Let's Talk About Texts!

A qualitative research examining teachers´ perspectives and practices on a primary school peer-led discussion program.

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Abstract

Research has demonstrated the importance of integrating peer-led text discussions as an instruction method to enhance students' levels of reading comprehension. However, for peer-led text discussions to be effective and to integrate them in instruction practices, teachers' perspectives and experiences are of vital importance.

Using interview and stimulated recall techniques, this qualitative study explored what six teachers experienced as stimulating and hindering when applying student-centred teaching in peer-led text discussions and how this related to the teachers' prior beliefs and teaching habits with regards to this method. Secondly, it was assessed whether these beliefs and habits were impacted by a six-week peer-led text discussion intervention in upper primary education.

The results indicate that the peer-led discussion program works best for teachers who have prior student-centred beliefs and habits. Teachers with prior teacher-centred beliefs and habits can change these habits, if they have positive experiences with the program due to guidance in the form of SRI and self-reflection. If teachers with this type of support still don't believe in the benefits of peer-led text discussions, then this way of teaching might not be suitable for them. Therefore, much research is necessary in relation to other teacher characteristics if primary schools confront the challenge of implementing peer-led discussions at a school-wide scale.

Key words: peer-led text discussions, teacher-centred beliefs, teacher-centred habits, student-centred guidance, SRI

Introduction

It is essential for primary school students to develop their reading comprehension, because this skill predicts students' future academic, societal, and economic success (Bogaerds-Hazenberg et al., 2020). Recent international Progress in International Reading Literacy Study (PIRLS) assessment scores revealed a growing number of Dutch pupils who need remedial teaching to acquire these complex skills and strategies (Gubbels et al., 2017; Mullis et al., 2017). According to the inspection of education, this partially originates from ineffective instruction methods used in primary schools (Damen, 2020; Inspectie van het Onderwijs, 2020). As pupils progress through school, they must combine aspects of knowledge, motivation, reading strategies, and metacognitive awareness to make sense of textual content (Boardman et al., 2018; Duke et al., 2011). The complexity required to provide the instruction that develops these skills – along with the growing number of struggling, demotivated readers – has been a long-term motivation for researchers to invest in developing and evaluating methods for reading comprehension education (Boardman et al., 2018; Duke et al., 2011; Lawrence et al., 2015; Okkinga, 2018).

One validated instruction method for teachers consists of guiding their students to co-create knowledge in groups about the meaning and interpretation of texts in elementary school (i.e. peer-led text-discussions; Dwyer et al., 2016; Jadallah et al., 2011; Lawrence et al., 2012; Michener et al., 2019; Soter et al., 2008). This is a student-centred way of teaching as opposed to a teacher-centred way of teaching where instruction in the class is centred on the teacher and the teacher is in control (Acat & Dönmez, 2009). A review by Murphy et al. (2009) analysed nine different student-centred discussion programs. The authors found that peer-led text discussions between students can lead to the development of critical thinking and collaboration skills, reading motivation, and growth in literal and inferential comprehension.

Multiple researchers have suggested that these results can only be achieved when teachers appropriately support these discussions and encourage student talk and reasoning (Dwyer et al., 2016; Glopper, 2018; Lawrence et al., 2015; Okkinga, 2018; Wilkinson & Nelson, 2013).

Research to date has focused primarily on the effects of discussion approaches on student outcomes and has largely failed to evaluate teachers' perspectives towards the strategy (Dwyer et al., 2016; Lawrence et al., 2012; Lawrence et al., 2015; Murphy et al., 2009; Okkinga, 2018; Sassi et al., 2013; Wilkinson & Nelson, 2013). This is remarkable, considering researchers have suggested that teachers´ beliefs and teaching habits seem to play an indispensable role in determining the effectiveness and durability of discussion interventions in schools (Ghaith & Yaghi, 1997; Lin et al. 2014; Pajares, 1992; Sassi et al., 2013; Wilkinson & Nelson, 2013). Due to the limited amount of research on this topic in the context of peer-led discussions, this thesis can help shed light on the relation between teachers' beliefs and teaching habits and their experience of teaching with peer-led text discussions. If we can begin to understand the role beliefs and teaching habits play in peer-led text discussions interventions and how they shape teachers' learning intentions and practices, this information can be used when designing teacher-training programs that intend to prepare teachers for effectively implementing student-centred comprehensive reading instruction strategies.

Additionally, in theory-based instruction innovations the success is often limited by the 'theory-practice gap'. Bogaerds-Hazenberg et al. (2019) stated that researchers develop scientific knowledge, while this knowledge is often not used by teachers in their classrooms. According to this study, the research-practice gap can be explained by the fact that there is almost no collaboration between practitioners and educational researchers. The result of this gap is that research-based improvements have not been well-implemented in the practical setting of a classroom (Guskey, 2002).

The aim of this thesis is to research the practical implementation of the peer-led text discussion theory and reduce the ‘theory-practice gap’. Six teachers go through a six-week program where they teach upper elementary students reading comprehension skills with the help of peer-led text discussions. The thesis first explores how teachers’ prior beliefs and teaching habits relate to how teachers experienced the peer-led text discussion strategy. Secondly, it assessed how the program impacted teachers´ prior beliefs and teaching habits.

Theoretical Framework

Reading Strategy Instruction

Strategy-instruction is one of the most influential, evidence-based methods in the Netherlands to teach children in primary schools the needed skills for reading comprehension (Boardman et al., 2018; Okkinga, et al., 2018). Over time, research has demonstrated that teaching students to apply reading strategies such as paraphrasing, predicting, making intertextual connections or summarizing the main ideas of a text grows the reading comprehension skills of high and low achievers in primary schools (Boardman et al., 2018; Muijselaar et al., 2017). However, a meta-analysis from Okkinga et al. (2018) examined ‘Nieuwsbegrip’, the popular Dutch method for teaching reading strategies (CED-groep, 2012). After following teachers and students in 10 different schools over a period of two years, the authors found that whole-class-centred strategy instruction does not significantly improve reading comprehension and even demotivates students during reading comprehension class (Okkinga’s et al., 2018).

