in a shared reading programme. This programme especially stimulated interactions about the picture books.

The underlying idea of this longitudinal shared reading programme is that talking about picture books with a specific content that might be interesting and important to children contributes to the development of children's knowledge about these issues. This is in line with a perspective on learning in which learning is not considered as something internal, but as something that is established in interaction. Analyses in this *sociocultural tradition* uncover how participants in interaction construct knowledge through their joint construction of meaning (Vygotsky, 1978; and others such as Barnes, 2008; Lave & Wenger, 1991; Rogoff, 1990; 2003). Those joint constructions also offer potential individual learning opportunities (Bereiter, 2002). However, like Bereiter (2002), we are mainly interested in the joint constructions of meaning. Therefore, we also use the term ´learning´ for those joint constructions of meaning.

This chapter takes a closer look at pupils' co-construction of meaning during shared reading sessions. Teachers and pupils are found to repeatedly discuss the same book-related topics. This reoccurrence is explicitly displayed in *sets* of interactions consisting of two or more interactions from the same shared reading sessions. The data contain 38 instances of sets of interactions originating from the complete database of 36 videotaped shared reading sessions, all of which are transcribed and analysed according to Conversation Analytic methodology (e.g. Ten Have, 2007).

This chapter shows when and how participants refer to the future and refer back to earlier interactions in these sets of interactions and how this provides insight into pupils' learning during one lesson. A close analysis of the data illustrates that pupils demonstrate their understanding in different kinds of cumulative interactions. Either they use following interactions to draw conclusions about a topic that was hypothesised about in the first interaction or they use these succeeding interactions to use and extend their understanding of what was concluded upon earlier, but which becomes relevant once more. Both of these types of sets of interactions show a development of learning over time, as will be demonstrated in the remainder of this chapter.

6.2. Interaction and knowledge construction

According to a *sociocultural perspective on learning* (Rogoff, 1990; 2003; Wenger, 1998), participation in challenging discourse positively influences the development of knowledge. Mercer (1995) introduces the term *educated discourse* to describe language children use for reasoning and discussing. The use of forms of *educated discourse* is found to lead to better learning and

understanding in children, as for instance is shown by the improvement of test results of children who participated in so-called *Thinking Together programmes* (Mercer & Littleton, 2007).

So far, the language used by pupils in interaction is mainly characterised in general terms as being valuable for knowledge construction or not. Mercer and colleagues for instance typify three general ways pupils talk and think together. *Disputational* and *Cumulative talk* are either characterised by disagreement and individual decision-making (*Disputational talk*) or by uncritically building on one another's contributions (*Cumulative talk*). *Exploratory talk* comes closest to the successful features of educated discourse, when pupils are critically but constructively engaged with each other's ideas (Mercer & Littleton, 2007).

These characterisations function very well as a tool in describing peer interaction as more or less efficient in relation to test outcomes. However, when only presupposing that different typifications of interactions affect test outcomes, the learning processes taking place in interaction might be overlooked. Mercer seems to be aware of this as well, since he appropriately writes, "as learning is a process that happens over time, and learning is mediated through dialogue, we need to study dialogue over time to understand how learning happens and why certain learning outcomes result" (2008, p. 35). Therefore, in order to really understand how classroom interactions contribute to the construction of knowledge, more detailed studies of discourse over time are needed. A closer examination of discourse that is found to be constructive for knowledge development might lead to a closer insight into children's learning processes.

There is already a valuable range of studies investigating recurring interactions in a detailed manner (as also summarised in chapter 2 of this thesis). Taken broadly, these studies can be categorised in three groups. At first, the learning of a first or second language is studied over time. For instance, Brouwer and Wagner (2004), Mondada and Pekarek Doehler (2004), Wells (2009) and Wootton (1997) show that language learning can be traced in studying (participation in) succeeding natural and similar interactions. These studies illustrate that learning is situated in interactional practices and that participation in recurring interactions displays a growing competence in a (second) language.

Secondly, studying comparable interactional practices over time gives insight in the learning of procedures or routines. These studies deal with a wide range of subjects such as the learning of school routines and the learning of procedures in more unusual educational environments. Vine (2003) for instance illustrates how a 5-year old newcomer learns to participate as a member of the class as displayed in recurring interactions with his peers in one curriculum unit. Deunk, Berenst and de Glopper (2010) also show how pre-schoolers learn the routine of closing craft assignments over time by participating in succeeding assignments and the accompanying interactions. Melander and Sahlström (2009) show a flight academy student's growing understanding of recovering from unusual attitudes (deviant positions of airplane) in recurring flight lessons in a simulator. In these cases, development of understanding of a procedure is traced in changes in talk and embodiment over time.

The third category consists of studies of interactional trajectories focusing on the learning of content. Melander and Sahlström (2008) investigated the development of topical knowledge of three 7-year olds talking about the size of a blue whale at several moments in time. Their analyses

show that during the recurring peer interactions in a joint book reading activity, the evolvement of understanding of the topic is displayed.

These strands of research show that studying recurring interactions in detail contributes to our insights in the learning processes of developing children and adults. However, these studies are mostly restricted to the learning processes of one learner or a small group of learners in or outside school. Studies on learning in whole-classroom interactions seem to lag behind. Therefore, studies so far have not completely fulfilled the needs expressed by Mercer in his 2008 paper on classroom dialogue in which he argued for studying dialogue over time. The current study contributes to this growing field of research on knowledge construction and interaction, by zooming in at learning over time in whole-classroom shared reading interactions.

6.3. Shared reading and interaction

There is a long and extensive tradition of research on shared reading. The importance of the activity for the language and literacy development of young children is repeatedly stated (e.g. Bus, IJzendoorn & Pellegrini, 1995; Sénéchal & LeFevre, 2002). In particular, the influence on children's vocabulary growth and story comprehension have been topics of attention as summarised by Morrow and Brittain (2003). The effects on children's development appear to be related to factors such as group size and repeated reading. One factor that has also been a recurring topic of investigation has been the amount, characteristics and impact of interaction occurring before, during and/or after the shared reading. Studies investigating interactive reading continuously conclude that these forms of shared reading have a positive influence on the language and literacy development of children (Mol, Bus, de Jong & Smeets, 2008; What Works Clearinghouse 2007), and also on the conceptual development (Kwant, 2011; Van den Heuvel-Panhuizen, Van den Boogaard & Doig, 2009; Van der Pol, 2010).

Interactive shared reading may take several forms. Comparative studies zooming in on different shared reading styles, stress the differences in adults' interactive behaviours and the accompanying differences in effect (Dickinson & Smith, 1994; Greene Brabham & Lynch-Brown, 2002; Reese & Cox, 1999; Reese, Cox, Harte & McAnally, 2003). These reading styles differ with regards to the demand level and the placement of commentary during reading. An interactive style in which teachers and parents create room for interaction before and after the complete shared reading of the book is defined as a *performance-oriented style* (Reese & Cox, 1999) or a *performance style* (Greene Brabham & Lynch-Brown, 2002). Reading styles characterised by alternately reading and discussing the stories are described as *interactional style* (Greene Brabham & Lynch-Brown, 2002) and respectively, as *describer style* and *comprehender style* (Reese & Cox, 1999).

These last two styles from Reese and Cox (1999) differ in demand level. In the low-demand *describer style*, adults focus on describing and labelling pictures. In the higher-demanding *comprehender style*, adults use reason explanations related to why something happened in the story. The *performance-oriented style* or *performance style* is also characterised as higher demanding because of the incorporation of more affective commentary or evaluative judgments. These higher demand discussion levels "require that the child goes beyond the immediate context of

the text to understand why an event happened or to evaluate what that event might mean for the character or the reader" (Reese & Cox, 1999, p. 21). Dickinson and Smith (1994) describe these higher demanding styles by the analytical nature of the talk. They defined *analytical talk* as talk that requires the child "to step back from the story and reflect on the story line and, quite frequently, on the language of the story" (Dickinson & Smith, 1994, p. 117).

In line with Van Kleeck and Vander Woude (2003), one might state that analytical talk involves inferencing and reasoning about book content. This includes predicting what will happen next or predicting the outcome of the story, providing general information that is not directly provided in the book or providing explanations that go beyond story or actions in the book (Van Kleeck, 2003). Practicing these levels of language use is expected to assist children to derive meaning from texts, as will be required from them in higher grades of school. On a smaller but essential scale, the use of analytical talk is expected to contribute to the construction of knowledge concerning the book that is been read during the current shared reading activity.

Similar to what has been concluded concerning knowledge construction and interactions in section 6.2., these different characteristics of shared reading interactions are often presupposed to influence young children's development to a lesser or greater extent. As stressed by Reese and Cox, "different styles of book reading benefit different skills for children of different levels" (1999, p. 27). Greene Brabham and Lynch-Brown (2002) for instance conclude that both the *interactional* and *performance style* stimulate the vocabulary acquisition more than a *just-reading style* and that if comprehension is the main goal of the book reading, then a *performance* or even a *just-reading style* might be best. However, the specific aspects of interaction which, to a greater or lesser extent, benefit children's development have remained underinvestigated. Therefore, the current study examines knowledge construction during shared reading interactions by means of the detailed interactional methodology of Conversation Analysis.

6.4. Data and methodology

The data presented in this chapter are drawn from a longitudinal study on shared reading interactions at the first two grades of Dutch primary schools, which can be called kindergarten. In this study, three kindergarten teachers and their classes of around 20 4- to 6-year old pupils from the northern part of the Netherlands are followed for a three-month period. The teachers are asked to read two selected picture books a week to the entire class. One out of the two shared reading sessions is videotaped in each class weekly. The complete database therefore consists of 12 shared reading sessions per class (36 sessions, ± 18 hours in total).

During the shared reading and the accompanying interactions, the book is displayed on a book stand, so pupils have continuous sight of the corresponding picture. The teachers read the book text and the supplementary shared reading instructions from a separate paper. These instructions are specifically formulated to stimulate discussions about the content of the books. For the video recordings, two cameras are used that videotape the teacher and children from two different angles of the circle. The teachers wear an external microphone.

The whole database is transcribed according to transcription conventions in Conversation Analysis (appendix C) by means of the computer program Transana (Fassnacht & Woods, 2004). By repeatedly looking at the transcribed data, we have identified a collection of 38 instances in which teacher and pupils link two or more interactions from the same shared reading sessions. These interactions are based on the same book-related topic and the reoccurrence is explicitly displayed in interaction by participants' use of reference words that link back or refer to the future. This collection is analysed in detail, according to the qualitative methodology of Conversation Analysis (e.g. Ten Have, 2007) to find patterns that display how participants refer back and forwards to related interactions and to what they orient in their conversational behaviour during shared reading sessions. In relation to this, the means by which this provides insight in pupils' learning is described. Sets of interactions that are recurring in nature, but that did not display pupils' growing understanding are left out of this chapter.

6.5. Results

In the three participating classrooms, teachers use an interactive reading style in which moments of reading are alternated with moments for interaction. These interactions may take several lower or higher level demanding forms. As has been shown in the foregoing of this thesis, pupils participate in shared reading interactions that take the form of instructional, teacher-led interactions, or they participate in a *discussion framework* (Gosen, Berenst & de Glopper, 2009). During all these moments for interaction, teachers and pupils talk about the book content and related subjects.

Interactions are occasioned by the books. Children books can often be characterised as predictable because of the repeated or cumulative story events and, eventually because of the repetitive language pattern (Tompkins & Webeler, 1983). In addition, the story unfolds itself page after page. It is only after turning a following page that children will be able to check their assumptions and predictions. The characteristics of most picture books thus enable participants in shared reading interactions to repeatedly talk about the same issues. Studying participation in these succeeding interactions gives insight in the learning processes of children.

In the following, it will be shown that several interactions in one shared reading session seem to form *sets* of interactions. These sets cover a topic that is discussed at one moment during the shared reading and is reverted to in one or more succeeding interactions. The relation between the interactions becomes visible in teachers' and pupils' contributions. They are found to more or less explicitly link current interactions to previous interactions in the same shared reading sessions. Additionally, teachers explicitly refer to the continuation of the shared reading to close a specific interaction and to continue the book reading. So, participants in shared reading interactions either refer to the future or link back to what has been discussed before (figure 1).
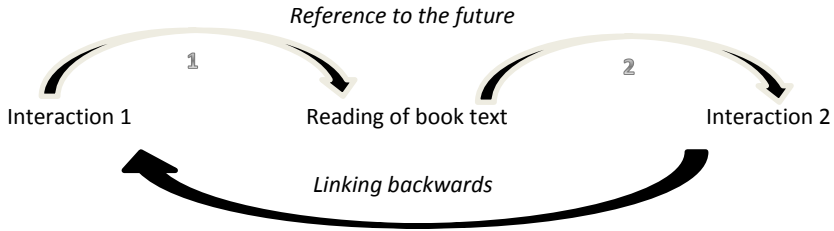
Figure 1. *Linking interactions during shared reading*

The sets of interactions that are established by these references and links generally take two different forms. In the following two sections, these different sets of interactions will be elaborated upon. It will be shown that pupils display either to develop understanding over time or to apply obtained knowledge in recurring interactions. Both types of sets of interactions give insight in pupils' learning over time.

6.5.1. Development of understanding over time

This section will zoom in at the type of sets of interactions that show the development of understanding over time. In these 29 sets found in the data, the first interaction can be described as tentative and is ended without deciding on the matter that is discussed. These interactions are most often ended by the teacher with a reference to the continuation of the shared reading (forward arrow 1). This prepares pupils to check their predictions and assumptions in the continuation of the shared reading activity. When the reading of the book text reveals what is left undecided, participants may draw conclusions on what is discussed in the first place (forward arrow 2). When they link back to this in later interactions (backward arrow), a set of interactions is realised. This indicates that teacher and pupils use the continuation of the shared reading to check their hypotheses.

Interactions with a tentative character, such as explanatory or problem-solving interactions (chapter 4 and 5 of this thesis), are a common practice during shared reading. It seems to be the reading of a page of the book that is alternated with discussing it that offers opportunities to talk and think about issues that may be only revealed in the continuation of the shared reading activity. That teacher and pupils are oriented to this can be seen in teachers' explicit references to the continuation of the reading and in teachers' and pupils' orientation to previously discussed issues in succeeding interactions. These sets of interactions show pupils' progress in their exploration and understanding of book-related topics.

The different interactions of the sets of interactions are separated by the reading of book text. The revelation of an undecided topic may be realised after the reading of one following page of the book, but may also only be revealed after the reading of a longer episode or even after the reading of the complete book. In these latter cases, the structure of the story seems to play a role. Overall, fictional stories are goal oriented: an initiating event sets up a problem or dilemma for the book character, which he/she repeatedly attempts to solve during the book. In the end, the

character most often succeeds in doing so (Stein & Glenn, 1979). How or whether a protagonist will solve the problem is something that might be discussed during the shared reading of a book. It is only at the end of the shared reading activity that it is revealed if and how a protagonist did so. In these cases, it is also only at the end of the shared reading that teacher and pupils may link back to the previously discussed possibilities.

An example of such a set of interactions will be given in excerpts 1 to 3 concerning the book *Kleine Muis zoekt een huis* (*A new House for Mouse*). In this book, a mouse runs into the problem that the apple that she wants to get into her house does not fit through the door of her hole. When the pupils describe this problem spontaneously, this results in a discussion on possible solutions, as can be seen in excerpt 1. As will be shown in excerpts 2 and 3, it is only at the end of the shared reading that pupils draw their conclusions about the final solution that is revealed by the book. In the first excerpt of this set, pupils come up with two different kinds of solutions: making the apple smaller or making the hole bigger.

(1) Duck, Kleine muis zoekt een huis, 208-260

	Speaker	*Transcript*	*Dutch Original*
208	Jill	*((raises hand))*	*((steekt vinger op))*
209	Simon	BU:T [he should eat it ( ) *(looks*	MAA:R [hij moet 'm opeten ( )
210		*at Kyra))*	*((kijkt naar Kyra))*
211	Teacher	[*((points at Jill))* and [jill,	[*((wijst naar Jill))* en [jill,
212	Jill	[and	[en
213		and <u>there</u>after he wants [a new	en <u>daar</u>na wil die [een nieuw
214		house	huis
215	Tim	[*((looks*	[*((kijkt naar*
216		*at Kyra))* no he can also [role it	*Kyra))* nee hij kan 'm ook [rollen
217	Jill	[because	[omdat
218		the apple doesn't fit in	de appel er niet in past
219	Teacher	[*((points*	[*((wijst*
220		*at Simon))* a:nd simon,	*naar Simon))* e:n simon,
221	Simon	or you have to eat it outside first	of je moet 'm eerst buiten
222			opeten
223	Teacher	*((looks surprised, shakes*	*((kijkt verbaasd, haalt kort*
224		*shoulders slightly))*	*schouders op))*
225	Walter	or eat a [piece	of een [stukje opeten
226	Kyra	[*((raises hand))* and I	[*((steekt vinger op))* en ik
227		know another one	weet er nog een
228	Teacher	*((looks at Kyra))*	*((kijkt naar Kyra))*
229	Kyra	well if you *((points at book))* if- if	nou as je *((wijst naar boek))* als-
230		the apple doesn't fit in well you	als de appel d'r nie goed in past
231		should get a little knife out of	moet je even een mesje uit je
232		your house and then you should	huis halen en dan moet je 'm
233		make it a little bit thinner	een beetje dunner maken

234			*((cutting movement))*	*((snijbeweging))*
235		Teacher	well [shall-	nou [zullen-
236		Robert	[no you better *((cutting*	[nee die kan je beter
237			*movement))* cut it [↑through •h	*((maakt snijbeweging))* [door de
238			and then it will probably fit	midden snij↑e •h en dan kan 'ie
239			through	d'r vast wel door
240		Simon	[or making the	[of 't huis
241			house somewhat *((circle*	wat groter *((maakt*
242			*movement with arm))* bigger	*cirkelbeweging met arm))*
243			*((looks at Kyra))*	maken *((kijkt naar Kyra))*
244		Teacher	[yes *((nods))*	[jah *((knikt))*
245		Kris	[*((looks at Kyra))* or the [( )	[*((kijkt naar Kyra))* of 't [( )
246	→	Teacher	[shall we	[zullen
247			have a look *((turns page))*	wij 'es gaan kijken *((slaat*
248				*bladzijde om))*
249			(0.7)	(0.7)
250	→	Teacher	*((looks around))* °shall we have	*((kijkt kring rond))* °zullen we 'es
251			[a look° *((points in book))* what	[gaan kijken° *((wijst in boek))*
252			solution <u>mouse</u> comes up with,	wat <u>muis</u> voor oplossing heeft,
253		Rick	[*((looks at Robert))* °then you	[*((kijkt naar Robert))* °dan moet
254			have to *((kicks))* do the first half	je *((trapt been naar voren))*
255			(in) [and then the other half°	eerst de helft (naar binnen)
256				doen [en dan de tweede helft°
257	→	Teacher	[*((looks at Rick))* first we	[*((kijkt naar Rick))* moeten
258			should have a look *((nods))*	we eerst even kijken *((knikt))* of
259			whether it's correct what you all	't klopt wat jullie zeggen
260			say	

Firstly, pupils come up with possible solutions that make the apple smaller. In addition, Simon suggests a fundamentally different solution: making the hole bigger. The teacher plays a role in the discussion by turn management and by accepting the contributions as valuable, new contributions. The teacher then closes the interaction by referring to the continuation of the book to *see what solution mouse comes up with* (lines 250-252). She literally stresses that they have to look and see if the pupils are right with their possible solutions (for a closer analysis of problem-solving interactions during shared reading we refer to chapter 5 of this thesis).