Text-Based Discussions

Glopper (2018) reviewed Okkinga (2018) and colleagues’ study and concluded that reading strategy-instruction is effective when applied in meaningful, student-focused discussions (of 4–5 students), provided that teachers are adequately prepared to provide support. In addition,

Boardman et al. (2018) and Kucan et al. (2011) found that text-based small-group interactions are effective at improving strategy-based instruction. These text-based discussions can be defined as events where students respond to, clarify, interpret, and critique each other regarding the meaning of texts (Dwyer et al., 2016). During these conversations, students apply several low- and high-order reading strategies to foster a thoughtful interpretation of the text (Almasi, 2002). In productive text discussions, students learn to find the right information, value listening to peers' ideas or arguments, construct and analyse their own arguments, and learn to co-construct and present their ideas in a convincing way (Michaels et al., 2008). Murphy and et al. (2017) demonstrated that discussing texts in small student-led groups (of 3–6 students) improved textual understanding and increased motivation for both average- and low-skilled readers. This shows that small-group student-led text discussions could be a method for actively engaging students in meaningful interaction with texts which encourages students' use of reading strategies (Boardman et al., 2018; Dwyer et al. 2016; Kucan et al., 2011; Murphy et al., 2009).

Teachers' Role in Text-Based Discussions

Simply placing pupils into groups and encouraging them to talk is not enough to ensure learning (Murphy et al., 2009). Students need tools and guidance from teachers to integrate the norms and processes essential for building meaningful connections with a text (Boardman et al., 2018; Jadallah et al., 2011; Lawrence et al., 2015). To help the conversation reach a deeper level, the teacher should continually ask themselves 'what are students thinking?' and 'How can I help them to improve their reasoning?'. It is imperative that their guidance stimulate elaborative student talk (Soter et al., 2008). To facilitate this, the teacher should prioritize peer-to-peer exchange where peers listen and respond to each other's interpretations and connect ideas with their own knowledge and comprehension of the text (Lawrence et al.,

2015). Peer-led text discussions require a classroom that encourages student-centred learning (i.e. learner-centred education). Student-centred learning aims to develop students' autonomy and independence by giving them the responsibility for their learning path. Hereby, teachers act as a facilitator, as opposed to an instructor (Elen et al., 2007).

Previous studies have developed a number of 'talk moves' (e.g., 'So are you saying…?', and 'Who can rephrase or repeat …?') that teachers can use to promote student talk. They encourage engagement and quality of reasoning in peer-led discussions (Dwyer et al., 2016; Lawrence et al., 2015; Sassi et al., 2013). Teachers are encouraged to propose authentic, open-ended questions that stimulate deeper comprehension processes. These questions also give students time to think and stimulate revoicing techniques such as summarizing and synthesizing pupils' ideas (Dwyer et al., 2016; Lawrence et al., 2015). Gillies and Khan (2009) further explained that when a teacher effectively scaffolds using the talk moves, students will take over usage of these moves themselves during peer-to-peer interaction. For example, their study illustrated that when a teacher models the use of textual evidence in conversations, the students in that discussion group later conceive of more textual evidence supporting their reasoning or ideas. Thus, instruction models which involve talk moves could help teachers change towards a more student-centred approach in orchestrating peer-led text discussions.

Challenges in peer-led discussions

For teachers, balancing multiple peer-led discussion groups simultaneously demands effective classroom management with punctilious time management and clear guidelines on how to maintain coherence and equity of participation (Boardman et al., 2018). These organizational changes demand knowledge and experience, which both take time to develop. Time is often a limiting factor for teachers when implementing new teaching methods. To address this

challenge, it is important that the usability of new teaching methods such as peer-led text discussions needs to be adapted towards teachers' need and skills. Researchers often don't take this factor into account when developing new teaching methods Bogaerds-Hazenberg et al. (2019). In order to overcome this theory-practice gap, it seems relevant to explore teachers' hindrances and stimulating aspects when implementing the discussion strategy.

Another problem with the practical implementation of peer-led discussions by teachers is teacher-centred teaching habits. Larson (2000) revealed that teachers often take control of the conversation and leave minimum thinking or speaking time for students in peer-led discussions interventions. This creates conversations that resemble more of a recitation than a discussion. Researchers argued that these challenges often originate from teachers' (and students') struggle to shift from the usual teacher-centred 'Initiation-Response-Evaluation' classroom structure to 'the shared responsibility' classroom structure (Webb et al., 2006). Letting go of the teacher-centred structure can cause teachers to experience a feeling of losing control in class, which in turn can lead to teachers feeling incompetent and experiencing low self-efficacy. Low self-efficacy is often an important reason why teachers express reluctance towards organizing this type of education (Dwyer, et al. 2016; Lawrence et al., 2015).

According to Boardman et al., (2018) fear of losing control is often caused by deeply rooted (unconscious) teaching habits and beliefs about what 'good elements are of comprehensive reading' which develop through earlier educational training and years of teaching experience. Research of Lin and colleagues (2014) has indicated that teachers' educational beliefs and perspectives on instruction methods tend to be one of the most determining factors in the success or failure of the change process in curriculum innovations. Brand & Glasson (2004) conceptualized educational beliefs as principles that guide the practices of teachers and explain beliefs are difficult to change. Therefore, persistent beliefs and habits of teachers might be important reasons why teachers experience problems when

implementing peer-led discussions. Pajaras (1992) stated teacher beliefs about teaching methods are based on evaluation. Thus, in order for teachers to change long term teaching patterns and beliefs they must have an understanding of the concept and gain experience and trust in the effect of the new acquired instruction method (Nguyen, 2013).

So far, most peer-led text discussion research has focused on student learning instead of teacher efficacy. For example, many have counted the number of talk moves that students use (Michaels et al., 2007; Sassi et al., 2013), or have measured pre and post student outcomes on comprehensive reading tests (Lawrence et al. 2015). Because teachers' prior beliefs and teaching habits (and changing them) have been so closely linked to the success or failure of change processes in other theory-based instruction methods, it seems highly relevant to explore the relevance and development of these constructs in relation to peer-led text discussion interventions (Dwyer et al., 2016; Lawrence et al., 2015; Sassi et al., 2013).

Stimulated Recall

In the field of educational research, there is a growing number of researchers using stimulated recall (SR) as a research method for gathering insightful and useful data about the way teachers experience a specific event of interaction (Bryman, 2012; Nguyen, 2013). SR is a research technique in which teachers review a video or re-listen an audio-tape of their teaching practices and are then invited to reflect on their decision-making processes during this event (Nguyen, 2013). It is therefore a useful methodology for gaining profound insight in (unconscious) teaching habits and beliefs of teachers (Meade et al., 1992).' Thus, it seems interesting to study teachers' beliefs and practices during peer-led text discussions by using SR methods. SR has also attracted increasing attention as a means of improving teachers' professional learning by improving their ways of instruction as well as their motivation in teaching (Geiger et al., 2015). Using SR for this purpose is outside the scope of this thesis.

Present Study and Research Questions

In summary, peer-led text discussions could serve as a suitable instruction method for enhancing student reasoning, motivation, and text comprehension, and teachers are key actors in the success of these talks. Until now, no research in the field of peer-led discussion programs has qualitatively examined the impact that teachers' experiences, prior beliefs and teaching habits have on the successful implementation of peer-led text discussions programs. In this thesis a peer-led text discussion program is developed to study this in a practical setting. Prior beliefs are in this thesis defined as beliefs and expectations about the usefulness of this program, the difficulty of implementing this program, and the outcome of this program. Firstly, the program is evaluated by the teachers themselves to assess the value of the program. Secondly, it is analysed how teachers' prior beliefs and teaching habits with regard to peer-led text discussions affect teachers' experience of the program. Finally, it is assessed how the program affects teachers' prior beliefs and teaching habits. In order to research this, six teachers participated in this study and were interviewed prior to and after six weeks of practice with the program. SRI techniques were used as a data collection method in the post-interviews.

The following **research questions** (RQs) were established:
RQ1. What is the relationship between how teachers' experience the peer-led discussion text program and their prior beliefs and teaching habits with regards to peer-led text discussions?
RQ2. How does the peer-led text discussion program affect teachers' personal beliefs and teaching habits with regards to peer-led text discussions?

The 'Talk Science' discussion program was suitable for this research purpose because of the practical set of talk moves and guidelines which help teachers to manage discussions

(Michaels et al., 2007). Some adjustments were made to make it more suitable for this present study. This is further elaborated in the method section.

Although this study is exploratory in nature, some expectations can be drawn from previous studies and theory. It is expected that teachers with student-centred habits and beliefs will have a higher belief in peer-led text discussions at the beginning of the program and will also have a better experience with the program. Additionally it is expected that teachers who do not believe in the method's value regarding student outcomes struggle to integrate the program effectively. Lastly, it is expected that teachers who have positive experiences with their self-efficacy during the program will adjust their prior beliefs and teaching habits in a positive manner, and vice versa.

Methods

Research Design

The goal of this qualitative research is to explore teachers' experiences, beliefs and teaching habits with regards to peer-led discussions prior to and after implementation of the peer-led discussion program. To accomplish this, semi-structured in-depth interviews were conducted with teachers in week one and week six of the program. Subsequent to the second interview, a stimulated recall interview (SRI) was carried out. The purpose of the SRI was to explore together with the teachers how their beliefs and teaching habits with regards to peer-led discussions impacted their practices and if their practices were changed in week 1 and week 6 of the program. This active way of gathering data during SR is more effective for the purpose of this thesis than a static questionnaire, as explained in the theoretical framework.

Participants

Participants were six female teachers who worked at the same elementary school in Utrecht, the Netherlands. The selected school participated in an ongoing larger program (WOU-GO) developed to invest in reading and language education for schools of low socio-economic status (SES) in Utrecht. The school is placed in a low-SES neighbourhood. A majority of the students in these grades developed a comprehensive reading backlog and come from low-SES families. On last year's questionnaires, teachers established that they struggled with stimulating student engagement, ownership, and reading competency during comprehensive reading instruction in grades 4, 5, and 6.

Because of the close focus required for a specific case-study design, the sample size remained relatively small. However, the program was intense and comprehensive, and the interviews were detailed and substantiated with stimulated recall analyses. Therefore, it was possible to analyse teachers' underlying perspectives and practices despite the sample size. Details about participants are recorded in Table 1. To describe the variety of this sample, special educational certifications are mentioned.

Table 1. *Teacher Characteristics*

Teacher	Grade (level)	Teaching experience	Certifications (in addition to PABO*)
1	5	Novice	
2	4	15 years	MA: Clinical Child, Family and Education
3	6	Novice	Pre-MA: Youth, Education and Society
4	6	10 years	MA: Coaching and Innovating
5	5	10 years	Supervisor
6	4	2 years	Minor SEN (special education needs)

**Note.* PABO: Teacher college for primary education

Materials

Talk Template

A talk template based on the 'Talk Science' program was developed for teachers to facilitate the peer-led text discussions (Sassi et al., 2013). The materials were translated into Dutch and an additional set of talk moves was developed for student talk. This was used by teachers as a guide to orchestrate student-centred peer-led text discussions.