In later interactions of the same set, pupils display to stay oriented to the issue during the continuation of the shared reading session. Similar to excerpt 1, they recurrently hypothesise about the possibilities Mouse has without making explicit what Mouse will do in the end. Every time this issue comes up in interaction, this is initiated by a pupil who directly responds to the book text and/or the illustrations. The orientation on the size of the apple and on the problem of fitting it in or not is not specifically stimulated by the teacher.

The story ends when, after several unsuccessful attempts to find a new home for her and her apple, Mouse unintentionally gets back to her own house where the apple fits in after nibbling from it all day long. So, it is only at the end of the shared reading session that pupils draw their conclusions about the final solution that is revealed by the book. That the apple fits in is concluded by the pupils before the book text reveals this, as illustrated in excerpt 2. At first, Kyra concludes that the apple will fit through. When the teacher turns the page and the illustration (figure 2) shows that the apple is indeed inside, Tim draws this conclusion verbally.
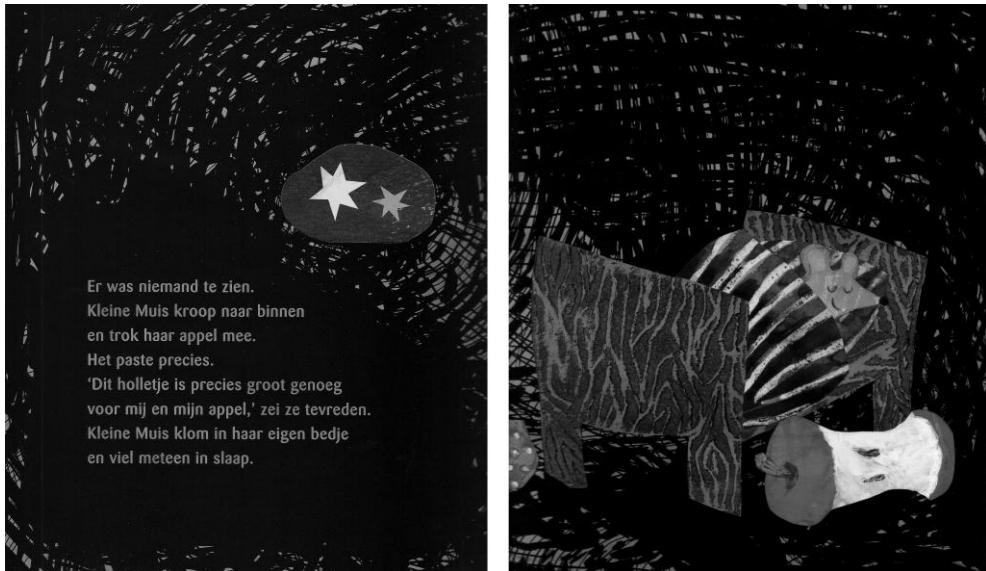
Figure 2. *A New House for Mouse: the apple inside the house*

(2) Duck, Kleine muis zoekt een huis, 850-863

		Speaker	Transcript	Dutch Original
850	→	Kyra	and now it doe:s fit through	en nu past ie d'r we:l door
851			*((points at book))*	*((wijst naar boek))*
852	→	Teacher	*((looks in book, surprised))* shall	*((kijkt in boek, verbaasd))* zullen
853			we have a ↑look then,=	we es ↑kijken dan,=
854		Max	=that is her (.) <u>own</u> ho::le	=dat is haar (.) <u>eigen</u> ho::l
855		Teacher	[*((turns page))*	[*((slaat bladzijde om))*
856		Robert	[that is [her own hole	[dat is [haar eigen hol
857		Rebecca?	[ye::::s	[ja::::
858		Teacher	have a look *((points in book))*	kijk es even *((wijst in boek))*
859		Walter	↑yes that's his own hole	↑ja dat is z'n eigen hol
860	→	Tim	and he got his apple through as	en hij heeft zeh appel ook door
861			well	gekregen
862		Teacher	*((looks in book, looks surprised*	*((kijkt in boek, kijkt naar Tim*

| 863 | | | *at Tim))* | *verrast))* |

In this excerpt, Kyra stresses the contrast with the foregoing situation in the book by using *now* and the positive polarity particle *wel* (translated with *does*). She concludes this on the basis of a foregoing illustration which displays the core of the apple in front of the hole. The teacher then realises a local reference to the future in lines 852-853 and turns the page. Then, the illustration in figure 2 is shown and Tim draws the conclusion that the apple indeed fitted through (lines 860-861). He uses the Dutch present perfect tense (*heeft gekregen*) which confirms the conclusive nature of his contribution. Subsequently, pupils spontaneously elaborate with explanations for why the apple fits in now (excerpt 3). In doing so, they link back to the solutions they explored at the beginning of the shared reading session and spontaneously *demonstrate* their understanding of the line of events (Koole, 2010).

(3) Duck, Kleine muis zoekt een huis, 864-909

		Speaker	*Transcript*	*Dutch Original*
864		Robert	that IS be (.) cause the	da KOMT om (.) dat de
865		Teacher	*((points at Robert))*	*((wijst naar Robert))*
866	→	Robert	tha- (.) is because he had a lot of	da- (.) komt omdat ie heel veel
867			bites (.) and if you lot bi- (.) and	hapjes het gegete:n (.) en as je
868			if you have had a lot of bites [he	heel hap- (.) en als je heel veel
869			did fit through	hapjes hebt gegeten [kon ie er
870				wel door
871	→	Max	[it	[wordt ie
872			gets <u>thinner</u>	<u>dunner</u>
873		Teacher	*((points at Max, points at*	*((wijst naar Max, wijst naar*
874			*Robert))* I- you have to let robert	*Robert))* ik- je moet even robert
875			finish (.) what do you say?	uit laten praten (.) wat zeg je?
876			*((looks at Robert))*	*((kijkt naar Robert))*
877	→	Robert	cause if you h- (.) if you (have) a	want as je es- (.) as je heel veel
878			lot of bites from the apple then	hapjes van de appel (beet) dan
879			it does fit through	kan ie er wel door
880		Teacher	*((nods, points at Max))*	*((knikt kort, wijst naar Max))*
881	→	Max	yes cause then [it gets ↑more	ja want dan [wordt ie ↑steeds
882			and more	
883		Dries	[˚you can also	[˚je kan ook [>hele
884			[>eat the whole apple<˚	appel opeten<˚
885		Teacher	[max *((points at Max))* max=	[max
886				*((wijst naar Max))* max=
887		Max	=then it gets thinner and then	=dan wordt ie steeds dunner en
888			the hole gets bigger and then it	dan wordt dat gat groter en dan
889			fits through that there	past ie daar doorheen
890			*((accompanying gestures))*	*((begeleidende gebaren))*

891		Teacher	right you [see	kijk [nou aan
892	→	Robert	[no the hole does not	[nee t gat wordt niet <u>gro</u>[ter
893			get <u>big</u>[ger	
894		Teacher	[no the ↓hole does not	[nee
895			get bigger *((shakes head))* [no	t ↓gat wordt niet groter
896				*((schudt hoofd))* [nee
897	→	Robert	[no	[nee t [gat
898			the [hole does not get bigger	wordt niet groter maar hij
899			but he	
900		Max	[no th- [app-	[nee he-
901				[appe-
902	→	Robert	[stays as (.) big	[blijft wel (.) zo groot
903		Teacher	yes,=	ja,=
904	→	Robert	=if you (eat) a lot of bites of it	=als je heel veel hapjes (beet)
905				ervan
906		Teacher	yes,	ja,
907	→	Robert	then e:hm (0.6) then it will fit	dan e:hm (0.6) dan komt ie d'r
908			through by itself	wel vanzelf door
909		Teacher	right	klopt

Robert spontaneously starts the explanation why it fits in now by pointing at the nibbling of mouse (lines 864-870). Max supports this by adding that it gets thinner and that the hole gets bigger. He combines the two different kinds of solutions that were addressed in the beginning of the shared reading, only one of which is found to be true. Robert immediately refutes the incorrect part of Max's solution (the hole getting bigger) and stresses that the hole stays as big as before (lines 897-899 and 902). By this final explanation, earlier solutions implicitly pass in review (eating it, making the hole bigger). The teacher then ends this by explicitly evaluating his explanation and by (not in excerpt) reading the final book text that agrees with Robert's explanation.

At the beginning of the session several hypotheses are brought up that are explored together. Pupils hypothesised about general solutions one might in theory choose when trying to fit in something that is too big. This appears to be the foundation for the later elimination of the 'bigger hole hypothesis'. In the end, they align with the solution chosen in the book and *demonstrate* their understanding of it by spontaneously explaining the chosen solution.

However, it should be noted that participants do not always explicitly draw these kinds of conclusions in interaction, not even when this may be expected because of the presence of teacher's references to the future. There are instances when the book text reveals what is left undecided in the preceding interaction without participants coming back to their hypotheses in a second interaction. An example of this can be seen during the reading of the book *Van mij!* (*Mine!*). In this book, a little ghost ran away from home and visits Merel. At this moment in time, the book text revealed that someone is ringing Merel's doorbell. Kris suggests that this might be the ghost's parents (line 608-610). The teacher accepts this as a possibility (line 612) and refers to the

continuation of the reading of the book in line 615 after Kyra did another suggestion (line 613). The reading of the following book text immediately reveals that it is a stranger who rang at the door. In the continuation, teacher and pupils do not link backwards to eliminate the 'parents hypothesis', but just continue with (other aspects of) the shared reading activity.

(4) Duck, Van mij!, 608-619

		Speaker	Transcript	Dutch Original
608	→	Kris	there is someone at the door	er staat iemand voor de deur
609			that's probably <u>dad</u>dy or	da's <u>pap</u>pa zeker of <u>ma</u>mma
610			<u>mom</u>my	
611			(.)	(.)
612	→	Teacher	may[be yes	mis[schien wel
613	→	Kyra	[or a ghost	[of een spook
614			(.)	(.)
615	→	Teacher	well we will have [a look	nou we gaan eens [even kijken
616		Kris	[huuweh	[huuweh
617			*((huddles together with Rick))*	*((kruipt tegen Rick aan))*
618	→	Teacher	hello said the stranger who was	dag zei de vreemde man die
619		(reading)	standing at the door	voor de deur stond

Additionally, there are references to the future that do not follow upon an interaction with a tentative character. These references seem to have a practical function by indicating that participants are expected to shift from an interactional participation framework to the elementary framework of moments of reading (Gosen, Berenst & de Glopper, 2009), in which pupils are only considered to be recipients and are not allowed to respond verbally to what is read during the reading of the book text.

      These deviant cases underscore that not every reference to the future starts a set of interactions. It is the linking backwards that occasions that one interaction becomes part of a set of interactions. Although these single interactions may provide valuable insight in the organisation of classroom interactions, it is only when a set of interactions is realised that these interactions give insight in pupils' growing understanding of the topic that is discussed recurrently.

6.5.2. Applying knowledge over time

Besides developing understanding over time, recurring interactions also provide insight in pupils' use of obtained knowledge. In this second type of sets of interactions, teacher and pupils recurrently discuss a topic that has been concluded upon in the first interaction of a set. In the successive interactions, pupils display how they make use of the conclusions drawn in the first interaction. They are found to use the knowledge that is constructed in the first interaction in comparable and contrary situations in the continuation of the book reading. In total, 9 of these sets of interactions are found in the data. These sets of interactions also demonstrate pupils' growing understanding of a topic.

Such a set of interactions, will be shown in the following set of excerpts from a different class discussing a recurring issue in the same picture book *Kleine Muis zoekt een huis* (A *New House for Mouse*). During her search for a new house, Mouse calls in at several animal friends' houses and asks them if she and her apple can live there. These animals repeatedly say that there is not enough room in their homes. Every other page, Mouse is displayed by looking into an animal's house (there is a real hole in the book) while asking if there is enough room (see figure 3 for an example of such a page). As will be shown, this occasions a (recurring) discussion of how the different animals look at Mouse and if they are able to see Mouse's apple.
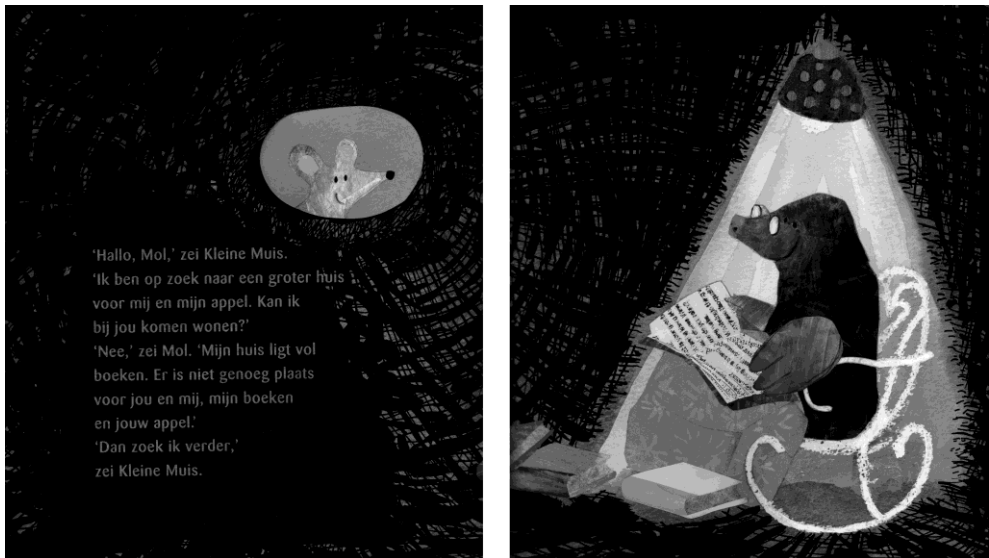
Figure 3. *A New House for Mouse: looking from down in their holes*

The set of interactions shows that the understanding of 'the perspective chosen in the book' develops from a jointly established understanding to a more and more independent understanding of the pupils. The final interaction of the set of interactions reveals that pupils even independently apply the obtained knowledge on the final, different perspective chosen in the book, when Bear is able to see the apple.

The first time pupils are oriented to an animal's ability to see the apple or not, this is occasioned by a question of the teacher (excerpt 5). The teacher contrasts the picture in figure 3 with the picture in figure 4 from the beginning of the book. At this page, Mouse found the apple when looking outside her hole. When she visits her friends, the other animals look at Mouse from inside their holes and, as a result, they cannot see the apple that is lying outside. With help of the teacher, pupils reach the conclusion that this is caused by either looking at the apple 'from bottom up or from 'close by the opening'. This joint construction of understanding is used by pupils in later interactions of the same set as is displayed in excerpts 6 and 7.
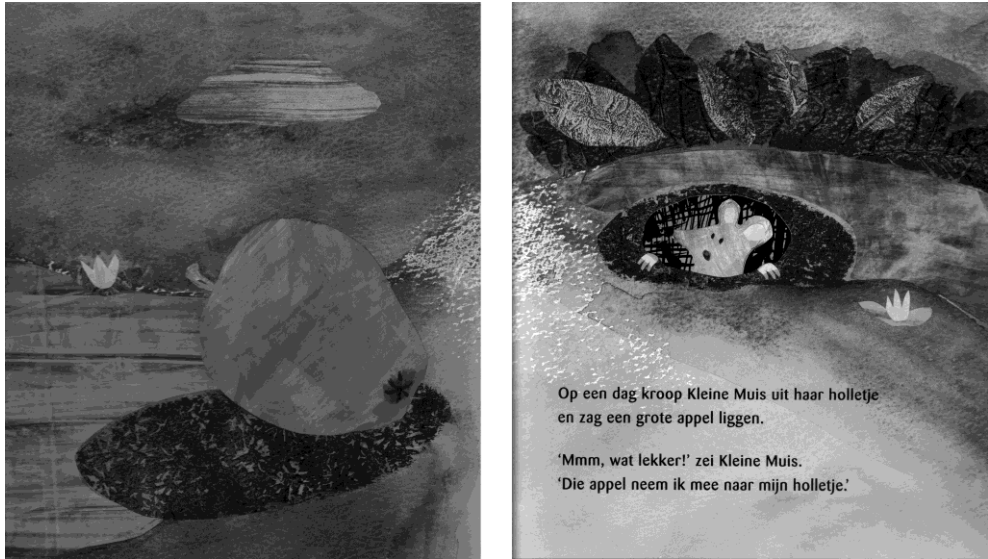
Figure 4. *A New House for Mouse: looking outside one's house*

(5) Rabbit, Kleine muis zoekt een huis, 173-214

		Speaker	Transcript	Dutch Original
173	→	Teacher	why can mouse see the who::le	waarom kan muis de he::le
174			apple, and why can mole not	appel zien, en waarom kan mol
175			see the apple at all?	helemaal geen appel zien?
176	→	Steve	[cause he SITS in the <u>HOLE</u>	[omdat ie in het <u>HOL</u> ZIT
177	→	Sarah	[((*points up*)) higher high and	[((*wijst naar boven*)) hoger hoog
178			down ((*points down*)) looking	en naar beneden ((*wijst naar
179				beneden*)) kijken
180			(0.5)	(0.5)
181	→	Mandy	he looks at ((*points at book*)) at	hij kijkt naar ((*wijst naar boek*))
182			<u>mouse</u> [not at the apple	naar <u>muis</u> toe [niet naar de
183				appel
184	→	Dave	[no (he-) from bottom up	[nee (hij-) van
185			((*gestures*))	onder naar boven ((*gebaart*))
186		Teacher	of- <yes cause I think that	van- <ja want ik denk dat
187		Sarah	YES	JA
188	→	Teacher	the mole is a bit further in his	de mol een beetje verder in z'n
189			↑<u>hole</u> TAG>	↑<u>hol</u>letje zit he>
190		Pupils	yes	ja
191	→	Teacher	so he sits totally- and ((*points at*	dus die zit er helemaal- en
192			*Dave*)) he has to from bottom	((*wijst naar Dave*)) die moet dan
193			up upwa:rds >and then you	van onder naar bo:ven >en dan
194			can't look that far< and wha-	kan je niet zo ver kijken< en wa-

195			what is mouse doing here then,	wat doet muis hier dan,
196			((leafs back)) does he also-	((bladert terug)) zit die ook-
197		Mandy	he looks like thi:s ((pretends	die kijkt zo: ((doet alsof ze
198			looking through something))	ergens doorheen kijkt))
199		Teacher	but where is he in his hole,	maar waar is die in het holletje,
200			(0.6)	(0.6)
201		Mandy	in his own hole	in z'n eigen hol
202		Teacher	but ve:::ry deep down in his	maar hee:::l diep beneden in z'n
203			↓hole,	↓holletje,
204		Mandy	no very closeby:	nee heel dichtbij:
205	→	Teacher	close to the little ↑opening	bij het ↑openingetje ((maakt
206			((gestures))	handgebaar))
207			and then you can see everything	en dan kan je alles vee::l beter
208			mu::ch better TAG and then you	zien he en dan kan je ook
209			can also ((gestures)) see much	((maakt handgebaar)) veel
210			↑mo::re	↑mee::r zien
211		Pupils	yes	ja
212	→	Teacher	yes so that is absolutely right	ja dat klopt dus helemaal he,
213			TAG, ((turns page)) very ↑well	((slaat bladzijde om))
214			done	↑hartstikke goed

After the teacher's request for explanations in lines 173-175, several pupils come up with possible explanations (lines 176, 177-179, 181-183, 184-185). Hereafter, the teacher asks for confirmation of her own alternative explanation in lines 186 and 188-189 and concludes the part about Mole's perspective. The teacher then addresses Mouse's perspective. By a couple of question-answer sequences with Mandy, the teacher also concludes this part of the explanatory interaction (lines 200-203) by extending the previous contributions of Mandy. The explicit evaluation in lines 205-206 indicates that the interaction is finished (for a closer analysis of this interaction and explanatory interactions in general during shared reading we refer to chapter 4 of this thesis).