Audio files

Two audio recordings (collected by the teachers in week 1 and 6) were used as an objective tool for recalling teachers' thought processes during the discussion events (Nguyen, 2013). The files contained teachers' talk moves and interactions with the students' in a small group discussion and were used to conduct the SRI which is elaborated below.

Pre-interview

To gain insight into teachers' prior beliefs and teaching habits with regard to peer-led text discussions prior to the program, pre-interviews were conducted. In the pre-interview the teachers were asked about their teaching habits in reading education (e.g. How would you describe your current comprehensive reading classes), their prior beliefs about reading instruction and peer-led text discussions (e.g. What elements do you find important in comprehensive reading education) and their prior beliefs of student outcomes (e.g. What do you think is the effect of the peer-led discussions on the students in your class?). All interview questions are listed in Appendix B. This information acted as a reference point in the present study, because the teachers were not yet influenced by participation in the peer-led discussion

program. The information about prior beliefs and teaching habits resulting from this interview is used as data for RQ1 to assess the relationship with teachers' experience of the Talk Science program. The information is also used in RQ2 as a starting point to assess the development of teachers' beliefs and habits with regards to peer-led text discussions throughout the program.

Post interview

The information resulting from the post interview about the teachers' experiences of the program is used for RQ1. This data is put in the context of the teachers' prior beliefs and habits in order to research relations between these constructs. The interview consisted of a topic list about teachers' experience with hindering or stimulating factors of the program (e.g., 'What drivers and what barriers did you experience during the program?') and a topic-list that reflected on teachers' beliefs and teaching habits with regard to peer-led text discussions after going through the program (e.g. 'To what extent did the outcomes for students live up to your expectations?'; see Appendix B)

Stimulated Recall Interview

After the post-interview a SRI was conducted. Prior to conducting the SRI, the author selected two events from the pre audio files and two from the post audio files. Teachers were also invited beforehand to pre-select events they wanted to reflect on.

The discussion of these audio events with the teacher revealed the teacher's beliefs and teaching habits at different points in the program. For example, the discussion shed light on the teacher's student-centred habits (for example by applying a talk move from Appendix A), or teacher-centred habits (e.g. not giving enough wait time or steering the conversation) during that specific audio part. Open-ended probes were developed to invite teachers to reflect

deeply about their decision-making processes during the discussions (e.g. Why did you decide to say this to the students at this moment, Appendix B). This data is used for RQ2, where the change in habits and beliefs with regards to peer-led text discussions over the course of the program is assessed.

Procedures

The procedures of this study consisted of three phases: A preparation period, an implementation period and an evaluation period. Bearing COVID restrictions in mind, all pre- and post-interviews were held online, via Microsoft Teams. For an overview of the study procedures see Table 3. In this methodology, only the procedures related to the present study are explained. Procedures related to the modification of the 'Talk Science' program are further elaborated in appendix A.

Table 3. *Time-table data gathering and analysis*

Week	**Action**
	Preparation period
`1	Teacher workshop
2-3	Pre-interview
	Implementation period
4-9	Six weeks of peer-led text discussions in class
	Evaluation period
10-11	Post-interview and Stimulated Recall Interviews

Data gathering methods in this study are assessed by Shenton's (2004) qualitative criteria model. In appendix D is reflected on the author's position and how the criteria *credibility, transferability, dependability and confirmability* were met in this study. Data were

furthermore registered by the Faculties Ethical Review Board (FERB). Possible ethical or privacy dilemmas of the participants are outlined in appendix E.

Preparation period

The teacher workshop was an online meeting and took place before the pre-interview and the start of the program. In the meeting, teachers received general information about peer-led discussions. Furthermore, they received detailed, practical information on how to use the talk template (e.g. how to use the nine talk moves during their lead in student talk). Afterwards, the teachers received information via an information letter about the methods and program procedures used in this thesis and they signed an informed consent (see Appendix G).

In week 2 and 3 six pre-interviews were conducted. Each interview started with a check whether the participants had any questions about the research purposes and methods. The questions followed after a short explanation about the anonymity of the interview and a permission check for recording the interview.

Implementation period

The program that was implemented consisted of six weekly 30-minute sessions in which teachers orchestrated small group discussions about up-to-date news texts that ‘Nieuwsbegrip’ (CED-groep, 2012) had offered that week. On the day before, teachers instructed students how to use strategy-based reading with the same text that was used during the peer-led text discussions. The teacher selected the students for each discussion group based on their personal preferences and each week the teacher guided a new discussion group at the instruction table in front of the classroom. To collect the two audio recordings that were necessary for the SRI, teachers were instructed to guide the same discussion group in week 1 and 6. For recording teachers had set up a tablet or phone in the middle of the instruction table

that recorded their voice and the voices of students. Due to privacy restrictions, one teacher was not able to record in class. In total, ten audiotapes were collected and transported to the author using SURFfilesender.

Evaluation period

In week 11 and 12, post-interviews were conducted. The interview started with questions asked about teachers' experience with the program and their current beliefs and teaching habits with regard to peer-led discussions. After each individual post-interview, a SRI was carried out. The author played and paused the selected events and teachers' were encouraged by probes to explain and reflect on their behaviour. Afterwards, teachers' could re-listen and reflect on events based on their own preference. In total, six post-interviews including five SRI were collected.

Analysis

Twelve pre- and post (with SRI)-interviews were transcribed in Dutch and later coded in English following the steps of template analysis (Brooks et al., 2014). The post interview transcript of teacher 1 was without the SRI part. Instead this teacher filled in a logbook where she reported her beliefs and practices of the peer-led discussions directly after orchestrating them in class. Before commencing the coding procedure, themes were developed to create a profile and reference point per teacher being aware that these themes could be revised as the template developed (Brooks et al., 2014). The themes include teachers' (1) educational background (1) beliefs about reading education (2) beliefs about peer-led discussion strategy, (3) outcome beliefs of peer-led discussion program (4) teaching habits with regard to peer-led discussions (5) program experiences.