Pupils display to stay oriented to the previously discussed perspectives of the animals in the continuation of the same shared reading session. Because of the repetitive nature of the picture book, several other pages follow the previously discussed ones, where animals look at Mouse upwards from down in their holes as Mole did in figure 3. Pupils spontaneously link back to the earlier interaction by the use of reference words that indicate that they compare the animals' perspectives. These contributions display pupils' understanding of 'perspective' without being explicitly asked for. This indicates that their insight as jointly constructed in excerpt 5 is successfully transformed into an independent understanding of the chosen perspective, and that pupils successfully use the terminology that was steered towards them in the first interaction. An example of this can be seen in excerpt 6.

After the reading of the page where Mouse asks Badger for a place to stay, Dave immediately describes the chosen perspective in the correct terms. Kaj then refers to how Mouse

looks at Badger. This shows a growing development of understanding since the reference to the issue of seeing the apple or not is presupposed and so, skipped.

(6) Rabbit, Kleine muis zoekt een huis, 287-302

		Speaker	Transcript	Dutch Original
287		Teacher	there [is the badger	daar [ligt de das
288	→	Dave	[(then he gets) *((points at*	[(dan krijgt ie) *((wijst naar*
289			*book))* now he is again looking	*boek))* nu kijkt ie weer van
290			from bottom up	onder naar boven
291	→	Teacher	(he is lookin- you know actually)	(kijkt ie- jij weet eigenlijk) [kan
292			[again he is not able to see the	weer het appeltje niet zien
293			little apple	
294	→	Kaj	[and the mouse- and the mouse	[en de
295			is again looking at- at up- from	muis- en de muis kijkt weer
296			up *((points up))* downwards=	naar- naar bov- van boven
297			*((points down))*	*((wijst naar boven))* naar
298				beneden= *((wijst naar*
299				*beneden))*
300	→	Teacher	from up °downwards°	van boven °naar beneden°
301		Teacher	↑hé hi badger	↑hé hallo das
302		(reading)		

In lines 288-290 of this excerpt, Dave refers back to the preceding interactions by reinitiating the 'perspective topic'. He links back by using *again*. The teacher aligns with this by adding the issue of whether or not Badger could see the apple. Kaj then elaborates by providing the contrastive perspective of Mouse, also using *again*. His contribution is shortly and softly repeated by the teacher before continuing the reading of the page.

This shows that pupils stay oriented to a reoccurring issue and that they improve their understanding and (spontaneous) use of the right phrases to describe someone's perspective. This already gives some insight into their learning processes from a jointly established understanding to a more independent understanding and a more prompt recognition of comparable perspectives. That pupils are not only able now to correctly address the perspective chosen in the book, but can also apply this knowledge to a new situation, can be seen in the following excerpt of the same shared reading session. Here, Mouse has reached Bear. Since Bear's hole is pretty big, he is able to see the apple, as can be seen in figure 5. Dave spontaneously addresses this, in overlap with the reading of the text accompanying this picture (excerpt 7).
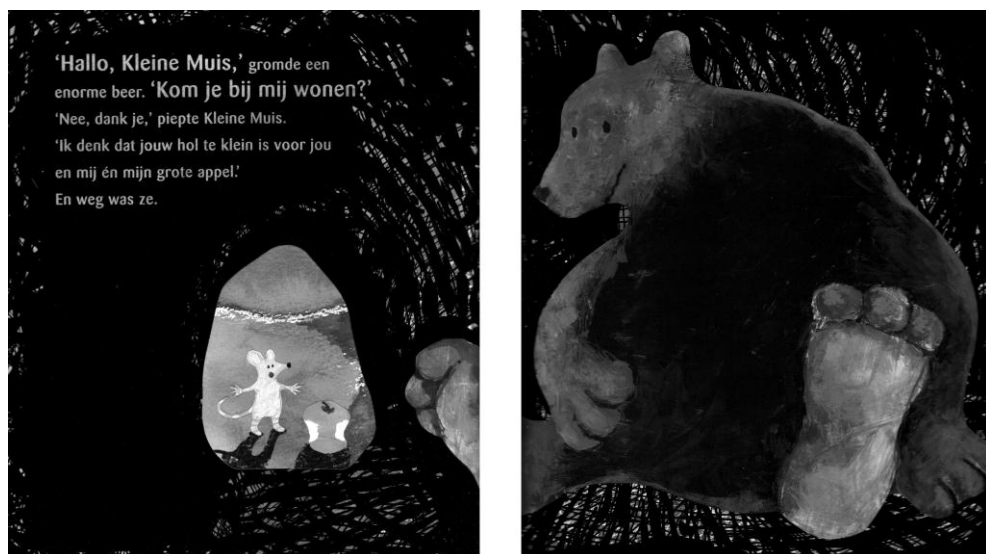
Figure 5. *A New House for Mouse: Bear*

(7) Rabbit, *Kleine muis zoekt een huis*, 328-349

		Speaker	Transcript	Dutch Original
328		Teacher	I think that your hole is too	ik denk dat jouw hol te klein is
329		(reading)	small for me and my- and my big	voor mij en mij- en mijn grote
330			[apple	[appel
331	→	Dave	[now he is looking [from	[nu kijkt ie [van
332		Teacher	[and there	[en weg was ze
333		(reading)	she went	
334	→	Dave	up *((points up))* downwards	boven *((wijst naar boven))* naar
335			*((points down))*	beneden *((wijst naar beneden))*
336			(0.4)	(0.4)
337		Tommy	(now he [gets) *((points from up*	(nu krijgt [de) *((wijst naar boven*
338			*downwards))*	*en beneden))*
339		Dave	[from up downwards	[van boven naar
340				beneden
341		Tommy	([ ) *((points down))*	([ ) *((wijst naar*
342				*beneden))*
343		Teacher	[who is looking from up	[wie kijkt er van boven
344			downwards *((points in book))*	naar beneden *((wijst in boek))*
345		Pupils	the bear	de beer
346		Mitch	[and- and- ahand-	[en- en- enne-
347		Teacher	[the: ↓bea::r	[de: ↓bee::r
348	→	Dave	*((points at book))* cause look-	*((wijst naar boek))* want kijk-
349			cause I can see the apple now	want ik zie nu de appel

This excerpt illustrates again that pupils are oriented to the preceding discussion on the perspective of the animals. Already in overlap with the teacher, Dave starts talking about it (line 331). By his use of *now*, he stresses the change in perspective. This indicates that he uses his developed understanding and the accompanying terminology in a new situation. Pupils thus successfully apply and extend the knowledge they jointly constructed in the first of this set of interactions.

In the continuation, Tommy aligns with Dave in lines 337-338 and 341, and Dave repeats his observation (line 339). When the teacher asks who is looking down, pupils fill in that this is Bear. Dave then spontaneously provides an argument by his observation (lines 348-349). Again, he uses *now* and draws the attention towards the book by pointing at it and by saying *look*. By doing so, he finishes with filling in the question the teacher started with in the first excerpt: being able to see the apple or not. This again illustrates that he uses the 'tools' handed to him in the beginning of the set of interactions. Being able to see the apple or not is used as a criterion to describe the perspective that is chosen.

This set of interactions thus shows that pupils may stay oriented to something that is rounded up, but that stays relevant in the continuing of the shared reading activity. In the first of the set of interactions, the teacher guided the pupils in paying attention to the chosen perspective in relation to sight of the apple. In addition, she handed them the right terminology to address this perspective. The interactions that followed that first interaction illustrate that pupils display to be oriented to the chosen perspective and get more and more prompt in describing this in the right terms. That they even use the terminology the other way around is a definite proof of pupils' understanding of the perspective and their ability to use the terminology correctly. In all the comparable sets of interactions in the data set, pupils are becoming more and more independent at applying jointly constructed knowledge. This also provides insight into pupils' growing understanding of the topic that is discussed recurrently.

6.6. Conclusion

This study showed how teacher and pupils recurrently discuss book-related topics that come up during the same shared reading session and how this is related to pupils' growing understanding of these topics. Within the setting of shared reading, it appears to be the repetitive nature of picture books and the discrepancy in the time it costs to tell the story and the time that is reflected within the story that occasions recurrent discussions of topically related sets. These sets of interactions can be grouped in two different categories, which both display pupils' learning.

In the first type of sets of interactions, the first interaction is used to hypothesise about a topic in the picture book. These first interactions are not concluded upon and are most often ended by a reference to a continuation of the reading of the book. In one or more succeeding interactions, the participants may further hypothesise about the same issue. By doing so, they use reference words to link back to the preceding interaction(s). In the final interaction of such a set of interactions, the teacher and pupils draw conclusions on the basis of what has become apparent in the book text or pictures which confirms or disconfirms their hypotheses. These conclusions display pupils' evaluations of their presumptions and expectations. This and their demonstrations of

understanding by, for instance, spontaneously providing explanations shows pupils growing understanding of the topic.

In the second type of sets of interactions, teacher and pupils may recurrently discuss a comparable topic that is already concluded upon in the first interaction of the set. Once the topic reoccurs in the pictures or the text of the picture book, pupils display to use this obtained knowledge and link backwards to the foregoing interactions by the use of reference words. Pupils seem to gradually get a grip on the discussed notions, as is displayed in their developing independent use and extension of the previously introduced insight and terminology.

So, both types of sets of interactions give insight in learning over time during one lesson. Pupils develop understanding either by testing their hypotheses or by further consolidating knowledge that is jointly constructed. Within both kinds of sets of interactions pupils thus *demonstrate* a developing understanding (Koole, 2010) of what is discussed in the first interaction of a set of interactions.

Shared reading of picture books appears to be suitable for sets of interactions because of the repetitive nature and the page by page unfolding of picture books. This contributes to earlier findings concerning different shared reading styles (Dickinson & Smith, 1994; Greene Brabham & Lynch-Brown, 2002; Reese & Cox, 1999; Reese et al., 2003). The current study does not only characterise the shared reading interactions as lower or higher-demanding. By zooming in on the details of these interactions, our analyses more precisely reveal what it is that causes positive results of shared reading. These analyses give more direct insight in pupils' growing story comprehension and the acquisition of world knowledge, and also show how pupils get acquainted with new terminology or vocabulary.

Additionally, this study contributes to our insights concerning the placement of interactions during shared reading. Greene Brabham and Lynch-Brown (2002) for instance concluded that if comprehension is the main goal of the book reading, then a *performance* or even a *just-reading style* might be best. Our findings dispute this conclusion, since the detailed analyses of the interactions *during* the shared reading activity show that these interactions do assist the comprehension of the pupils. As is displayed in the interactions during shared reading itself, pupils use preceding interactions to interpret following pages and draw conclusions on the basis of foregoing intermediate interactions.

Especially when a first interaction leaves something unrevealed, this seems to offer room for succeeding interactions that display a growing understanding. This is based on the distribution of 29 of these sets of interactions versus 9 sets of interactions in which a conclusion is reached in a first interaction. If something is left without explicit closure, this thus seems to more often encourage participants in interaction to come back to it in following interactions during the shared reading. This is comparable to the findings that when a third move is not used to close an initiation-response sequence, it is found to open up opportunities for extended participation of pupils (Lerner, 1995).

With its findings, this study illustrates the importance of studying interactions in detail as a supplement to studies that presuppose the influence of interactions. Testing whether pupils learn from interactions or not has contributed significantly to our awareness of the importance of interaction for the development of knowledge. However, so far, close investigations of *how* exactly

these interactions contributed to the co-construction of knowledge are rare. In particular, a close investigation of whole-classroom interactions seems underrepresented.

The current study meets this need by zooming in at two different types of sets of interactions during whole-classroom shared reading sessions. The study of sets of interactions elaborately shows how pupils make use of what is discussed in preceding interactions to interpret the following pages and the general story line of picture books. It appears to be their ways of linking backwards by means of reference words and by repeating the content and terminology as discussed in the preceding interactions that displays pupils' learning over time in single shared reading sessions. Only with a close analysis of classroom interactions can the important functions and implications of linking backwards in interactions be valued and understood completely. This confirms the need for studying succeeding classroom interactions in detail. Only by doing so were we able to understand pupils' developing understanding of book content during shared reading sessions. Additionally, this study illustrates that 'learning over time' does not necessarily exceed the boundaries of one lesson, although we surely encourage future studies investigating comparable interactions over longer stretches of time.

Chapter 7

Summary, conclusion and discussion

Participation in shared reading interactions at kindergarten is associated with children's language- and literacy development as well as with their conceptual development. The current study adds to an understanding of what it is in shared reading interactions that contributes to this developmental growth. The overarching research question was: *How do shared reading interactions contribute to pupils' knowledge construction?*

To answer this question, 36 shared reading interactions from a longitudinal shared reading programme at three Dutch kindergartens are analysed in detail by means of Conversation Analysis. Conversation Analysis is considered to be a suitable method to do so because of the emphasis on participants' orientation and understanding as is reflected in their sequential moves in interaction. Zooming in on the interactional details of shared reading interactions adds to our insight in pupils' participation in the sequential structures of the classroom. This displays opportunities for learning and provides insight in children's joint construction of knowledge in interaction.

This chapter summarises the findings of the five studies in this thesis and draws conclusions on the basis of these findings. In addition, this part of the thesis discusses the theoretical, methodological and practical implications of the study.

7.1. Summary of findings

To contextualise the findings in the four analytical chapters, this thesis started with a theoretical chapter on tracing learning in discourse. The following analytical chapters range from a chapter on participation in shared reading interactions to two chapters on different types of shared reading interactions. The fifth analytical chapter links back to the theoretical chapter by illustrating how learning can be traced over time in shared reading interactions. All together, these contributions show the interactional characteristics of shared reading interactions that contribute to the joint construction of knowledge.

7.1.1. Tracing learning in discourse: a discussion

This theoretical chapter discusses interactional research done so far, with a sociocultural perspective on education. This sociocultural perspective on learning reckons besides participation in interaction, context as essential for learning and development. This view is widely acknowledged in studies that consider learning as taking place in a cultural community, in which knowledge is constructed in exchange and in collaboration with other members of the same community. Participation is a key concept, since learning can be described as the development over time of ways of participating from 'peripheral' to 'full' (Lave & Wenger, 1991). Participation becomes visible in talk-in-interaction and is therefore an often investigated subject when it concerns learning.

This chapter reflects on studies that have investigated the relation between interaction and learning. It illustrates that the research done so far has been of great importance for the growing awareness of the positive influence of participation in challenging discourse. If pupils get the chance to *use* 'school knowledge' as presented by the teacher, this enables them to incorporate the knowledge into their view of the world and to transform this knowledge into 'action knowledge' (Barnes, 1976, p. 81). Forms of *educated discourse* (Mercer, 1995) challenge pupils to use language

for reasoning and discussing. If they participate in talk-in-interaction that is critical and constructive in nature, this contributes to the development of reasoning skills as well as to the development of subject matter knowledge (e.g. Chinn, Anderson & Waggoner, 2001; Mercer & Littleton, 2007; Trickey & Topping, 2004).

Besides stressing the importance of participation in challenging interactions, this chapter also exposes studies on the establishment and characteristics of these forms of discourse. One of the main findings of the discussed studies is that it appears to be the establishment of interactions with extended possibilities for pupil participation that establishes productive interactions. Avoiding explicit evaluations, asking for different arguments or position-takings and setting-up challenging tasks for peer groups contribute to the realisation of constructive discussions.

However, most of the discussed studies mainly characterised interaction as either being successful or not. Interaction as such is often presupposed instead of being investigated in a detailed manner. Therefore this chapter suggests studying educated discourse in greater detail to gain a closer insight into the learning processes. In the remainder of the chapter, several detailed studies are discussed. Investigating how exactly learners participate in interactions that may accomplish learning provides deeper insight into pupils' learning processes. These learning processes concern different subjects, ranging from language learning to the learning of content.

When these learning processes are investigated over time, this reveals even more about learning processes. As is shown by the examples, one might gain insight into the development of language, the acquirement of procedures or the development of topic knowledge by investigating recurring interactions. This displays changes in participation, which contributes to our insight in (knowledge) development.

By this discussion of research with a focus on learning and interaction this chapter aims for contributing to researchers' awareness of the importance of detailed investigations of participation in interaction. Such detailed investigations will reach further then concluding whether learners made progression or not. These kinds of analyses unravel interactional practices that open up or close down opportunities for (extended) participation and, as a consequence, opportunities for learning. Insight into these practices extends our knowledge about the workings of learning.

7.1.2. Understanding book content through participation

Since the theoretical chapter stresses that how and how much pupils participate seems to be of crucial importance for their development, zooming in on participation in shared reading interactions appears to be a logical step to gain insight into pupils' learning (opportunities). This chapter therefore aims to answer the question: *How do teacher and children participate in interactional structures during shared reading and how is the participation related to the construction of book-related knowledge?* Conversation Analysis is used to zoom in on one shared reading fragment because this allows for a close analysis of participation in relation to the discussed topic.

This case-study illustrates children's participation in two different *participation frameworks* (Goffman, 1981; Goodwin & Goodwin, 2004) that become relevant during a shared reading session of the picture book *Sssst!* (translated from *Shhh!*, written by Sally Grindley & Peter

Utton, 1991). While talking about the size of the towers of a castle displayed in this book, pupils participate in the two participation frameworks that establish a learning environment together.

Initially, pupils start hypothesising about different possible explanations for the issue that is raised by the teacher 'why is it the towers look that small?'. Pupils come up with hypotheses without being explicitly asked to do so. They take a *participant status* (Goffman, 1981) as participants in a discussion, as shown in their framing of contributions as hypotheses by the use of the adverb *maybe*. The teacher creates room for discussion by treating pupils' contributions as possibilities without explicitly evaluating them. So, the pupils reason together as participants in a discussion, while the teacher is present more or less as a discussion leader or even as a bystander.

This changes when the framework switches to an instructional framework that is typical for more traditional classroom interactions and that is built on *Initiation-Response-Evaluation (IRE) structures* (Mehan, 1979a). The switch commences by a *known information question* (Mehan, 1979b) that builds further on the foregoing discussion. Pupils adapt to this framework by switching from participating as participants in a discussion to participating as respondents. The teacher starts a correction sequence (Macbeth, 2004), evaluates pupils' contributions and shows to be in search for a specific answer. In the end, she provides the description herself, since this was not provided by the pupils.

This case-study illustrates how teacher and pupils construct knowledge together in interaction. It appears to be the combination of a more or less free discussion, followed by a more instructional, teacher-led structure that makes the interaction suitable for learning. During the discussion, pupils are stimulated to think about possible explanations. Because pupils got the chance to kick their ideas about the small towers around, it is expected that children will be more receptive to the final solution and that the information that becomes available in the instructional framework may sink in better. Right after the complete description that is provided by the teacher on the basis of the foregoing discussion, pupils indeed demonstrate a growing understanding of the book content by elaborating on the final description. These findings indicate that we should not underestimate the value of instructional interaction besides extended participation in discussion-like interactions. Although discussion-like interactions are most often related to knowledge construction, instructional interaction is also found to play an important role for learning.

7.1.3. The interactional structure of explanations

The previously conducted case-study pointed at the potentialities of providing explanations during shared reading interactions. This led to this extensive study on the interactional structure of explanations. This chapter shows how participants' orientation to situations in the books that may be expounded upon initiates explanatory interactions in a structural manner. In line with the findings of the case-study, it is found that explanatory interactions may take two different forms with features of teacher-led instructional interactions or interactions characterised by discussion.

In regular discourse, giving an explanation can be described as an "interactional move which takes place when one partner offers a piece of new information (*explanans*) which refers to an object of joint attention (*explanandum*)" (Barbieri, Colavita & Scheuer, 1989, p. 131). During the activity of shared reading, teacher and pupils are trying to make sense of the course of events

presented in the book. If there are problems with the interpretation of these events, explanations may be encouraged (Aukrust, 2003). These explanations do not concern pupils own behaviour and/or experiences, but that of the book characters.

In the data, all the instances are collected in which pupils present an *explanans* referring to a joint object of attention. Regularly, these instances form the start of longer explanatory interactions. These interactions are structured in a comparable, orderly manner during shared reading sessions in all three of the observed kindergarten classrooms. The close analysis of these explanatory interactions provides insight into how participants accomplish these interactions and how this is related to their co-constructions of knowledge.

Regularly, one or more initial explanations are established after a *request for explanation*. Prior to this, participants' attention is directed to an object of joint attention (the *explanandum*) that might need further explanation. This occurs in a *topic proffering sequence* (Schegloff, 2007, p. 169) that takes the form of a question-answer sequence or a statement. Not only do teachers orient pupils to an *explanandum*. Pupils also proffer statements that direct attention to a topic that might need further explanation in order to make sense of the book.

Explanatory interactions also start without a request for explanation. When teachers ask a question in a *topic proffering sequence*, pupils also use this to initiate an *explanans* directly. This indicates that they spontaneously treat the object of joint attention that is addressed in a topic proffering sequence as something in need of an explanation. Pupils thus seem to be oriented to their *interactional identity* (Zimmerman, 1998) as *explainers*, even when they are not (yet) explicitly invited to explain something. In these cases an explanation is subtly *mobilised* (Stivers & Rossano, 2010) by the orientation to an object of joint attention that is taken up as something in need of an explanation.

Once a first explanation has been given, this might be evaluated or treated as a starting point for extended explanatory interactions consisting of several interrelated sequences. The continuation of explanatory interactions may take two distinguishable forms characterised by two different teacher roles. At first, a teacher may be in search for *right* explanations as is displayed in her interactional behaviour. By providing feedback on given explanations, the teacher displays that she tests pupils understanding of what occurs in the book. She evaluates the provided explanations and/or assists pupils in reaching a correct *explanans*. Secondly, a teacher may offer room for *possible* explanations. In these explanatory interactions, the teacher plays an interactional role that can be described as *partner*. She does not show epistemic authority, but indicates that she occupies the same unknowing epistemic position by providing non-evaluative feedback and by using the book as source both the teacher and the pupils can equally rely on.

The detailed analyses of the set of instances in which pupils came up with explanations for something that occurs in the book contribute to our insight in how explanations get established and extended and how this is related to the specific nature of shared reading at kindergarten. This chapter shows that shared reading occasions different forms of explanatory talk. By participating in these explanatory interactions, pupils practice their reasoning capabilities and by doing so they display how they are learning. This is expected to assist pupils to derive meaning from texts and as

such to prepare them "for the literacy and the language demands of schooling" (Aukrust, 2003, p. 394).

7.1.4. Problem-solving during shared reading

Shared reading of picture books also occasions problem-solving interactions. These interactions are similar to explanatory interactions in the sense that problem-solving interactions can also be described as cognitively challenging. To participate in problem-solving interactions, pupils also have to step back from the story and reflect on the story line (Dickinson & Smith, 1994).

Shared reading offers opportunities for problem-solving interactions because of the problematic experiences or events book characters encounter in the stories that are read to the pupils. Fictional stories can often be characterised by an initiating event that sets up a problem or dilemma for the book character, which he/she repeatedly attempts to solve during the book (Stein & Glenn, 1979). A close analysis of the data shows that pupils recognise these problematic events and come up with solutions for the problems of the book characters. The collection consists of all the fragments in which pupils' contributions can be called solutions, defined as suggestions that are thought to change a supposedly problematic event or experience a book character comes across or is expected to come across.

Solutions during shared reading interactions are initiated in several more or less explicit ways. The most obvious start of problem-solving interactions during shared reading is when teachers explicitly initiate such an interaction by raising a question. However, the fragments in which pupils initiate possible solutions without being explicitly invited to do so are more interesting. In these cases, problem-solving interactions get started by a *description* or an *assessment* of a current state of affairs relevant in the book that is read to the pupils. The start of problem-solving interactions during shared reading can be compared with the start of adults' decision-making episodes during management meetings as described by Huisman (2000, 2001). Descriptions and assessments make a state of affairs into the topic of attention by implicitly or explicitly evaluating it as potentially problematic.

These descriptions and assessments take the same form as the orientations preceding explanations. Both turns, with descriptions as well as with assessments may be designed as statements. In addition, assessments may also take the form of a question-answer sequence in which a teacher asks for an assessment of the pupils. After the description or (collaboratively established) assessment is completed, pupils come up with one or more solution(s).

Surprisingly, descriptions and assessments do not only address participants' stances towards situations, actions and events in the picture books. When descriptions and assessments based on *book characters' own stances* towards these state of affairs are made into the topic of attention, pupils also launch solutions. This indicates that pupils respond in the same way to descriptions or assessments by their teacher and/or peers as to descriptions or assessments of book characters. Both sorts of descriptions and assessments launch similar problem-solving interactions.

In a similar vein as explanatory interactions, problem-solving interactions can be characterised as *tentative*. In these interactions, teacher and pupils explore the possibilities a book character has to overcome an undesired or unexpected situation, action or event. Pupils build on

each other's contributions by evaluating them and/or propose alternative solutions in a joint line of reasoning. Teachers make room for this by treating pupils' solutions as possibilities without indicating what will be the best solution. They may also indicate that they have to wait and see what solution the book character will choose by closing down a problem-solving interaction with a reference to the continuation of the book.

That teacher and pupils are both dependent on the book content to find out how the problem of the book character will be solved enables all the participants (teacher and pupils) in problem-solving interactions to explore possibilities from an equal epistemic position. As already illustrated in the theoretical chapter in this thesis, this is characteristic for productive interactions that are fruitful for joint knowledge construction.

7.1.5. Tracing learning in recurring interactions

As we have seen, shared reading is found to be a suitable context for participation in challenging interactions that contribute to the co-construction of knowledge. Although the foregoing detailed analyses display the workings of learning in these shared reading interactions in a detailed manner, the question remained what happened with this knowledge *after* it was jointly constructed in interaction. The final chapter addresses this question by investigating recurring interactions in single shared reading sessions.

Picture books are found to occasion challenging interactions. The characteristics of picture books influence these interactions because of the page by page unfolding of the story. Often, it is only after turning one or more following page(s) that children are able to check their explanations and solutions. Another feature of children books that may influence shared reading interactions is the repetitive nature of stories as is displayed in the repeated or cumulative story events and, eventually, the repetitive language pattern (Tompkins & Webeler, 1983). Thus, the characteristics of most picture books enable participants in shared reading interactions to repeatedly talk about the same issues.

In the data, this reoccurrence is explicitly displayed in *sets* of interactions consisting of two or more interactions from the same shared reading sessions. These sets cover a topic that is discussed at one moment during the shared reading and is reverted to in one or more succeeding interactions. This is explicitly displayed in interaction by participants' use of reference words that link back or refer to the future. The sets of interactions that are established by these references and links generally take two different forms. Pupils either develop understanding over time or apply obtained knowledge in recurring interactions.

In the first kind of sets in which pupils develop knowledge over time, the first interaction can be characterised as *tentative* like is already described in the foregoing studies. These first interactions end up without deciding on the matter that is discussed. This is often explicitly indicated by the teacher's ending of the interaction with a reference to the continuation of the shared reading. This prepares pupils to check their predictions and assumptions in the continuation of the shared reading activity. In the following interactions of a set, pupils either continue their hypothesising and/or draw conclusions on the topic when the continuation of the book reading reveals what was left undecided in the first interaction. In doing so, participants link backwards to

the preceding interactions of the same set. These sets of interactions give insight into pupils' growing understanding of the topic that is discussed recurrently.

In the second kind of sets of interactions in which obtained knowledge is applied, the first interaction is normally characterised by a conclusion on the topic that is discussed. In the following interactions of the same set, pupils display how they make use of the drawn conclusions whenever a comparable or contrary situation occurs in the book. A close analysis of these sets of interactions shows that pupils stay oriented to a reoccurring issue and that they use and improve their understanding of it. In all the sets found in the data, pupils display to become more independent at applying the jointly constructed knowledge. This independence is displayed in their own initiatives to readdress the reoccurring issue and in their contributions that are accomplished without assistance of the teacher.

Within both kinds of sets of interactions pupils *demonstrate* a developing understanding (Koole, 2010) of what is discussed in the first interaction of a set of interactions. The detailed analyses of sets of interactions show how pupils make use of what is discussed in preceding interactions to interpret the following pages and the general story line of picture books. It appears to be their ways of linking backwards by means of reference words and the increasingly appropriate use of the content and terminology as discussed in the preceding interactions that displays pupils' learning over time in single shared reading sessions.

7.2. Conclusion

Based on earlier findings there is no doubt that learning and interaction are intrinsically linked. Participation in interactions is repeatedly found to contribute to knowledge development. To understand how participation in interaction assists learning, a closer investigation of these interactions seems needed. This thesis contributes to the developing insights in the precise workings of interactions in relation to learning by answering the following overarching research question: *How do shared reading interactions contribute to pupils' knowledge construction?* The analytical chapters of this thesis have illustrated how teacher and pupils construct knowledge in whole-classroom shared reading interactions at kindergarten. By doing so, these studies have traced learning as was argued for in the theoretical chapter of this thesis.

It has been shown that by participating in shared reading interactions, pupils get the chance to talk and think about the book content from a critical outsider's perspective. Both explanatory and problem-solving interactions are preceded by a statement or a simple question-answer sequence that draws the attention of the participants to something in the book that can be reflected upon. The studies on explanatory and problem-solving interactions illustrate that pupils use these orientations as a start to talk about these issues constructively. This qualifies these interactions as higher-demanding, since a child has to go "beyond the immediate context of the text to understand why an event happened or to evaluate what that event might mean for the character or the reader" (Reese & Cox, 1999, p. 21). The findings of this thesis contribute to the research on shared reading styles, since it describes in more detail how these higher-demanding interactions look like in naturally occurring data.

These explanatory and problem-solving interactions can be characterised by their tentative nature. Pupils discuss several possibilities without a conclusion being reached. Teachers occasion this by taking a participant status that can be described as partner or discussion leader and by offering room for pupils to act as discussants. Teachers do so by downgrading their own epistemic status as primary knower. It is shown that if they accept pupils' contributions as possibilities instead of evaluating them, this opens up opportunities for extended participation that is correlated with knowledge development.

As the case-study and the study on tracing learning in shared reading interactions show, the development of knowledge over time becomes visible in that what follows such a tentative discussion. In the case-study it is illustrated how pupils hypothesise about possible explanations before the teacher reveals in a teacher-led interactional structure what is the correct explanation. In the study on tracing learning in shared reading, it is illustrated that it is the book (text) that reveals the final explanation or solution. The development of knowledge thus appears to be closely related with the postponement of the decisive answer. Making the potential answers available for everyone in the first place is expected to prepare pupils for closure on the discussed issue in a later stadium.

However, learning can also be traced over time by looking at the succeeding use of obtained knowledge. In these cases, the definite answer is not postponed but delivered in the first interaction of a set of interactions. This concerns explanatory interactions that are characterised by the instructional teacher-led structure in which the teacher searches for the right explanation. There is no creation of a list with possible explanations that will be concluded upon, but in the first interaction pupils are led to the accurate explanation. As is shown in the sets of interactions, this explanation may be used in the continuation of the shared reading when comparable or contrastive book content becomes relevant.

Both the postponement of a definitive answer and the use of obtained knowledge in comparable situations is occasioned by the shared reading activity. Children's books can often be recognised by their repetitive and goal-oriented nature. Typically, book characters run into an initial dilemma, do several attempts to overcome this dilemma and in the end succeed in doing so. This provides opportunities for pupils to think about possible solutions a protagonist may come up with and to try to explain why protagonists behave the way they do. To explain so, pupils regularly have to relate protagonists' behaviour to the goal they are trying to achieve during the book. The repetitive attempts as well as the final achievement of the goal give rise to sets of interactions in which learning can be traced over time. Teachers appear to be oriented to the specific nature of the activity, as is displayed in their references to the continuation of the shared reading while ending shared reading interactions.

In conclusion, it appears to be the interplay between books, teachers and pupils that occasions joint knowledge construction. The importance of the 'adult-child-book triad' has been recognised before (Van Kleeck, 2003), but it is new that the three elements and their interrelationship are explicitly shown in shared reading interactions. It has been displayed that if pupils get room to take a participant status as discussants and get encouraged to make inferences on the basis of the book, this leads to participation in valuable extended discourse. The teacher's role can then be described as discussion leader or partner relying on the book content and book

structure. As such, teacher and pupils form a *Community of Learners* in which the role of the teacher extends the role of expert in a regular *Community of Practice*. All analytical chapters have illustrated that learning does not happen on its own, but that it is the teacher who occasions learning and who subtly guides pupils in their joint development of understanding.

7.3. Discussion

With this thesis, the importance of detailed interactional research in an educational environment is emphasised. The close analyses of shared reading interactions may have implications for future interactional research in general and for interactional research at kindergarten in particular. Additionally, conclusions can be drawn that may be communicated to educational practitioners.

7.3.1. Theoretical discussion

Since the march of studies with a sociocultural perspective on learning, there has been discussion on how to trace learning in interaction. This thesis contributes to this discussion by tracing learning in one specific type of interactions. All analytical chapters in the thesis show how teacher and pupils construct knowledge and develop understanding by participating in shared reading interactions. This contributes to our insight in how learning manifests it selves and enables us to trace learning. Although it is only in the last chapter that it is claimed that learning can be traced over time, the other chapters also contribute to our insight in learning during shared reading interactions.

The other chapters in this thesis show aspects of shared reading interactions that are contributive to children's development on a local level. These chapters describe learning opportunities and pupils' growing local understandings or constructions of knowledge. The final chapter shows that these local understandings may develop over time in more independent or sophisticated understandings. But if these local understandings do not reoccur in succeeding interactions in the data, this does necessarily mean that learning could not be traced.

For sure, we can say that pupils are learning locally. Pupils display their understanding in interaction and may transport this to similar situations. However, if and when they do so is unpredictable. This may occur in the same lesson, the next week or even later when a similar situation turns up. Working with naturally occurring data, we will not be able to catch all these moments in time. In this thesis, I studied learning over time within the boundaries of one lesson so I got sight of some reoccurrence, but pupils might as well have used this knowledge at later moments in time. Additionally, it is questionable if the use of obtained knowledge can still be traced back to the moment of knowledge construction when the time gap between the interactions gets bigger. It is imaginable, for instance, that the use of reference words which teacher and pupils use to link back or refer to the future will diminish with a greater distance.

For these reasons, I would claim not to focus solely on changing behaviour or understanding over longer stretches of time as is argued for by for instance Mercer (2008). In addition, I would argue for temporal analyses of interactions on two more levels. Firstly, I would recommend more studies that investigate learning on a 'meso-level'. In the final chapter of this thesis, I show that by studying interactions in only one lesson, you might be capable of tracing

learning in interaction. Secondly, analyses on a 'micro' temporal level provide insight in learning as well. The other analytical chapters of this thesis illustrate that close sequential analyses of interactional practices extend our insight into learning over time at a local level.

By detailed descriptions of contexts that are shown to be valuable for knowledge development, we gain insight into how participants construct knowledge in interaction and what interactional practices seem to foster this. My main goal was to show how learning might occur in shared reading interactions instead of checking whether pupils learned something particular or not. In education, monitoring individual pupils' progress is a regular practice. But if we want to describe in what kind of learning contexts pupils participate and how this offers opportunities for learning, we are not directly concerned with pupils' individual learning.