This was followed by a preliminary coding of three pre- and post-transcripts, including the SRI, which consisted of taking notes on all information relevant to the research questions. Next, all noted statements were coded into subcategories. This resulted in the development of the initial template. Explanations of secondary codes and examples are presented in Table G3 (Appendix G).

To increase reliability, a second coder was asked to code one pre-interview and one post-interview with the initial template. The document with definitions and examples for coding was shared with the second coder beforehand. Disagreements about statements were predominantly observed when coders had two different 'codes' in mind for a statement: 'it was hard to tell whether teaching-centred statements belonged to teachers' individual 'beliefs' or teachers' hindrances towards the program.' Therefore, statements related to teachers' experiences with the program structure (e.g., program set-up, talk templates, role division) were coded in a separate template. After a comparison of the coding and resolving the interpretation-issues we reached an agreement between 69% and 77.2% which shows qualified inter-rater reliability (Table G4, G5, G6; Appendix G). This eventually led to the design of the final templates for pre- and post-interviews in Table G1 and G2 (Appendix G).

Results

This section presents the results of the current qualitative study. A comprehensive overview of teachers' individual profiles with their prior beliefs and habits with regards to peer-led discussions, their experience with the program and changes in beliefs and habits after participating in the program is presented in Table H2 (Appendix H). The following section explores the main findings related to each RQ with examples. The quotes used in this chapter are presented with 1) participants' number and 2) their years of teaching experience.

Impact of prior beliefs and teaching habits with regard to peer-led text discussions on teachers' experiences with the program

In this section, results related to RQ1 are presented. Table H1 provides an overview of factors that teachers experienced as stimulating or hindering when using the program. (Appendix H). For this question, teachers' profiles with their prior beliefs and habits obtained from the pre-interview are connected to teachers' experiences with the program obtained from the post-interview.

Impact of teacher-centred beliefs and habits on experiences with the program

The results from the pre-interviews and post-interviews showed that teacher-centred beliefs and habits have a negative impact on the way that teachers experience the program, which is in line with previous expectations of this study. Prior to the program, teachers T-3 and T-6 emphasized that their preferred teaching style during reading education involved control, overview and structure. For T-3 and T-6, their teacher-centred beliefs and habits caused them to express some reluctance towards the student-centred method, because they feared losing control in the classroom.

> T-6 (2 years): *''I really prefer structure and overview in my classroom. Just sit down and get to work. I don't like it when students blare through the classroom or something like that.''*

In the evaluation of the program, T-3 and T-6 noted their struggle with the program set-up in its current form. They felt uncertain about whether students were really engaged with the intended talk and text goals when they collaborated independently of the teacher. The

absence or insufficient depth of a whole-class reflection moment increased the teacher's uncertainty. This indicates that their struggle with the program relates to their teacher-centred beliefs and habits they expressed prior to the program.

> T-3 (novice): *''What I found challenging is that when I was guiding a discussion group, I no longer had a complete overview of what was happening in the other group.''*

It also became apparent that teachers (T-3, T-5 and T-6) who expressed teacher-centred beliefs and habits prior to the program experienced the wide range of competencies and needs of students in one group as more challenging than the other teachers. They explained that low-skilled students were lacking and that if they tried to guide them by using the talk moves they did not achieve the desired effect. This might be caused by their lack of skill and experience in engaging low-skilled students when they are not in control.

> T-5 (10 years) *''I think that the strategy is for children who have strong language skills and who can articulate well that the talking plate is very nice for them, and is also very interesting. But I also think for children who are not so proficient in language, they do not come along very well with the talk moves.''*

Furthermore it seems that the novice teachers who also had teacher-centred habits prior to the program are in most need for practical examples and guidance when integrating the strategy. Only the novice teachers (T-1, T-3) in this study mentioned that they had missed practical examples and/or collegial support in how to apply the talk moves.

> T-1 (novice): ''*I'm doing it for the first time and actually wanted to copy it from someone. I found it difficult to use the talk template, because me and the children are not used to it.''*

Impact of student-centred beliefs and habits on experiences with the program

There was one teacher (T-4) who was already experienced with student-centred education and had strong beliefs in student-centred learning prior to the program. T-4 emphasized the importance of students' responsibility and ownership in class. The results from her post-interviews showed that because of her prior habits and beliefs she easily adjusted to the program. She liked the program set-up and did not experience the lack of guidance as hindering. This aligns with prior expectations of this study. In contrast to the teachers with teacher-centred habits, she managed to get low-skilled students talking with the talk template.

> T-4 (10 years): '*'I noticed that in my group, one child was barely speaking. Or at least did not take the initiative to speak and probably felt insecure. So therefore the talk template was really useful*"

This might be because she is already more experienced in giving students responsibility. Another factor might be that the students in her class are more used to student-centred education and therefore easily adjust to her student-centred guidance.

T-4 was the only teacher who noted that some text topics were more suitable for practicing both low- and high-order reading strategies than others. This might also have to do with her positive prior experience in student-centred teaching, because she seems to have more insight than the other teachers in what text topics are suitable to achieve high-order discussions. These observations therefore demonstrate that a positive prior belief in student-centred education is a good indicator of teachers' skills with regard to the application of this method.