Pupil's individual learning is expected to follow naturally from the described extended interactions that make knowledge publicly available. This in accordance with Bereiter's argument for moving away from the idea of minds as containers in which knowledge is build (Bereiter, 2002). Instead, knowledge is build in social practices. This is what becomes visible in interaction. What individuals do with the knowledge that becomes available is not of our main concern. The individual differences that become visible in interaction have therefore not been a topic of attention. The pupils that participate most in interaction are not necessarily the ones that learn the most. By the explanations, solutions and other sorts of contributions to discussions, the knowledge becomes publicly available to all the pupils. In the data there are indeed indications that other pupils than the ones who participated at first, take up the knowledge that has become available and elaborate on it in a later stage. The findings of the PICO project confirm that pupils benefit from participating in similar shared reading sessions, since the test results in these experimental studies indicate knowledge development for the tested pupils.

From the beginning onwards, this thesis argues for *detailed* interactional research. As is elaborated upon in the theoretical chapter of this thesis, this means that analyses have to exceed general descriptions of interactions as being effective or not. However, the analytical chapters of this thesis have shown that detailed analyses might not be limited to investigations of interactional practices on a micro-level. Earlier detailed investigations of learning in interaction for instance exposed the importance of word searchers (Brouwer, 2003) or the use of specific phrases that indicate understanding (Lindwall & Lymer, 2011). This thesis illustrates that descriptions of interactional *activities*, such as doing explanations and problem-solving, may also take a detailed form. So, detailed descriptions of the *structure* of interactions may also contribute to our understanding of learning in interaction.

The emphasis on structures of interaction such as *doing explanations* and *problem-solving* also points at the importance of these kinds of interactional activities for knowledge construction. These two activities can both be described as *reasoning* activities. Reasoning is an often used term in studies investigating joint construction of knowledge. Mercer and colleagues for instance test children on their collective problem-solving and individual reasoning skills in their Thinking Together projects (Mercer & Littleton, 2007). In these projects, language is seen as "tool for (joint) reasoning" (Mercer, Wegerif & Dawes, 1999, p. 96). The analyses of this thesis contribute to these earlier findings by explicating the interactional characteristics of reasoning that become visible in

interaction. I for example show how pupils make use of (each other's) earlier contributions in succeeding interactions. Zooming in on the ways pupils do so displays their growing understanding and application of knowledge.

Reasoning has also been related to the activity of shared reading before. Again in broader terms, reasoning has been linked to learning in a sense that once reasoning is realised this is expected to contribute to children's development. If parents or teachers use higher level inferential language during shared reading, this shows children how to predict events, solve problems or events and explain the story's concepts and actions (Van Kleeck, 2003) and when teachers use these kinds of questions, "this is found to elicit longer child responses and encourage higher level reasoning during shared reading" (McKeown & Beck, 2003, p. 67). How exactly this reasoning during shared reading looks like and gets established in shared reading interactions had not been mapped before.

Reasoning interactions during shared reading can only be established with assistance of cooperative adults that challenge children to participate in extended interactions. The use of other sorts of modern picture book reading do not seem to offer these opportunities. I do not deny the fact that there is a whole range of valuable studies indicating that electronic picture books influence children's story comprehension and vocabulary knowledge as much as shared reading of regular picture books does (e.g. Verhallen, Bus & de Jong, 2006; Verhallen & Bus 2009; 2010). Although I really endorse the use of electronic picture books, since this enables more and more children to get acquainted with picture books and to benefit from the positive developmental effects of picture book reading, I argue for the use of these kinds of books *in addition to* adults' shared reading of printed picture books. In contrast to computers, adults are able to fine-tune the shared reading interactions to their audience and to establish reasoning interactions adapted to the level and needs of the children that are being read. The results of my thesis illustrate this importance of face-to-face shared reading interactions.

The analyses described in this thesis display characteristics of the overarching activity of shared reading as well as of extended interactions in a more general sense. Therefore, this thesis shows the possibilities of studying these kinds of interactions that offer room for reasoning and joint construction of knowledge, while in the meanwhile taking into account in which setting these interactions take place. I recommend future studies investigating these kinds of 'exploratory dialogues' in different age groups and different activities. It might be expected that other activities such as group work and interaction during circle time offer as much opportunities for productive interactions as shared reading does and that older children will also successfully participate in whole-classroom interactions with room for extended participation on an equal epistemic level with the teacher.

7.3.2. Methodological discussion

As elaborated upon above, studying learning in interaction is taken up in this thesis as studying learning opportunities and learning processes instead of investigating pupils' development of knowledge in the individual mind. Although I think that it is very valuable to describe knowledge as it is build in social practices and as it becomes visible in interaction, I can imagine that there are occasions that one also wants to monitor pupils' individual learning. In these cases, I would argue for

analyses of interaction as illustrated in this thesis complemented with pre- and post-tests. These tests indicate whether pupils learned what they were expected to or not. Zooming in on the interactions then reveals what might have caused these learning effects. The best examples of these combined analyses are the studies of Mercer and colleagues (e.g. Mercer & Littleton, 2007). However, as mentioned repeatedly these studies only generally characterise interaction as being more or less effective. These studies are very valuable, but I would plea for a combination of a focus on individual outcomes in combination with more detailed analyses of interactions such as the analyses in this thesis. Valuable examples of studies that successfully combine data on pupils' results and a methodology of micro-analytic qualitative discourse analysis are studies conducted by Van Gorp and colleagues (e.g. Van Gorp, 2010).

In cases the aim is not to study whether pupils learn what you expect them to learn but to study how pupils construct knowledge and develop understanding like in this thesis, a close analysis of the interactions seems sufficient. This also decreases the need for a large data set, as is needed for quantitative analyses of individual outcomes. For detailed analyses of interactions, a smaller data set is more suitable because of the possibilities for extensive investigation of the data. This explains why I preferred zooming in on shared reading at three kindergarten classes intensively instead of broadly investigating shared reading in a bigger collection of kindergartens. The number of three kindergarten classes enabled me to investigate shared reading interactions thoroughly while still being able to draw conclusions based on more than one teacher's practices. I did not aim to pinpoint differences between the three teachers and their classes, but only showed how these three teachers interacted with the pupils in general. By zooming in on shared reading of three teachers, I was able to validate my findings and to find a broad range of interactional practices.

To make sure the three teachers were talking about comparable subjects in a comparable way, I handed them shared reading instructions with suggestions to start discussions of interesting book content. If I would have videotaped random, unguided shared reading sessions, chances were that there would be too many teacher differences so that I would not be able move beyond general descriptions of teachers' reading styles. By guiding the teachers with help of shared reading instructions, I ensured that all three teachers were challenged to use a higher-demanding shared reading style. This enabled me to take a closer look at the detailed interactional practices related to the creation of learning opportunities and the development of understanding.

Generally, the shared reading instructions indeed established higher-demanding interactions in all three classes. Teachers used the shared reading instructions as a start to talk about the proposed concepts and events. How the discussions continued was not scripted and was filled in by the teachers in accordance to their own opinions. All teachers encouraged extended participation in interaction, although not necessarily at the same moments in time. One teacher could discuss one concept elaborately, while another teacher focused on a different concept. Still, teachers are found to use comparable interactional techniques. For example, to some extent they all showed to use accepting instead of evaluating feedback and they all showed to guide pupils in their lines of reasoning. In total, studying the interactions of these three teachers led to a whole range of interactional characteristics that are related to learning.

For future research, I would argue for inclusion of attention for non-verbal elements in detailed studies of interaction in relation to learning. Conversation Analysis is originally based on audio recordings that gave valuable insights in the sequential organisation of interaction. Since the continuously developing technology enables us to capture non-verbal behaviour as well, the analysis of embodied interaction is getting more and more common. Gestures have also been linked to developing understanding by experimental studies as for instance a study by Goldin-Meadow, Cook and Mitchell (2009) who showed that producing gestures supports mathematical development. However, these experimental studies do not reveal the form and nature of 'understanding-gestures' in natural interactions and the way these gestures are taken up by the participants.

In my data, there are indications that pupils use gestures to express their understanding, as is displayed in the transcripts by descriptions between brackets of this non-verbal behaviour. For instance when they explain differences in perspective, their talk is accompanied by gestures. Additionally, pupils also gesture without accompanying talk. However, these 'single gestures' are most often not responded to by the other participants in interaction. These initial observations have definitely caught my interest. However, I felt this needed more specific attention for extensive incorporation in the analyses. Additionally, my video data with 20 pupils sitting in a circle being videotaped from only two different angles, complicated the close analysis that would be needed to draw well-grounded conclusion. So, in this thesis there was no room for detailed *embodied* interactional analyses, but I will definitely aim for this in the future.

7.3.3. Practical implications

Sketching interactional practices that might contribute to pupils' development is also expected to be valuable from a more practical perspective. If educators are aware of how they can establish learning opportunities in interaction, they may make use of these practices more consciously. This awareness may be created by providing teachers and students of teacher training colleges with concrete suggestions. Additionally, I would suggest looking at interactions with the teachers and students to *show* them the learning opportunities. Offering them a critical analytic stance to look at (their own) classroom interactions on video, may assist them in using this stance while they are interacting with their pupils.

All analytical chapters reveal that if teachers downgrade their epistemic status this offers room for extended pupil participation. This is something that teachers could be made aware of. Teachers could be given the advice to accept pupils contributions as possibilities instead of evaluating the contributions in an explicit manner. This is most effective if the decisive answer to an issue becomes available in the continuation of the activity. Teachers could come back to this by continuing the interaction in a more instructional sense or may use the following book content as an up step to draw conclusions. In the last case, teachers could be given the advice to refer to the continuation of the shared reading after discussing possibilities in a tentative way and to offer room to open up the discussion when the book occasions this.

In a more general sense, teachers could be made aware of the possibilities of the shared reading activity for interaction. If they get oriented to the repetitive and goal-oriented nature of picture books and its opportunities for challenging interactions, they may deploy this during the

activity of shared reading. For teachers who are not used to use a higher-demanding shared reading style, this means that they may become aware of opportunities to move beyond the direct context and may ask for explanations or solutions. In addition, teachers may also more consciously use the repetitive nature of picture books for recurrent discussions of the same topic.

The potentialities of this activity might also open teachers' eyes in the sense that they do not necessarily have to start specific 'lessons' to involve pupils in challenging interactions. This thesis shows that discussion and room for reasoning can be established during regular classroom practices such as shared reading. Teachers could be made aware that they may easily incorporate this in their regular activities, once they think about the opportunities several forms of interaction itself have to offer.

This thesis showed that all three teachers were able to establish such challenging interactions during their regular activity of shared reading. Before the start of the data collection, one of the teachers indicated that she normally did not use an interactive shared reading style. But as well as the other two teachers, she successfully started challenging interactions and her class participated in these interactions without being used to participate during shared reading at all. This illustrates the potentialities of incorporating challenging interactions during shared reading or other regular activities by offering teachers some suggestions to do so.

References

References

Asterhan, C.S.C., & Schwarz, B.B. (2009). Transformation of robust misconceptions through peer argumentation. In B. Schwarz, T. Dreyfus & R. Hershkowitz (Eds.), *Transformation of knowledge through classroom interaction* (pp. 159-172). London: Routledge.

Aukrust, V.G. (2004). Explanatory discourse in young second language learners' peer play. *Discourse Studies, 6*, 393–412.

Aukrust, V.G., & Snow, C.E. (1998). Narratives and explanations during mealtime conversations in Norway and the U.S. *Language in Society, 27*(2), 221-246.

Barbieri, M.S., Colavita, F., & Scheuer, N. (1989). Explanations: a pragmatic basis for early childhood competence. *IPrA Papers in Pragmatics, 3*(1), 129-154.

Barnes, D. (1976). *From communication to curriculum*. Harmondsworth: Penguin Books.

Barnes, D. (2008). Exploratory talk for learning. In N. Mercer & S. Hodgkinson (Eds.), *Exploring talk in schools. Inspired by the work of Douglas Barnes* (pp. 1-15). London: SAGE.

Bereiter, C. (2002). *Education and mind in the knowledge age*. Mahwah, NJ: Lawrence Erlbaum Associates.

Berenst, J. (2006). Metacommunicatieve praktijken van ouders in voorleesinteracties met kinderen. In H. Hoeken, B. Hendriks & P.J. Schellens (Eds.), *Studies in taalbeheersing, deel 2* (pp. 20-31). Assen: Van Gorcum.

Berenst, J., & Mazeland, H. (2000). Moraliteit in kleuterconversaties. In R. Neutelings, N. Ummelen & F. Maes (Eds*.), Over de grenzen van de taalbeheersing: Onderzoek naar taal, tekst en communicatie gepresenteerd op het achtste VIOT-congres aan de TU-Delft* (pp. 107-118). Den Haag: SDU.

Blok, H. (1997). Voorlezen op school aan jonge kinderen: Een review. *Pedagogische Studiën, 74*(4), 233-248.

Blum-Kulka, S. (2002). 'Do you believe Lot's wife is blocking the way to Jericho?': Co-constructing theories about the world with adults. In S. Blum-Kulka & C.E. Snow (Eds.), *Talking to adults* (pp. 85–117). Mahwah, NJ: Lawrence Erlbaum.

Blum-Kulka, S., Hamo, M., & Habib, T. (2010). Explanations in naturally occurring peer talk: Conversational emergence and function, thematic scope, and contribution to the development of discursive skills. *First Language, 30*(3-4), 440-460.

Blum-Kulka, S., Huck-Taglicht, D., & Avni, H. (2004). The Social and Discursive Spectrum of Peer Talk. *Discourse Studies, 6*(3), 307-328.

Blum-Kulka, S., & Snow, C.E. (2004). Introduction: The potential of peer talk. *Discourse Studies, 6*(3), 291-306.

Brouwer, C.E. (2003). Word Searches in NNS: NS Interaction: Opportunities for Language Learning? *The Modern Language Journal, 87*(4), 534-545.

Brouwer, C.E., & Wagner, J. (2004). Developmental issues in second language conversation. *Journal of Applied Linguistics, 1*(1), 29-47.

Brown, R. (2007). Exploring the social positions that students construct within a classroom community of practice. *International Journal of Educational Research, 46*(3-4), 116-128.

Bus, A.G., IJzendoorn, M.H., & Pellegrini, A.D. (1995). Joint book reading makes for success in learning to read: A meta-analysis on intergenerational transmission of literacy. *Review of Educational Research, 65*(1), 1-21.

Chinn, C.A., Anderson, R.C., & Waggoner, M.A. (2001). Patterns of discourse in two kinds of literature discussion. *Reading Research Quarterly, 36*(4), 378-411.

Clark, A.M., Anderson, R., Kuo, L.J., Kim, I.H., Archodidou, A., & Nguyen-Jahiel, K. (2003). Collaborative Reasoning: expanding ways for children to talk and think in school. *Educational Psychology Review, 15*(2), 181-198.

Clayman, S., & Heritage, J. (2002). *The news interview: Journalists and public figures on the air.* Cambridge: Cambridge University Press.

Crain-Thoreson, C., Dahlin, M.P., & Powell, T.A. (2001). Parent-child interaction in three conversational contexts: Variations in style and strategy. *New Directions for Child & Adolescent Development*, *92*, 23-38.

Crain-Thoreson, C., & Dale, P.S. (1992). Do early talkers become early readers? Linguistic precocity, preschool language, and emergent literacy. *Developmental Psychology, 28*, 421-429.

Cress, S.W., & Holm, D.T. (1998). Developing empathy through children's literature. *Education, 120*(3), 593-597.

Danby, S., & Baker, C. (1998). 'What's the problem?' Restoring social order in the preschool classroom. In I. Hutchby & J. Moran-Ellis (Eds.), *Children and social competence. Arenas of action* (pp. 157-186). London/Washington D.C.: The Falmer Press.

Deunk, M. (2009). *Discourse practices in preschool. Young children's participation in everyday classroom activities.* (Doctoral dissertation, University of Groningen, The Netherlands).

Deunk, M., Berenst, J., & Glopper, K. de (2010). 'Miss! I'm done!' Finishing craft assignments as a Situated Activity System in preschool. *Linguistics and Education, 21*, 101-117.

Dickinson, D.K., & Smith, M.W. (1994). Long-term effects of preschool teachers' book readings on low-income children's vocabulary and story comprehension. *Reading Research Quarterly, 29*(2), 105-122.

Engle, R.A., & Conant, F.R. (2002). Guiding principles for fostering productive disciplinary engagement: explaining an emergent argument in a community of learners classroom. *Cognition and Instruction, 20*(4), 399-483.

Fassnacht, C., & Woods D.K. (2004). Transana [computer software]. Available from http://www.transana.org.

Freebody, P. (2003). *Qualitative research in education. Interaction and practice.* London: SAGE.

Furberg, A., & Arnseth, H. (2009). Reconsidering conceptual change from a socio-cultural perspective: analyzing students' meaning making in genetics in collaborative learning activities. *Cultural Studies of Science Education, 4*(1), 157-191.

Geekie, P., & Raban, B. (1994). Language learning at home and school. In C. Gallaway & B.J. Richards (Eds.), *Input and interaction in language acquisition* (pp. 153-180). Cambridge: Cambridge University Press.

Ghonem-Woets, K. (2009). *Elke dag boekendag. Verslag van een onderzoek naar het voorlezen van prentenboeken in groep 1 en 2.* Amsterdam: Stichting Lezen.

Girolametto, L., & Weitzman, E. (2007). Promoting peer interaction skills: professional development for early childhood educators and preschool teachers. *Topics in Language Disorders, 27*(2), 93-110.

Goffman, E. (1981). *Forms of talk.* Oxford: Basil Blackwell.

Goldin-Meadow, S., Cook, S.W., & Mitchell, Z.A. (2009). Gesturing gives children new ideas about math. *Psychological Science, 20*(3), 267-272.

Goodwin, C., & Goodwin, M.H. (1987). Concurrent operations on talk: Notes on the interactive organization of assessments. *IPRA Papers in Pragmatics, 1*, 1-54.

Goodwin, C., & Goodwin. M.H. (2004). Participation. In A. Duranti (Ed.) *A companion to linguistic anthropology* (pp. 222-244). Malden: Blackwell Publishing Ltd.

Gosen, M.N., Berenst, J., & Glopper, K. De (2009). Participeren tijdens het voorlezen van prentenboeken in de kleuterklas. Een pilot-study. *Toegepaste Taalwetenschap in Artikelen, 82*(1), 53-63.

Greene Brabham, E., & Lynch-Brown, C. (2002). Effects of teachers' reading-aloud styles on vocabulary acquisition and comprehension of students in the early elementary grades. *Journal of Educational Psychology, 94*(3), 465-473.

Hall, J.K. (1998). Differential teacher attention to student utterances: The construction of different opportunities for learning in the IRF. *Linguistics and Education, 9*(3), 287-311.

Hardman, F. (2008). Teachers' use of feedback in whole-class and group-based talk. In N. Mercer & S. Hodgkinson (Eds.), *Exploring talk in schools. Inspired by the work of Douglas Barnes* (pp. 131-150). Los Angeles: SAGE.

Hayes, D.P., & Ahrens, M.G. (1988). Vocabulary simplification for children: A special case of 'motherese'? *Journal of Child Language, 15*(2), 395-410.

Hellermann, J. & Pekarek Doehler, S. (2010). On the contingent nature of language-learning tasks. *Classroom Discourse, 1*(1), 25-45.

Heritage, J. (2005). Conversation Analysis and Institutional Talk. In K.L. Fitch & R. Sanders (Eds.), *Handbook of Language and Social Interaction* (pp. 103-146). Mahwah, NJ: Lawrence Erlbaum.

Hmelo-Silver, C.E., & Barrows, H.S. (2006). Goals and strategies of a problem-based learning facilitator. *The Interdisciplinary Journal of Problem-Based Learning, 1*, 21-39.

Hoff-Ginsberg, E. (1991). Mother-child conversation in different social classes and communicative settings. *Child Development, 62*(4), 782-796.

Hoogsteder, M., Maier, R., & Elbers, E. (1996). The architecture of adult-child interaction. Joint problem solving and the structure of cooperation. *Learning and Instruction, 6*(4), 345-358.

Howe, C. (2009). Collaborative group work in middle childhood. *Human Development, 52*(4), 215-239.

Huisman, M. (2000). *Besluitvorming in vergaderingen. Organisaties, interactie en taalgebruik.* (Doctoral dissertation, University of Utrecht, the Netherlands).

Huisman, M. (2001). Decision-making in meetings as talk-in-interaction. *International Studies of Management & Organization, 31*(3), 69-90.

Hutchby, I., & Wooffitt, R. (1998), *Conversation Analysis.* Cambridge: Polity Press.

Jadallah, M., Miller, B., Anderson, R., Nguyen-Jahiel, K., Zhang, J., Archodidou, A., & Grabow, K. (2010). Collaborative reasoning about a science and public policy issue. In M. McKeown & L. Kucan (Eds.), *Bringing reading research to life: Essays in honor of Isabel L. Beck* (pp. 170-193). New York: Guilford Publications.

Jefferson, G. (1984). Transcript notation. In J.M. Atkinson & J. Heritage (Eds.), *Structures of social action studies in conversation analysis* (pp. ix-xvi). Cambridge: Cambridge University Press.

Jefferson, G. (1986). Notes on 'latency' in overlap onset. *Human Studies, 9,* 153-183.

Koole, T. (2010). Displays of Epistemic Access: Student Responses to Teacher Explanations. *Research on Language & Social Interaction, 43*(2), 183-209.

Koole, T., & Berenst, J. (2008). Pupil participation in plenary interaction. In J. Deen, M. Hajer, & T. Koole (Eds.), *Interaction in two multicultural mathematics classrooms. Mechanisms of Inclusion and Exclusion* (pp. 107-139). Amsterdam: Aksant.

Koschmann, T., & Zemel, A. (2009). Optical Pulsars and Black Arrows: Discoveries as Occasioned Productions. *Journal of the Learning Sciences, 18*(2), 200-246.

Kovalainen, M., & Kumpulainen, K. (2005). The discursive practice of participation in an elementary classroom community. *Instructional Science, 33*(3), 213-250.

Kwant, A. (2011). *Geraakt door prentenboeken. Effecten van het gebruik van prentenboeken op de sociaal-emotionele ontwikkeling van kleuters.* (Doctoral dissertation, University of Groningen, the Netherlands).

Lave, J., & Wenger, E. (1991). *Situated learning: legitimate peripheral participation*. Cambridge: Cambridge University Press.

Lee, Y-A. (2007). Third turn position in teacher talk: Contingency and the work of teaching. *Journal of Pragmatics, 39*(6), 1204-1230.

Lerner, G. (1995). Turn design and the organization of participation in instructional activities. *Discourse Processes, 19*, 111-131.

Leseman, P.P.M. (1998). Ontluikende geletterdheid: Tekstbegrip in mondelinge en geletterde taal-interacties. In A. Harpman, H. Veenker & G. Pol (Eds.), *Praten, denken, doen. Taal- en denkstimulering van 0- tot 6-jarigen* (pp. 147-165). Alphen aan den Rijn: Samsom.

Leseman, P.P.M., Rollenberg, L., & Rispens, J. (2001). Playing and working in kindergarten: Cognitive co-construction in two educational situations. *Early Childhood Research Quarterly, 16*(3), 363-384.

Levinson, S.C. (1983). *Pragmatics.* Cambridge: Cambridge University Press.

Levinson, S.C. (1992). Activity types and language. In P. Drew & J. Heritage (Eds.), *Talk at work: Interaction in institutional settings* (pp. 66-100). Cambridge: Cambridge University Press.

Lindwall, O., & Lymer, G. (2011). Uses of ''understand'' in science education. *Journal of Pragmatics, 43*, 452-474.

Littleton, K., Mercer, N., Dawes, L., Wegerif, R., Rowe, D., & Sams, C. (2005). Talking and thinking together at key stage 1. *Early Years: Journal of International Research & Development, 25*(2), 167-182.

Lyle, S. (2008). Dialogic teaching: discussing theoretical contexts and reviewing evidence from classroom practice (cover story). *Language & Education, 22*(3), 222-240.

Macbeth, D. (2003). Hugh Mehan's "learning lessons" reconsidered: On the differences between the naturalistic and critical analysis of classroom discourse. *American Educational Research Journal, 40*(1), 239-280.

Macbeth, D. (2004). The relevance of repair for classroom correction. *Language in Society, 33*, 703-736.

Macbeth, D. (2011). Understanding understanding as an instructional matter. *Journal of Pragmatics, 43*(2), 438-451.

Mar, R.A., & Oatley, K. (2008). The function of fiction is the abstraction and simulation of social experience. *Perspectives on Psychological Science, 3*(3), 173-192.

Mar, R.A., Oatley, K., & Peterson, J.B. (2009). Exploring the link between reading fiction and empathy: Ruling out individual differences and examining outcomes. *Communications, 34*(4), 407-428.

Margutti, P. (2006). "Are you human beings?" Order and knowledge construction through questioning in primary classroom interaction. *Linguistics and Education, 17*(4), 313-346.

Margutti, P. (2010). On designedly incomplete utterances: What counts as learning for teachers and students in primary classroom interaction. *Research on Language & Social Interaction, 43*(4), 315-345.

Martin, C. (2009). Relevance of situational context in studying learning as changing participation. *Scandinavian Journal of Educational Research, 53*(2), 133-149.

Massey, S.L. (2004). Teacher-child conversation in the preschool classroom. *Early Childhood Education Journal, 31*(4), 227-231.

Mazeland, H. (2009). Positionsexpansionen: Die interaktive Konstruktion von Stellungnahme-Erweiterungen in Arbeitsbesprechungen. In S. Günthner & J. Bücker (Eds.), *Grammatik im Gespräch. Konstruktionen der Selbst- und Fremdpositionierung* (pp. 185-214). Berlin, New York: De Gruyter.

McHoul, A. (1978). The organization of turns at formal talk in the classroom. *Language in Society, 7*(2), 183-213.

McKeown, M.G., & Beck, I.L. (2003). Taking advantage of read-alouds to help children make sense of decontextualized language. In A. van Kleeck, S.A. Stahl & E.B. Bauer (Eds.), *On reading books to children: Parents and teachers* (pp. 159–176). Mahwah, NJ: Erlbaum.

Mehan, H. (1979a). *Learning lessons: Social organization in the classroom*. Cambridge, MA; London: Harvard University Press.

Mehan, H. (1979b). "What time is it, Denise?": Asking known information questions in classroom discourse. *Theory into Practice, 18*(4), 285-294.

Mehan, H. (1998). The study of social interaction in educational settings: Accomplishments and unresolved issues. *Human Development, 41*(4), 245-269.

Melander, H., & Sahlström, F. (2008). In tow of the blue whale: Learning as interactional changes in topical orientation *Journal of Pragmatics, 41*(8), 1519-1537.

Melander, H., & Sahlström, F. (2009). Learning to fly - the progressive development of situation awareness. *Scandinavian Journal of Educational Research, 53*(2), 151-166.

Mercer, N. (1995). *The guided construction of knowledge: Talk amongst teachers and learners*.

Clevedon [etc.]: Multilingual Matters.

Mercer, N. (1996). The quality of talk in children's collaborative activity in the classroom. *Learning and Instruction, 6*(4), 359-377.

Mercer, N. (2008). The seeds of time: why classroom dialogue needs a temporal analysis. *Journal of the Learning Sciences, 17*(1), 33-59.

Mercer, N., Wegerif, R., & Dawes, L. (1999). Children's Talk and the Development of Reasoning in the Classroom. *British Educational Research Journal, 1*, 95-111.

Mercer, N., Dawes, L., Wegerif, R., & Sams, C. (2004). Reasoning as a scientist: ways of helping children to use language to learn science. *British Educational Research Journal, 30*(3), 359-377.

Mercer, N., & Littleton, K. (2007). *Dialogue and the development of children's thinking. A sociocultural approach*. London/New York: Routledge.

Mol, S.E., Bus, A.G., Jong, M.T. de, & Smeets, D.J.H. (2008). Added value of dialogic parent-child book readings: A meta-analysis. *Early Education & Development, 19*(1), 7-26.

Mondada, L., & Pekarek Doehler, S. (2004). Second language acquisition as situated practice: Task accomplishment in the French second language classroom. *The Modern Language Journal, 88*(4), 501-518.

Mooren, P. (2000). *Het prentenboek als springplank. Cultuurspreiding en leesbevordering door prentenboeken*. Nijmegen: Uitgeverij SUN.

Mori, J. (2002). Task Design, Plan, and Development of Talk-in-Interaction: An Analysis of a Small Group Activity in a Japanese Language Classroom. *Applied Linguistics, 23*(3), 323-347.

Morrow, L.M., & Brittain, R. (2003). The nature of storybook reading in the elementary school: current practices. In A. van Kleeck, S.A. Stahl & E.B. Bauer (Eds.), *On reading books to children: Parents and teachers* (pp. 140-158). New Jersey: Lawrence Erlbaum Associates, Inc.

Morrow, L.M., & Smith, J.K. (1990). The effects of group size on interactive storybook reading. *Reading Research Quarterly, 25*(3), 213-231.

Mortimer, E.F., & Scott, P.H. (2003). *Meaning making in secondary science classrooms.* Philadelphia: Open University Press.

Nassaji, H., & Wells, G. (2000). What's the use of 'triadic dialogue'?: An investigation of teacher-student interaction. *Applied Linguistics, 21*(3), 376-406.

Nikolajeva, M., & Scott, C. (2001). *How picture books work.* New York/London: Garland Publishing.

Nystrand, M., & Gamoran, A. (1991). Student engagement: When recitation becomes conversation. In H.C. Waxman & H.J. Walberg (Eds.), *Effective teaching: Current research* (pp. 257-276). Berkeley: McCurchan Publishing Company.

O'Connor, M.C., & Michaels, S. (1996). Shifting participant frameworks: orchestrating thinking practices in group discussion. In D. Hicks (Ed.), *Discourse, learning, and schooling* (pp. 63-103). New York: Cambridge University Press.

Oliveira, A., Sadler, T., & Suslak, D. (2007). The linguistic construction of expert identity in professor-student discussions of science. *Cultural Studies of Science Education, 2*(1), 119-150.

Paavola, S., & Hakkarainen, K. (2005). The knowledge creation metaphor - an emergent

epistemological approach to learning. *Science & Education, 14*(6), 535-557.

Pantaleo, S. (2007). Interthinking: Young children using language to think collectively during interactive read-alouds. *Early Childhood Education Journal, 34*(6), 439-447.

Pekarek Doehler, S. (2002). Mediation revisited: the interactive organization of mediation in learning environments. *Mind, Culture & Activity, 9*(1), 22-42.

Pekarek Doehler, S. (2010). Conceptual changes and methodological challenges: On language, learning and documenting learning in conversation analytic SLA research. In P. Seedhouse, S. Walsh & C. Jenks (Eds.), *Conceptualising learning in applied linguistics* (pp. 105-127). Basingstoke, UK: Palgrave Macmillan.

Pentimonti, J., & Justice, L. (2010). Teachers' use of scaffolding strategies during read alouds in the preschool classroom. *Early Childhood Education Journal, 37*(4), 241-248.

Piaget, J. (1932). *The moral judgment of the child*. London: Routledge.

Pochon-Berger, E. (2011). A participants' perspective on tasks: from task instruction, through pre-task planning, to task accomplishment. *Novitas-ROYAL (Research on Youth and Language), 5*(1), 71-90.

Pomerantz, A. (1984). Agreeing and disagreeing with assessments: Some features of preferred/dispreferred turn shapes. In Atkinson, J.M., & Heritage, J. (Eds.), *Structures of social action studies in conversation analysis* (pp. 57-101). Cambridge: Cambridge University Press.

Reese, E., & Cox, A. (1999). Quality of adult book reading affects children's emergent literacy. *Developmental Psychology, 35*(1), 20-28.

Reese, E., Cox, A., Harte, D., & McAnally, H. (2003). Diversity in adults' styles of reading books to children. In A. van Kleeck, S.A. Stahl & E.B. Bauer (Eds.), *On reading books to children: Parents and teachers* (pp. 37-57). New Jersey: Lawrence Erlbaum Associates, Inc.

Reznitskaya, A., Kuo, L.J., Clark, A.M., Miller, B., Jadallah, M., Anderson, R.C., & Nguyen-Jahiel, K. (2009). Collaborative reasoning: a dialogic approach to group discussions. *Cambridge Journal of Education, 39*(1), 29-48.

Rogoff, B. (1990). *Apprenticeship in thinking: Cognitive development in social context*. New York, N.Y., [etc.]: Oxford University Press.

Rogoff, B. (2003). *The cultural nature of human development*. Oxford [etc.]: Oxford University Press.

Rojas-Drummond, S., & Mercer, N. (2003). Scaffolding the development of effective collaboration and learning. *International Journal of Educational Research, 39*(1-2), 99-111.

Roschelle, J. (1992). Learning by Collaborating: Convergent Conceptual Change. *The Journal of the Learning Sciences, 2*(3), 235-276.

Sahlström, F. (2009). Conversation Analysis as a Way of Studying Learning—An Introduction to a Special Issue of SJER. *Scandinavian Journal of Educational Research, 53*(2), 103-111.

Schegloff, E.A. (2007). *Sequence organization in interaction*. Cambridge [etc.]: Cambridge University Press.

Scott, P., & Amettler, J. (2007). Teaching science in a meaningful way: striking a balance between 'opening up' and 'closing down' classroom talk. *School Science Review, 88*(324), 77-83.

Segal, G. (1997). *A sociocultural model of learning and teaching in early childhood science education.*

Paper presented at the Annual meeting of national association for research in science teaching (NARST), Chicago.

Sénéchal, M., & LeFevre, J.A. (2002). Parental involvement in the development of children's reading skill: A five-year longitudinal study. *Child Development, 73*(2), 445-460.

Sewell, A. (2011). Developing dialogue in the classroom: a cultural tool for learning together. *Classroom Discourse, 2*(2), 268-281.

Sfard, A. (1998). On two metaphors for learning and the dangers of choosing just one. *Educational Researcher, 27*(2), 4-13.

Sharpe, T. (2008). How can teacher talk support learning? *Linguistics and Education, 19*(2), 132-148.

Sinclair, J.M., & Coulthard, R.M. (1975). *Towards an analysis of discourse: The English used by teachers and pupils*. Oxford: Oxford University Press.

Sipe, L.R. (2002). Talking back and taking over: Young children's expressive engagement during storybook read-alouds. *Reading Teacher, 55*(5), 476-483.

Smith, H., & Higgins, S. (2006). Opening classroom interaction: the importance of feedback. *Cambridge Journal of Education, 36*(4), 485–502.

Snow, C.E. (1995). Issues in the study of input: Finetuning, universality, individual and developmental differences, and necessary causes. In P. Fletcher & B. MacWhinney (Eds.), *The handbook of child language* (pp. 180-193). Oxford: Blackwell Publishers.

Snow, C.E., & Ninio, A. (1986). The contracts of literacy: What children learn from learning to read books. In W.H. Teale & E. Sulzby (Eds.), *Emergent literacy: Writing and reading* (pp. 116–138). Norwood, NJ: Ablex.

Sohmer, R., Michaels, S., O'Connor, M.C., & Resnick, L. (2009). Guided construction of knowledge in the classroom. The troika of talk, tasks and tools. In B. Schwarz, T. Dreyfus & R. Hershkowitz (Eds.), *Transformation of knowledge through classroom interaction* (pp. 105-129). London: Routledge.

Stein, N.L., & Glenn, C.G. (1979). An analysis of story comprehension in elementary school children. In R.O. Freedle (Ed.), *New directions in discourse processing* (pp. 53-120). Norwood, New Jersey: ABLEX Publishing Corporation.

Stivers, T., & Enfield, N.J. (2010). A coding scheme for question–response sequences in conversation. *Journal of Pragmatics, 42*(10), 2620-2626.

Stivers, T., & Rossano, F. (2010). Mobilizing response. *Research on Language & Social Interaction, 43*(1), 3-31.

Sulzby, E. (1985). Children's emergent reading of favorite storybooks: A developmental study. *Reading Research Quarterly, 20*(4), 458-481.

Szymanski, M.H. (2003). Producing Text through Talk: Question-answering Activity in Classroom Peer Groups. *Linguistics and Education, 13*(4), 533–563.

Tabak, I., & Baumgartner, E. (2004). The teacher as partner: exploring participant structures, symmetry, and identity work in scaffolding. *Cognition and Instruction, 22*(4), 393-429.

Tatsis, K., Kafoussi, S., & Skoumpourdi, C. (2008). Kindergarten children discussing the fairness of probabilistic games: the creation of a primary discursive community. *Early Childhood Education Journal, 36*(3), 221-226.

Ten Have, P. (2007). *Doing conversation analysis. A practical guide.* London: Sage Publications Ltd.

Thiele, J. (2003). Das Bilderbuch. In J Thiele & J. Steitz-Kallenbach (Eds.) *Handbuch Kinderliteratur. Grundwissen für Ausbildung und Praxis* (pp. 70-98)*.* Freiburg im Breisgau: Verlag Herder.