Impact of low-self efficacy on experience program

Low self-efficacy with peer-led discussions caused stress for teachers without any experience in teaching reading comprehension. This is clearly seen by T-1. Although all novice teachers

priorly expressed they would have preferred some practical examples, T-1 stated that the lack of guidance in implementing peer-led discussions was an important reason for her reluctance towards the program. As a reaction, she started using the template in a rather forced way in the discussions:

> T-1 (novice): *''I cheated a lot on the paper which made it a forced conversation. I shouldn't have asked so literally but didn't know any better. It didn't go naturally.''*

This indicates that for the success of the program, teachers' guidance and support that involves strengthening their self-efficacy with positive experiences with student-centred teaching is essential.

Impact of belief in variation of instruction methods

It seems that teachers who valued different instructional methods for the development of reading comprehension valued this program more than the others. Teachers who expressed this belief indicated several reasons in advance why they thought different instruction approaches are important. For example, to increase students' enjoyment in reading (T-2, T-3), or because of the conviction that by combining different ways of learning, students develop better skills that are necessary for understanding a text (T-4). The evaluation revealed that both motivators work well. These teachers experienced that in particular the other way of learning (e.g. talking instead of reading and writing) stimulated students' enjoyment and textual comprehension and therefore mainly saw the advantages of the method.

On the other hand, teachers' who expressed openness to the method prior to the program but did not express belief in variation of instruction methods, had less positive experiences. Therefore, openness is required to participate in the program, but not sufficient for a successful experience with the program.

> T-3 (novice): ‘’*Now they could finally just talk to each other, instead of reading and making assignments. In this way, you process such a subject in several ways, that also contributes to vocabulary and all those things that belong to reading comprehension’’*

Impact of belief in low-skilled students

Prior to the program, teachers were mixed about the possible effects of the strategy on low-skilled students. T-2 and T-4 were convinced that especially for the low-skilled students this could give them a boost. They believed that for them the method could stimulate enjoyment, interaction and vocabulary skills. Other teachers were more concerned about the low-skilled students. They expressed that they hoped it would work for low-skilled students, but maybe because of prior experiences did not really believe in this, as T-5 (10 years): ‘*’I really hope that it is beneficial for low-skilled students, I hope it every time.”* However, she did not believe that it would happen in this program.

The post-interview showed that teachers 2 and 4 also achieved the best results with low-skilled students. This may be due to the fact that they find it easier to let go of control and place student-enjoyment first-hand and that they already have acquired more skills to boost the low-skilled students (T-4: ‘*’I think I give them the confidence that they can do it themselves and it is also their conversation, not my conversation. So I say it literally to them: it is your conversation, not my conversation)*. On the other hand, the teachers (T-1, T-3, T-5, T-6) who thought beforehand that low-skilled students would be a challenge also experienced difficulties with engaging low-skilled students. This means that teachers’ belief in their own abilities and the ability of their students is a good indicator for their proficiency with guiding low-skilled students.

Impact of the program on teachers' beliefs and teaching habits with regards to peer-led text discussions

In this section, results related to RQ2 are presented. This data is obtained from the pre-interview and SRI. The data consists of teachers' prior beliefs and teaching habits with regard to peer-led text discussions obtained in the pre-interview. This data is related to data of teachers' beliefs and teaching habits with regard to peer-led text discussions obtained from the SRI. In this section the most important findings of prior beliefs and teaching habits that changed throughout the program are discussed.

Table 4. *Overview of changes in teachers' prior beliefs and teaching habits with regard to peer-led discussions after participating in the program*

Beliefs and teaching habits	**Expressed prior to the program**	**Changed throughout program**
Teacher-centred beliefs	3, 5, 6	3, 6
Teacher-centred habits	1, 2, 3, 5, 6	2, 3, 6
Student-centred beliefs and habits	4	4
Low self-efficacy with peer-led discussions	1, 3, 6	3, 6
Openness to peer-led discussion method	1, 2, 3, 4, 5, 6	1
Success of peer-led text discussions for low-skilled students	2, 4	

**Teachers that are not mentioned in the last column had their prior teaching beliefs and habits maintained after the program*

Changes in teacher-centred beliefs

Table 3 shows that T-3 and T-6 underwent a change in their teacher-centred beliefs after participating in the program. Both saw a positive change in students' behaviour in class when they let go – to some extent - of their teacher-centred beliefs. The experience showed them that students can handle more than the teacher previously thought. In this way they experienced the program as an opportunity to learn and let go of their fear of losing control.

This means that these teachers' believed more in the effectiveness of student-centred instruction methods after they gained successful experiences with the method and after they noted changes in students' behaviour. This aligns with prior expectations that changes in teachers' belief are shaped by teachers' experiences of success with students.

> T-6 (2 years): ''*I do notice that they answer the question more openly. So I believe students start to realize that it doesn't really matter if what you say is right or wrong. It's more about how you look at it.''* & T-3 (Novice): '*I was nervous and reluctant towards the peer-led discussions, like oh, what if they get stuck in the conversation. The students are not used to it at all, will it work? But it actually went very well, it resolves itself in such a conversation.'*

Changes in teacher-centred habits

Table 3 demonstrates that T-2, T-3 and T-6 changed their teacher-centred habits after participating in the program. In the SRI of the pre-audio recordings and the reflection logbook of T-1 was observed that these teachers gave limited wait time and asked steering questions during the first peer-led discussion session. During the peer-led discussions most students gave responses primarily to the teacher and did not really respond to other students. The majority of teachers reacted critically on their teacher-centred habits. For example, after listening to the first event, T-2 immediately reacted:

> T-2 (15 years): '*Gosh I talk fast here. I had intended that I needed to calm down a bit, dropping some more silences. Don't talk too fast and act too fast…'*

After listening to events of the second audio recording, teachers recognized that they gave more waiting time, helped students react to each other, and steered less in the talk. This indicates that through gaining experience with the strategy teachers were able to change their habits. One teacher explained in the SRI how she, throughout the program, analysed her own

practices and therefore developed more student-centred habits. This indicates that conscious self-reflection might be a useful method for acquiring new teaching routines.

> T-3 (Novice): *I analysed my practices by consciously looking back at what I said and how I reacted towards the children during the discussion. As a next step, I noted a few things, for example: in this moment I could have left more room for peer talk. This was how I worked towards my goal: switch to student-centred learning, and this worked really well.'*

However, table 3 shows that not all teachers changed their teacher-centred habits. T-5 stated in the SRI that steering in talk was necessary in order to effectively integrate peer-led discussions in her class. This indicates that her teacher-centred habits and beliefs might actually have been strengthened after an 'unsuccessful' experience with the program

> T-5 (10 years):*''I know I steer but, these students need teacher-centred guidance. [...] I felt I had to. I think that the method is only effective when I guide it well and it is directed the way I want.''*

Another factor that affects teachers' ability to change their teacher-centred beliefs is skill. Teachers who lack skill with student-centred methods, are more likely to have negative experiences with the program. For example, T-1 explained that she did not feel competent enough and as a novice teacher to integrate the student-centred principles during orchestration of peer-led discussion. She also had negative experiences with the program and did not change her beliefs. These statements confirm that teachers' development regarding peer-led text discussions depends to a degree on their skill prior to the program.

Strengthened student-centred beliefs and habits

From the SRI it seems that teachers with student-centred beliefs only strengthen their beliefs throughout the program. The SRI showed that T4 could use her prior student-centred teaching habits, which led to positive experiences with the program, which in turn strengthened her belief.

Changes in self-efficacy with peer-led discussions

As discussed, the three novice teachers (T-1, T-3 and T-6) lacked confidence in facilitating peer-led discussions prior to the program. Over time, T-3 and T-6 gained more confidence in their qualities of orchestrating effective peer-led discussions.

> T-3 (novice): ‘’*I noticed after more weeks of practice and self-reflection, the less I needed the talk template. So the more natural the strategy became for me.’’*

This reflection illustrates that practice with the method can lead to growth in self-efficacy with peer-led discussions. However, T-1 dropped in her level of self-efficacy and was the only teacher that did not use SR in her discussions after practicing the method. She explained that she overestimated herself and with her limited teaching experience (less than two months) she needed more guidance in this program. This reflection reveals that T-1 was less capable of implementing the strategy on her own.

Changes in openness to peer-led discussion program

As discussed, all teachers were willing to participate in the program and believed in the potential effectiveness of peer-led discussions. For T-1, this perspective changed after participating in the program.

> T-1 (novice): *''I had the feeling that it had no effect on the students, they were not motivated and therefore I stopped the discussions after three times. I think it's because I am not experienced and qualified enough. So maybe this is not yet for me.''*

This statement revealed that openness towards peer-led discussions can change to resistance when teachers experience too much stress and incompetence. Negative experiences due to lack of prior training can thus lead to teacher-centred beliefs with regards to peer-led text discussions.

Success of peer-led text discussions for low-skilled students

As explained in RQ1, T-1, T-3, T-5 and T-6 experienced that the program in its current form was very challenging for low-skilled students. They explained they underestimated the effect that low-skilled students in a discussion group had on the quality of the talk. T-3 and T-5 and T-6 emphasized that in order for the program to be successful for low-skilled students they need effective modelling, pre-teaching and/or more rehearsal with communication skills. This awareness was already present in T-2 and T-4 with prior positive experiences with student-centred teaching methods. Due to these experiences, they expressed belief in low-skilled students prior to the program and adjusted their guidance towards the needs of low-skilled students. In turn, this caused them to experience the program more positively. These observations demonstrate that positive experiences with student-centred teaching methods are important for development of teacher skills with the method.

Discussion

Teachers' guidance is essential for the success and durability of the peer-led text discussion strategy (Dweyer et al., 2016). However, literature about teachers' experiences and

perspectives about this strategy are still limited (Lawrence et al., 2012). The current thesis therefore explored what kind of practical stimulating and hindering factors upper-elementary teachers encountered in a six weeks peer-led discussion program and studied how their prior beliefs and teaching habits related to and were impacted by the six-week period of facilitating the strategy.

Discussion of results

A first conclusion is that prior beliefs in the benefits of the peer-led discussion strategy are required, but do not predict successful experiences (or: practices) with the program. Interpretations of the results reveal that this depends more on the amount of teaching experience and whether teachers' prior beliefs and habits resemble teacher-centred or student-centred education. The results demonstrate that the peer-led discussion program works best for teachers who have prior student-centred beliefs and habits. This echoes Larsons (2000) findings and aligns with prior expectations of this study. However, the current study demonstrated (by using SRI techniques) that teachers are capable of changing their teacher-centred beliefs and habits to more student-centred beliefs if they actively self-reflect and/or they develop the skill to let go of control.

This conclusion can be illustrated by the experience of one novice teacher. She reported that throughout the program she analysed her practices with video-recording. She felt that this helped her to become aware of her (unconscious) teaching habits and routines, a transition that indicates the awakening of unconscious incompetence to conscious incompetence (Nguyen, 2013). This stimulated her to formulate goals that focus on limiting her steering and use of talk moves that improve students’ reasoning. This illustrates her to move from conscious incompetence to a deliberate level of reflection about self and practice

by identifying the need for including more talk moves and wait time in talk (Nguyen, 2013). In turn, this led her to develop a more student-centred instruction approach.

This experience illustrates that SR can be an important tool for the development of student centred teaching skills. But to use SR there must perhaps be a basis of self-efficacy and confidence (Webb et al., 2006). To illustrate, the second novice teacher experienced similar difficulties as the case illustrated above but this resulted her to feel incompetent with this teaching method which eventually led her to doubt the usability of the program. This demonstrated that her unsuccessful experience shaped her attitudes and beliefs negatively towards the new acquired instruction method (Guskey's, 2002).