Thornborrow, J. (2003). The organization of primary school children's on-task and off-task talk in a small group setting. *Research on Language & Social Interaction, 36*(1), 7-32.

Tompkins, G.E., & Webeler, M. (1983). What Will Happen Next? Using Predictable Books with Young Children. *The Reading Teacher, 36*(6), 498-502.

Trickey, S., & Topping, K.J. (2004). 'Philosophy for children': a systematic review. *Research Papers in Education, 19*(3), 365-380.

Van den Heuvel-Panhuizen, M., Van den Boogaard, S., & Doig, B. (2009). Picture books stimulate the learning of mathematics. *Australian Journal of Early Childhood, 34*(3), 30-39.

Van der Pol, J.A. (2010). *Prentenboeken lezen als literatuur: een structuralistische benadering van het concept 'literaire competentie' voor kleuters.* (Doctoral dissertation, Tilburg University, the Netherlands).

Van Elsäcker, W., & Verhoeven, L. (1997). Kleuters leren meer van voorlezen in kleine groepjes. *Pedagogische Studiën, 74*(2), 117-129.

Van Gorp, K. (2010). *'Meester, wat is genen?' De effectiviteit van kennisconstructie en schooltaalverwerving bij NT2-leerlingen aan het einde van het basisonderwijs.* (Doctoral dissertation, K.U. Leuven, Belgium).

Van Kleeck, A., & Beckley-McCall, A. (2002). A comparison of mothers' individual and simultaneous book sharing with preschool siblings: An exploratory study of five families. *American Journal of Speech-Language Pathology, 11*(2), 175-189.

Van Kleeck, A. (2003). Research on book sharing: another critical look. In A. van Kleeck, S.A. Stahl & E.B. Bauer (Eds.), *On reading books to children: Parents and teachers* (pp. 271-320). New Jersey: Lawrence Erlbaum Associates, Inc.

Van Kleeck, A., & Vander Woude, J. (2003). Book sharing with preschoolers with language delays. In A. van Kleeck, S.A. Stahl & E.B. Bauer (Eds.), *On reading books to children: Parents and teachers* (pp. 58-92). New Jersey: Lawrence Erlbaum Associates, Inc.

Verhallen, M.J.A.J., & Bus, A.G. (2009). Video storybook reading as a remedy for vocabulary deficits: Outcomes and processes. *Journal for Educational Research Online, 1*(1), 172–196.

Verhallen, M.J.A.J., & Bus, A.G. (2010). Low-income immigrant pupils learning vocabulary through digital picture storybooks. *Journal of Educational Psychology, 102*(1), 54-61.

Verhallen, M.J.A.J., & Bus, A.G. (2011). Young second language learners' visual attention to illustrations in storybooks*. Journal of Early Childhood Literacy, 11*(4), 480–500.

Verhallen, M.J.A.J., Bus, A.G., & Jong, M.T. de (2006). The promise of multimedia stories for kindergarten children at-risk. *Journal of Educational Psychology, 98*, 410-419.

Vine, E.W. (2003). "My partner": A five-year-old Samoan boy learns how to participate in class through interactions with his English-speaking peers. *Linguistics and Education, 14*(1), 99-121.

Vine, E.W. (2008). CA and SCT: strange bedfellows or useful partners for understanding classroom interactions? *Discourse Studies, 10*(5), 673-693.

Vosniadou, S. (2007). Conceptual change and education. *Human Development, 50*, 47-54.

Vygotsky, L.S. (1978). *Mind in society. The development of higher psychological processes.* Cambridge/London: Harvard University Press.

Vygotsky, L.S. (1986). *Thought and language.* Cambridge/London: The Massachusetts Institute of Technology Press.

Waring, H.Z. (2008). Using explicit positive assessment in the language classroom: IRF, feedback, and learning opportunities. *The Modern Language Journal, 92*, 577-594.

Waring, H.Z. (2009). Moving out of IRF (Initiation-Response-Feedback): a single case analysis. *Language Learning, 59*(4), 796-824.

Waring, H.Z. (2011). Learner initiatives and learning opportunities in the language classroom. *Classroom Discourse, 2*(2), 201-218.

Wells, G. (1993). Reevaluating the IRF sequence: A proposal for the articulation of theories of activity and discourse for the analysis of teaching and learning in the classroom. *Linguistics and Education, 5*(1), 1-37.

Wells, G. (2009). *The meaning makers: learning to talk and talking to learn.* Bristol [etc.]: Multilingual Matters.

Wells, G.. & Arauz, R.M. (2006). Dialogue in the classroom. *Journal of the Learning Sciences, 15*(3), 379-428.

Wenger, E. (1998). *Communities of practice. Learning, meaning and identity*. Cambridge: Cambridge University Press.

Wenger, E., McDermott, R., & Snyder, W.M. (2002). *Cultivating communities of practice: a guide to managing knowledge.* Boston: Harvard Business School Press.

What Works Clearinghouse (2007). *WWC Intervention Report: Dialogic reading.* U.S. Department of Education: Institute of Education Sciences.

Williams, J.M., & Tolmie, A. (2000). Conceptual change in biology: group interaction and the understanding of inheritance. *British Journal of Developmental Psychology, 18*, 625-649.

Wiseman, A. (2011). Interactive read alouds: Teachers and students constructing knowledge and literacy together. *Early Childhood Education Journal, 38*, 431-438.

Wood, D., Bruner, J.S., & Ross, G. (1976). The role of tutoring in problem solving. *Journal of Child Psychology and Psychiatry, 17*, 89-100.

Wootton, A. J. (1997). *Interaction and the development of mind.* Cambridge: Cambridge University Press.

Wunderlich, D. (1976). *Studien zur Sprechakttheorie*. Frankfurt am Main: Suhrkamp Verlag.

Zemel, A., & Koschmann, T. (2011). Pursuing a question: Reinitiating IRE sequences as a method of instruction. *Journal of Pragmatics, 43*(2), 475-488.

Zimmerman, D.H. (1998). Identity, context and interaction. In C. Antaki, & S. Widdicombe (Eds.), *Identities in talk* (pp. 87-106). London: SAGE.

Zucker, T.A., Justice, L.M., Piasta, S.B., & Kaderavek, J.N. (2010). Preschool teachers' literal and inferential questions and children's responses during whole-class shared reading. *Early Childhood Research Quarterly, 25*, 65-83.

Appendices

Appendix A: Picture books used in the project

Social-emotional domain

On video	Not on video
Stein, M., & van Hout, M. (2006). *Van mij! (Mine!)* Rotterdam: Lemniscaat.	Olten, M. (2005). *Echte vrienden (Real friends).* Tielt: Lannoo.
Kromhout, R., & Van Haeringen, A. (2006). *Kleine Ezel en jarige Jakkie (Little Donkey and the Birthday Present).* Amsterdam: Leopold.	Leffler, S., & Janisch, H. (2007). *Beer heeft een probleempje (Bear has a little problem).* Ootmarsum – Mechelen: Uitgeverij Randazzo & Bannier, Uitgeverij Bakermat.
Velthuijs, M. (2004). *Kikker is bang (Frog is frightened).* Amsterdam: Leopold.	Bougaeva, S. (2005). *De zussen krijgen bezoek (The sisters get visitors).* Amsterdam: Milamant.
Dros, I. (2006). *Bijna jarig (Birthday coming).* Amsterdam: Querido.	Kitamura, S. (2005). *Igor, de vogel die niet zingen kon (IGOR the bird who couldn't sing).* Amsterdam: Mercis Allasso.
Eagland, J., & Milne, T. (2005). *Wie is de liefste (Second Best).* Rotterdam: C. de Vries-Brouwers.	Elias, B., & Westerduin, A. (2003). *Ik wil bloemetjesschoenen (I want shoes with flowers).* Hasselt - Amsterdam: Clavis.
Van Haeringen, A. (2005). *Beer is op vlinder (Bear loves Butterfly).* Amsterdam: Leopold.	Oram, H., & Ross, T. (1997). *Zij is altijd de eerste (The second princess).* Haarlem: Altamira.

Mathematical domain

On video	Not on video
Grindley, S., & Utton, P. (2006). *Sssst!* (*Shhh!*) Amsterdam: Uitgeverij Altamira Jeugd.	Van Haeringen, A. (2003). *Het begin van de zee (The beginning of the sea).* Amsterdam: Leopold.
Horáček, P. (2004). *Kleine Muis zoekt een huis (A New House for Mouse).* Haarlem: Gottmer.	Dematons, C. (2007). *Ga je mee?* (*Let's go*) Rotterdam: Lemniscaat.
Damm, A. (2006). *Fladdertje op zijn kop (Fledolin upside down).* Tielt: Lannoo.	Pauli, L., & Schärer, K. (2004). *De kist (The box).* Rotterdam: Lemniscaat.
Ross, T. (1996). *Ik wil groot zijn (I want to be).* Haarlem: Altamira.	Damon, E. (1997). *Rosa's reuze zonnebloem (Daisy's Giant Sunflower).* Amsterdam: Sjaloom.
Van Ommen, S. (2003). *De verrassing (The surprise).* Rotterdam: Lemniscaat.	Veldkamp, T., & Linde G. van der (2007). *De lievelingstrui (The favourite jumper).* Rotterdam: Lemniscaat.
Cain, S., & Tickle, J. (2006). *Het kleine kikkervisje (The Teeny Weeny Tadpole).* Maarssen: Veltman uitgevers.	Carle, E (2007). *De spin die het te druk had (The very busy spider).* Haarlem: Gottmer.

Literary domain

On video	Not on video
Schubert, I., & Schubert, D. (2006). *Woeste Willem (Wild Will).* Rotterdam: Lemniscaat.	Van Genechten, G. (2008). *Ridder Rikki (Knight Rikki).* Hasselt- Amsterdam: Clavis.
Timmers, L. (2006). *Ik ben de koning (I am the King).* Hasselt - Amsterdam: Clavis.	Burton, V.L. (2008). *Het huisje dat verhuisde (The little house)*. Rotterdam: Lemniscaat.
Child, L. (2008). *Wat een spetter is die hond (We honestly can look after your dog).* Houten: Van Goor.	Maddern, E., & Hess, P. (2006). *De koe op het dak (The cow on the roof).* Rotterdam: C. de Vries-Brouwers.
Veldkamp, T., & Boer, K. de (2004). *Tim op de tegels (Tim on tiles)*. Houten: Van Goor.	Vis, L.J. (2006). *Jaap schaap (Jaap sheep).* Rotterdam: Lemniscaat.
Van Haeringen, A. (2004). *De prinses met de lange haren (The long hair princess).* Amsterdam: Leopold.	Holmelund Minarik, E, & Sendak, M. (2006). *Een kusje voor kleine beer (A kiss for little bear).* Amsterdam: Ploegsma.
Bonning, T., & Hobson, S. (2001). *Steen Soep (Stone soup).* Haarlem: Uitgeverij Holland.	Knudsen, M., & Hawkes, K. (2006). *Niet brullen in de bieb (Library Lion).* Haarlem: Gottmer.

Appendix B: Example shared reading instructions

[Voorkant/*Cover*]	[Titelpagina/*Title page*]
Lees de titel voor en reageer enthousiast met: *'Volgens mij vinden de zussen het wel fijn dat ze bezoek krijgen!'* *Wacht reacties af en ga door op antwoorden die gegeven worden.* *Probeer de antwoorden te laten onderbouwen vanuit de illustratie (houding, blik e.d.):* *(Waarom denk je dat? Kun je dat ook zien?)*	*Lees de titel nog een keer voor en wijs de titel ook even aan.*
Translation: *Read the title and respond enthusiasticly by saying: 'I think the sisters are happy with having visitors!'* *Wait for responses and continue on the given responses.* *Try to get arguments with the answers based on the illustration (posture, glance etc.)* *(Why do you think so? Can you see so?)*	*Read the title again and point at the title.*

Appendix C: Transcription symbols (based on Jefferson, 1984)

[text	overlapping speech; point at which an ongoing utterance is joined by another utterance
=	break and subsequent continuation of contiguous utterances
(0.4)	pause (in seconds)
(.)	micro pause (less than 0,2 seconds)
.	stopping fall in tone (not necessarily at the end of a sentence)
,	continuing intonation (not necessarily between clauses of sentences)
?	rising inflection (not necessarily a question)
!	animated tone (not necessarily an exclamation)
-	halting, abrupt cutoff
↓	marked falling shift in intonation
↑	marked rising shift in intonation
◦	talk that is quieter than surrounding talk
TEXT	talk that is louder than surrounding talk
<u>text</u>	emphasis
:	extension of the sound that follows (0,2 seconds for every colon)
>text<	speech is delivered at a quicker pace than surrounding talk
<text>	speech is delivered at a slower pace than surrounding talk
hhh	audible aspiration
•hhh	audible inhalation
(text)	transcriber is in doubt about the accuracy of the transcribed stretch of talk
( )	transcriber could not achieve a hearing for the stretch of talk
((text))	description of a phenomenon, of details of the conversational scene or other characterizations of talk
[...]	deletion of part of original transcript

Summary in Dutch
Samenvatting

Leren in interactie

Een analyse van het voorlezen van prentenboeken in de kleuterklas

In dit proefschrift wordt verslag gedaan van een onderzoek naar voorlezen van prentenboeken in de kleuterklas. Binnen dit onderzoek staan de interacties die plaatsvinden voorafgaand, tijdens en na afloop van het klassikaal voorlezen centraal. Eerder onderzoek naar voorlezen heeft aangetoond dat interacties bijdragen aan de taal- en geletterdheidsontwikkeling als ook aan de kennisontwikkeling van jonge kinderen. Binnen het gedane onderzoek werden de voorleesinteracties echter vooral globaal gekarakteriseerd. Dit proefschrift heeft als doel de interacties die plaatsvinden tijdens voorlezen op micro-niveau te beschrijven. Dat wil zeggen dat de opeenvolging van gespreksbijdragen tijdens het voorlezen in detail wordt bestudeerd. Op die manier worden de leerzame kenmerken van deze interacties blootgelegd en draagt dit proefschrift bij aan inzicht in de leerprocessen en de gelegenheden voor leren in die interacties.

De beschreven resultaten zijn gebaseerd op de analyses van 36 voorleessessies. Deze voorleessessies zijn op video opgenomen gedurende een longitudinaal voorleesprogramma waarin gecombineerde kleuterklassen (groepen 1-2) van rond de twintig leerlingen in drie scholen uit het noorden van Nederland werden gevolgd. De drie leerkrachten van deze klassen hebben gedurende twaalf weken, twee aangedragen prentenboeken per week voorgelezen. Bij deze boeken waren voorleesaanwijzingen met suggesties voor het starten van interacties aangeleverd[8]. Deze voorleessessies werden dus anders vormgegeven en vormden zo een aanvulling op de reguliere voorleesactiviteiten in de klas. Elke week is één voorleessessie per leerkracht op video opgenomen. De totale dataset is getranscribeerd en geanalyseerd volgens de Conversatieanalyse. Deze methode gaat uit van wat de deelnemers doen in een gesprek en probeert de regels te beschrijven waarop de deelnemers zich blijken te oriënteren. De onderzoeker interpreteert dus niet wat er gebeurt, maar laat zien hoe de deelnemers aan de interactie zelf hun interactie interpreteren en vormgeven.

In het onderstaande zullen de bevindingen kort samengevat worden zoals die in de verschillende hoofdstukken zijn beschreven. In het eerste hoofdstuk (hoofdstuk 2 in het proefschrift) wordt het bestaande onderzoek naar leren en interactie besproken. De analyses van de voorleesinteracties worden in de overige hoofdstukken beschreven. Tenslotte zullen ook de conclusies, enkele discussiepunten en praktische consequenties van het onderzoek worden samengevat.

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[8] Binnen dit project is gebruik gemaakt van een deelselectie van de prentenboeken en voorleesaanwijzingen uit het PIcture Books and COncept Development (PICO) project. Dit project betrof een samenwerking tussen de Rijksuniversiteit Groningen, het Freudenthal Instituut te Utrecht en de Universiteit van Tilburg. Met drie quasi-experimentele studies heeft het PICO project het effect van het interactief voorlezen van prentenboeken op de sociaal-emotionele, de wiskundige en literaire ontwikkeling van jonge kinderen gemeten.

Taalgebruik en leren: een discussie

In dit theoretische hoofdstuk wordt het onderzoek besproken dat betrekking heeft op hoe je leert door de uitwisseling van gedachten met anderen. Het draait hierbij niet om individueel leren, maar om leren in interactie met anderen. Onderzoek laat zien dat met name het deelnemen aan uitdagende interacties bijdraagt aan de ontwikkeling. Door bijvoorbeeld met elkaar te redeneren en discussiëren in wat Mercer (1995) *educated discourse* noemt, worden zowel redeneervaardigheden als kennis over de discussieonderwerpen ontwikkeld.

Er wordt een reeks studies beschreven die deze ontwikkelingen hebben aangetoond. Daarnaast wordt onderzoek besproken dat in globale zin de kenmerken van deze uitdagende interactievormen beschrijft. Deze studies laten bijvoorbeeld zien dat uitdagende interacties tot stand kunnen komen door leerlingen meer ruimte te geven. Dit kan als de leerkracht bijvoorbeeld bijdragen van leerlingen niet direct expliciet evalueert, als de leerkracht doorvraagt naar argumenten of stellingnames en als er uitdagende taken worden geformuleerd.

De bediscussieerde studies tonen vooral het succes van interacties aan zonder dat deze studies de interacties zelf uitgebreid bestuderen. Nu we weten dat interactie van grote invloed kan zijn op de ontwikkeling, zouden we idealiter nog gedetailleerder in kaart willen brengen wat leerzame bestandsdelen van interactie zijn. Daarom wordt er in dit hoofdstuk gepleit voor preciezere analyses. Dit pleidooi wordt ondersteund door het bespreken van verschillende micro-analytische studies met betrekking tot leren. Deze studies zijn onder te verdelen in studies die 'lokaal leren' zichtbaar maken door precies te beschrijven hoe gelegenheden voor leren worden gecreëerd in interactie en hoe leerlingen gebruik maken van deze mogelijkheden en in studies die leren zichtbaar maken door te beschrijven hoe opeenvolgende interacties zicht geven op een doorgemaakte ontwikkeling.

Dergelijke analyses gaan verder dan te constateren of er wel of niet geleerd is. Ze brengen leren in beeld door de leerprocessen en gelegenheden voor leren gedetailleerd te beschrijven. De studies naar gezamenlijke kennisconstructie hebben zich tot op heden echter voornamelijk gericht op het construeren van kennis door kleine groepjes oudere leerlingen. Het gezamenlijk leren van groepjes jonge kinderen of gezamenlijk leren in klassikaal verband is nog niet bestudeerd. Daarnaast is interactief voorlezen als setting, bekend om haar mogelijkheden voor het leren over de onderwerpen die centraal staan in de boeken, nog nooit op een dergelijke gedetailleerde wijze geanalyseerd. De analytische hoofdstukken van dit proefschrift gaan hierom op een micro-analytische manier in op klassikaal interactief voorlezen in de kleuterklas om zicht te krijgen op klassikale leerprocessen bij jonge kinderen.

Het begrijpen van de boekinhoud door participatie

Aangezien in het theoretische hoofdstuk benadrukt is dat deelname aan interacties van groot belang is voor de ontwikkeling, wordt in dit hoofdstuk de participatie tijdens het voorlezen als uitgangspunt genomen. Op basis van een gedetailleerde beschrijving van één fragment wordt de deelname in relatie tot kennisontwikkeling over het besproken onderwerp geïllustreerd. Hiermee wordt duidelijk gemaakt hoe leerkracht en leerlingen deelnemen aan de voorleesinteractie en hoe deze deelname samenhangt met het ontwikkelen van begrip met betrekking tot de boekinhoud. Deze casestudie

laat zien dat leerkracht en leerlingen zich bewegen binnen twee verschillende *participation frameworks* (Goffman, 1981; Goodwin & Goodwin, 2004). Het blijkt de opeenvolging van de twee frameworks te zijn die bijdraagt aan een leerzame omgeving. Leerkracht en leerlingen praten binnen deze frameworks over iets uit het boek dat nader verklaard kan worden.

In eerste instantie nemen leerlingen deel aan een *discussion framework* door verschillende mogelijke verklaringen te opperen zonder dat ze daar direct om gevraagd wordt. Ze nemen een *participant status* (Goffman, 1981) aan als deelnemers aan een discussie, wat te zien is aan het vormgeven van hun stellende bijdragen als hypotheses door onder andere het gebruik van *misschien*. De leerkracht accepteert de bijdragen als mogelijkheden en evalueert ze verder niet. De leerlingen nemen dus de ruimte met elkaar te discussiëren, waarbij de leerkracht alleen als toeschouwer of discussieleider optreedt.

Dit wijzigt als het framework verandert in een *instructional framework* dat kenmerkend is voor traditionele klasse-interacties. De verandering vindt plaats als de leerkracht een *known information question* (Mehan, 1979b) stelt. Dit type vraag is kenmerkend voor klasse-interacties doordat de vraag kennis bevraagt die de leerkracht zelf al heeft. Hiermee wordt dus de kennis van leerlingen getest. Leerlingen passen zich aan dit nieuwe framework aan door te antwoorden als respondenten in plaats van als deelnemers aan een discussie. Hun antwoorden zijn kort, de leerkracht evalueert de antwoorden nu wel en start een *correction sequence* (Macbeth, 2004), waaruit duidelijk wordt dat ze op zoek is naar een ander specifiek antwoord. Uiteindelijk geeft ze zelf de beschrijving waar ze naar op zoek was, als gebleken is dat de leerlingen hier niet mee komen.

Hoewel deelname aan een discussie met name in verband wordt gebracht met de ontwikkeling van kennis, wordt met deze casestudie aangetoond dat het juist de combinatie van discussie en instructie is die deze voorleesinteractie geschikt maakt voor gezamenlijk leren. De leerlingen worden in eerste instantie zelf uitgedaagd na te denken over een mogelijke verklaring. Dit maakt dat leerlingen vatbaarder zijn voor de uiteindelijke verklaring zoals die tot stand komt tijdens de instructieve interactie. Leerlingen laten vervolgens inderdaad zien dat ze een stap verder hebben gezet in hun boekbegrip als ze voortborduren op de definitieve beschrijving zoals die uiteindelijk door de leerkracht wordt verstrekt.

De interactionele structuur van verklaringen

Zoals in de casestudie aangetoond is, kan het bedenken van verklaringen tijdens voorlezen leerzaam zijn voor leerlingen. Vandaar dat in het volgende hoofdstuk de verklaringen tijdens voorleesinteracties in het bijzonder onder de loep genomen zijn. In dit hoofdstuk wordt zichtbaar dat zowel leerkrachten als leerlingen georiënteerd zijn op de mogelijkheden om tijdens het voorlezen na te denken over verklaringen. Deze verklaringen betreffen niet, zoals in normale, alledaagse interacties, verklaringen van het gedrag of ervaringen van de leerlingen zelf, maar verklaringen voor het gedrag en de belevenissen van de personages in de boeken. De oriëntatie tijdens de voorleessessies op situaties in het boek die een verklaring zouden kunnen gebruiken, ontlokt verklaringsinteracties. Langere verklaringsinteracties worden overigens ook weer gekenmerkt door de ruimte voor discussie of door een meer instructieve interactionele structuur.

In alle drie de geobserveerde klassen, blijken verklaringsinteracties op een zelfde structurele manier tot stand te komen. De prototypische vorm is dat verklaringsinteracties worden gestart door de oriëntatie op iets in het boek dat een verklaring zou kunnen gebruiken. Een dergelijke oriëntatie kan worden gevolgd door een *request for explanations*, maar kan op zichzelf ook al de aanzet vormen voor een verklaringsinteractie. De oriëntatie op een mogelijk te verklaren fenomeen komt tot stand in een *topic proffering sequence* (Schegloff, 2007, p. 169) die de vorm heeft van ofwel een vraag-antwoord sequentie ofwel van een stellingname van de leerkracht. Ook leerlingen gebruiken stellingnames die de aandacht vestigen op iets wat mogelijk een verklaring oproept. Leerlingen lijken dus georiënteerd op hun *interactional identity* (Zimmerman, 1998) als 'verklaarders' in deze setting van interactief voorlezen, zelfs wanneer ze niet direct worden uitgenodigd iets te verklaren.

In de meeste gevallen is de verklaringsinteractie niet afgerond na het geven van een verklaring. De interactie kan dan op twee verschillende manieren worden voortgezet. Ten eerste kan de leerkracht op zoek zijn naar een *juiste* verklaring. Dit laat ze zien in haar feedback op de gegeven verklaringen door de verklaringen te evalueren en/of leerlingen te begeleiden in het bereiken van het juiste antwoord. Ten tweede kan de leerkracht ruimte bieden voor *mogelijke* verklaringen. Ze gedraagt zich in deze interacties dan meer als een *partner* dan als een expert, door te laten zien dat ze het ook niet weet. Ze geeft niet-evaluerende feedback en verwijst naar het boek als bron, in plaats van zelf de gezochte verklaring te verschaffen. Zo laat dit hoofdstuk in detail zien hoe leerkracht en leerlingen samen verklaringen construeren tijdens de voorleesactiviteit. Door dit op micro-niveau te beschrijven verkrijgen we inzicht in hoe leerlingen bezig zijn greep te krijgen op het verhaal en zo gezamenlijk boekgerelateerde kennis ontwikkelen.

Problemen oplossen tijdens voorlezen

Naast verklaren leent voorlezen zich voor het oplossen van problemen dat net als verklaren te karakteriseren is als een uitdagende vorm van taalgebruik. Om problemen op te kunnen lossen moeten leerlingen afstand kunnen nemen van het verhaal om op het verhaal te kunnen reflecteren (Dickinson & Smith, 1994). Doordat kinderboeken zich doorgaans kenmerken door een probleemstructuur, waarbij een personage tegen een probleem aanloopt en vervolgens verschillende pogingen doet om dit probleem op te lossen (Stein & Glenn, 1979), leent voorlezen zich goed voor probleemoplossingsinteracties.

Uit de analyses blijkt dat leerlingen problematische gebeurtenissen in de boeken inderdaad herkennen en hiervoor oplossingen aandragen. Leerlingen komen met oplossingen als de leerkracht hier expliciet naar vraagt; maar interessanter zijn die gevallen waar leerlingen oplossingen opperen zonder dat hierom gevraagd is. In deze gevallen reageren leerlingen met een oplossing op een *beschrijving* of een *beoordeling* van een situatie in het boek. Deze *beschrijvingen* of *beoordelingen* evalueren impliciet of expliciet iets in het boek als problematisch. *Beschrijvingen* nemen de vorm aan van een stellingname, terwijl *beoordelingen* ook in vraag-antwoord vorm gegoten kunnen worden. Op die manier wordt een leerling om een beoordeling gevraagd. Niet alleen blijken leerkracht en leerlingen zelf situaties, acties en gebeurtenissen in het boek vanuit hun eigen standpunt te beschrijven of te beoordelen, de beschrijvingen of beoordelingen *van*

boekpersonages die naar voren komen tijdens het voorlezen, blijken op dezelfde manier tot probleemoplossingsinteracties te leiden. Na een (gezamenlijk tot stand gebrachte) beoordeling of beschrijving van een potentieel probleem komen leerlingen met één of meer oplossingen.

Probleemoplossingsinteracties kunnen worden gekarakteriseerd als *verkennend*. Vergelijkbaar met het bespreken van *mogelijke verklaringen*, blijken leerlingen ook over *mogelijke oplossingen* te spreken. Dit is niet verwonderlijk omdat het vervolg van het boek meestal pas uitwijst wat voor oplossing een personage daadwerkelijk kiest. Er is dus geen sprake van een *juiste* oplossing. Leerlingen bouwen voort op elkaars oplossingen, bijvoorbeeld door ze te evalueren of alternatieven te suggereren. Leerkrachten evalueren niet en verwijzen naar het boek dat uitsluitsel kan geven welke oplossing een personage zal kiezen. Dat zowel leerkracht als leerlingen afhankelijk zijn van het vervolg van het boek om uit te vinden hoe iets opgelost wordt door het personage, maakt dat alle deelnemers aan de interactie (dus ook de leerkracht) op een gelijkwaardige manier met elkaar kunnen praten. Deelname aan dergelijke gelijkwaardige, uitdagende interacties draagt bij aan het gezamenlijk ontwikkelen van kennis.

Leerzaamheid in opeenvolgende interacties

Zoals beschreven biedt voorlezen de ruimte voor leerzame interacties, zoals verklarings- en probleemoplossingsinteracties. De gedetailleerde analyses van dergelijke interacties geven zicht op hoe leerkracht en leerlingen kennis construeren tijdens deze interacties. Hoe die kennis echter kan evolueren in de loop der tijd is nog niet nader beschreven. In dit hoofdstuk wordt getoond hoe tijdens voorleessessies kennis verworven en toegepast wordt in een reeks van opeenvolgende interacties.

Zoals al beschreven, beïnvloeden prentenboeken de interactie doordat er met het omslaan van de pagina's steeds meer informatie vrij komt. Daarom kunnen kinderen ook vaak pas gaandeweg het lezen van het boek hun mogelijke verklaringen of oplossingen verifiëren. Prentenboeken worden bovendien gekenmerkt door hun herhalingspatroon. Gebeurtenissen vinden in een soortgelijke vorm plaats op verschillende momenten in een boek en de taal die hiervoor gebruikt wordt is vaak eveneens herhalend van aard (Tompkins & Webeler, 1983). Door deze kenmerken van prentenboeken en van de activiteit voorlezen kunnen leerkrachten en leerlingen in opeenvolgende interacties over hetzelfde praten.

In de data zijn *sets* van aan elkaar gerelateerde interacties waarin verklaringen of problemen aan de orde komen te onderscheiden. De sets bestaan uit twee of meer interacties die op hetzelfde onderwerp betrekking hebben. Deze verschillende interacties worden met elkaar verbonden doordat zowel leerkracht als leerlingen referentiewoorden gebruiken die vooruit dan wel terug verwijzen. De sets nemen twee verschillende vormen aan.

Ten eerste zijn er de sets waarin leerlingen kennis ontwikkelen in de loop van de opeenvolgende interacties. In deze sets kan de eerste interactie gekarakteriseerd worden als verkennend. Deze verkennende interacties eindigen zonder dat er uitsluitsel is gegeven over de kwestie die besproken wordt. Leerkrachten sluiten een dergelijke interactie vaak af met een vooruitwijzing. Dit bereidt leerlingen voor op het verifiëren van hun voorspellingen en verwachtingen in het vervolg van de voorleessessie. In de hierop volgende interactie(s) redeneren

leerlingen of verder, of trekken ze conclusies op basis van de informatie die dan pas beschikbaar is gekomen. Hierbij refereren ze aan de voorafgaande interactie(s). De complete sets laten dus pas het zich ontwikkelende inzicht zien.

Ten tweede zijn er sets waarin ontwikkelde kennis *toegepast* wordt in het vervolg. De eerste interactie van dergelijke sets eindigt dan met een conclusie of met uitsluitsel over het besproken onderwerp. In hierop volgende interactie(s) laten leerlingen dus zien dat ze gebruik maken van de eerder tot stand gebrachte kennis. Ze blijven georiënteerd op het besproken onderwerp en passen de kennis toe en/of breiden deze uit. De sets laten zien dat leerlingen zelfstandiger worden in het gebruik van de kennis en dat ze in staat zijn het begrip uit te breiden.

In allebei de sets *demonstreren* leerlingen ontwikkeling van begrip (Koole, 2010) van datgene wat bediscussieerd is in de eerste van de set interacties. De analyses laten zien hoe leerlingen in latere interacties gebruik maken van wat er besproken is in de eerste interactie om de boekinhoud te kunnen interpreteren. Dat leerlingen leren wordt zichtbaar in hoe ze terugverwijzen naar het voorafgaande en in hoe ze zich ontwikkelen wat betreft de besproken inhoud en het gebruik van de terminologie.

Conclusie, discussie en praktische implicaties

Eerder onderzoek toonde uitvoerig aan dat leren en interactie samenhangen. Dit proefschrift draagt bij aan het groeiende inzicht in de samenhang tussen de twee door micro-analyses van één type interactie. In de verschillende hoofdstukken in dit proefschrift wordt beschreven hoe leerlingen tijdens voorlezen de kans krijgen na te denken en te praten over leerzame boekinhouden. De verklarings- en probleemoplossingsinteracties worden vaak gekenmerkt door hun verkennende karakter. Leerlingen krijgen de ruimte verschillende mogelijkheden te bespreken doordat de leerkracht zich gedraagt als *partner*. De leerkracht leidt de interactie in goede banen zonder direct typisch, evaluerend leerkrachtgedrag te vertonen.

Zoals in de casestudie en het hoofdstuk met betrekking tot opeenvolgende interacties is laten zien, kan pas in een later stadium uitsluitsel gegeven worden over de *juiste* verklaring of de door het personage gekozen oplossing. Het ontwikkelen van kennis lijkt dus nauw samen te hangen met het uitstellen van definitieve verklaringen of oplossingen. Dit uitstel lijkt vooral mogelijk door de aanwezigheid van het boek en dan met name doordat met het omslaan van de bladzijds gaandeweg informatie beschikbaar komt en doordat kinderboeken gekenmerkt worden door een herhalingspatroon. Als de definitieve verklaring of oplossing (in het boek) eenmaal gegeven is, blijken leerlingen dit in het vervolg ook toe te passen. Ook dit maakt het leren van leerlingen zichtbaar. Kortom, met de analyses wordt zicht verkregen op hoe leerlingen steeds een stapje verder zetten in hun kennisontwikkeling. Dit lijkt mogelijk door de drie-eenheid boek, leerkracht en leerlingen. De boeken geven aanleiding voor dergelijke, leerzame interacties, de leerkracht biedt leerlingen hier de ruimte voor en leerlingen maken gebruik van deze ruimte om samen te redeneren en kennis te construeren.

Zoals in het voorafgaande duidelijk zal zijn geworden gaat het in dit proefschrift niet om het meten van de individuele vooruitgang van leerlingen, maar om het nader in beeld brengen van de gelegenheden voor leren. Door mogelijkheden voor leren en de deelname van leerlingen in de

interacties te beschrijven, wordt inzicht verschaft in het gezamenlijk construeren van kennis. Leren in deze zin kan al worden getraceerd op lokaal niveau, in het kader van een korte interactie en hoeft dus niet alleen door veranderingen in de loop der tijd te worden vastgesteld, zoals Mercer suggereert in zijn paper uit 2008. Ook in één les of zelfs in een relatief kort moment binnen een les kan leren zichtbaar worden in de opeenvolging van handelingen.

Zoals uit de analyses ook duidelijk wordt, hangt leren tijdens interactief voorlezen wel nauw samen met de ruimte die gecreëerd wordt voor deelname aan uitdagende interacties. De aanzetten tot interactieve activiteiten als het geven van verklaringen en het aandragen van oplossingen voor problemen zijn uitdagend te noemen en kunnen leiden tot redeneeractiviteiten. Redeneren is veel vaker in verband gebracht met voorlezen (Van Kleeck, 2003) en ook met kennisontwikkeling, zoals door Mercer en collega's die leerlingen hebben getest op hun redeneervaardigheden (Mercer & Littleton, 2007). Wat de aard van dat redeneren was, in conversationeel opzicht, was echter nog onbelicht gebleven. De analyses in dit proefschrift laten zien wat de kenmerken van dat gezamenlijk redeneren in voorleesinteracties zijn. Een voorbeeld hiervan is hoe leerlingen voortbouwen op elkaars bijdragen. Analyses als die in dit proefschrift laten zien hoe het beschrijven van interacties inzicht geeft in de aard van handelingen en sequenties. Die uitkomsten zouden aanleiding kunnen zijn om dergelijke, uitdagende interacties ook te bestuderen binnen andere (schoolse) activiteiten dan voorlezen, om te zien in hoeverre de conversationele praktijken die met redeneren zijn verbonden afhankelijk zijn van specifieke activiteiten in de klas.

Op basis van de uitkomsten van dit onderzoek zouden ook leerkrachten bewuster gemaakt kunnen worden van de mogelijkheden van reguliere activiteiten voor leerzame, uitdagende interacties. Door leerkrachten van suggesties te voorzien en/of door ze de mogelijkheden voor leerzame interacties te laten zien op video, kunnen ze dergelijke interactieve strategieën wellicht bewuster inzetten. De analyses hebben bijvoorbeeld laten zien dat als een leerkracht zich als partner opstelt, dit leidt tot leerzame interacties. Leerkrachten zouden kunnen proberen leerlingbijdragen vaker te accepteren in plaats van direct te evalueren. Als leerkrachten zich bewuster zouden worden van de mogelijkheden die voorlezen hiervoor biedt, lijkt dit een kleine ingreep in hun dagelijkse praktijken. De mogelijkheden voor activiteiten als *verklaren* en *probleemoplossen*, die worden geboden door het herhalingspatroon van prentenboeken en het bladzijde voor bladzijde beschikbaar komen van informatie, zouden daarom in het kader van de verdere professionalisering van leerkrachten aan de orde kunnen worden gesteld. Zo kunnen gedetailleerde analyses dus niet alleen voor onderzoek maar ook voor de praktijk betekenisvol zijn.

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