This case illustration indicates that focusing on prior beliefs to predict teachers' practices is too simple. Even with student-centred prior beliefs, teachers may have too limited an understanding of the peer-led discussion theory to apply it successfully, or they may not yet have the skills that would allow them to act upon their prior beliefs (Richardson, et al. 1991). Therefore, providing teachers' with support in engaging low-skilled students, practical examples, and (video) self-reflection is necessary. If teachers with this type of support still don't believe in the benefits of peer-led text discussions, then this way of teaching might not be suitable for them. However, more quantitative research is needed to confirm this, and fully understand which individual beliefs correlate with success of student-centred peer-led discussions.

Limitations of research-design

Limitations of this study include the small sample size. The limited number of respondents entails the risk that the data did not capture all relevant information. Due to this school's specific context (in particular its low SES status), generalizing the results to other teachers becomes more difficult (Yin, 2014). A follow-up study that includes different and

diverse contexts is needed to determine whether the results can be effectively generalized or to determine whether other factors influence teachers' perspectives.

Second, it is important to acknowledge my position as a researcher and the impact it had on this research. The lecture and training session which addressed the need for peer-led discussions in class occurred before the pre-interview, which might impact the results. The qualitative interview analyses may not represent teachers' true beliefs or be incomplete, as: 1) Teachers might have been biased about the positive effects of peer-led discussions 2) Teachers may have provided more socially desirable answers in the interviews 3) The inexperienced, single author had a bias when interpreting the results (Johnson, 2017). Use of triangulation data collection methods and quality criteria would enhance further quality of the methodology used in this study (e.g. anonymous pre-questionnaire before lecture and training session; observation in class; focus group discussion; a second listener).

It is also important to acknowledge that the research questions were amended after conducting the interview. This meant that some answers to the research questions had to be deducted from answers to somewhat different questions that were put to the teachers. This made the analysis more complex, and may have impacted the results to a degree. Looking back, the interview guide should have begun with a clearer establishment of teachers' prior beliefs and teaching habits.

Third, due to consequences of COVID-19 or other interruptions (kings day, teacher drop-out, etc.) several classes were cancelled. Teachers in this study stated that they would have preferred more time to practice the strategy. Results from previous research show indeed that, for teachers to implement an effective discussion strategy, more than five weeks of practice are necessary (Murphy, et al. 2009: e.g., Howard, 1992; Saunders & Goldenberg,

1998). Also, the teachers mentioned that the quality of the templates used in the program could be improved by limiting adult language, and adding symbols on the student template.

Future directions

Results demonstrated a glimpse of how besides (prior) beliefs and teaching habits, other factors such as mindset, skills and personality traits influenced the course of the program implementation. Therefore, much research is necessary in relation to other teacher characteristics than beliefs and habits if primary schools confront the challenge of implementing peer-led discussions at a school-wide scale.

A first possibility for future research is to explore whether teachers that prefer teacher-centred instruction methods are still capable of integrating student-centred discussions effectively in the classrooms, without changing to student-centred learning in other teaching practices. It would be interesting to see whether teachers and their students are capable of switching between these multiple 'instruction' styles, or if they benefit most from a one-sided instruction model in the classroom.

A second suggestion is to focus more on differences between novices and expert teachers when adapting to innovative comprehensive reading instruction models. In-depth insight in deviations between how expert teachers' shape and change their teaching beliefs and habits and how novices experience this can be valuable for research-based instruction methods.

Practical implications

A first implication is to adjust the guidelines of the peer-led discussion strategy to teachers' prior beliefs and teaching habits. Teachers who have limited experience with student-centred

education will need more guidance and practical examples aimed to assist them in guiding both high and low-skilled students in discussions, as Murphy et al. (2017) underlined. When primary schools want to implement this strategy school-wide it is recommended that schools anticipate educators ' preferred teaching style by providing enough support.

A second recommendation is to motivate teachers to reflect on lessons or the lessons of colleagues. This with the aim to make teachers more comfortable reviewing their practices and to make them aware of unconscious habits and routines as research of Gass and Mackey (2000) and Kafyulilo et al. (2016) underlined.

A third recommendation is that theory-based instruction innovations should build on teachers' strengths and assist them with improving their teaching efficacy. In the field of peer-led discussions, one method might be to develop a small number of high qualified discussion practices that teachers can learn to implement step-by-step with a high likelihood of success (Stanulis, Little & Wibbens, 2012) Another approach would be to develop educational programs that provide intensive mentoring and sustained professional development in how to stimulate students' talk (Wilkinson et al., 2010).

Conclusion

This thesis has shown that teachers' experience of success with the peer-led discussion strategy depends on three key factors. Firstly, the degree of alignment between the teacher's educational beliefs and the method. Secondly, the amount of experience the teacher already has with student-centred teaching approaches. And thirdly the extent to which teachers are open to feedback, reflection and change. Conversely, if there is limited alignment, and/or insufficient experience or skills, and/or reluctance to reflect and change, the experience with the program is likely to be one of disappointment. For every teacher it should be useful to

participate in a pilot-program and experiment with peer-led text discussions. However, if teachers' are not convinced after the pilot about the benefits of the strategy for students it remains doubtful whether peer-led text discussions can effectively be implemented in class.

References

Acat, B., & Dönmez, S. (2009). To compare student centred education and teacher centred education in primary science and technology lesson in terms of learning environments. *Procedia - Social and Behavioral Sciences, 1*(1), 1805–1809. https://doi.org/10.1016/j.sbspro.2009.01.320

Almasi, J. F. (1995). The Nature of Fourth Graders' Sociocognitive Conflicts in Peer-Led and Teacher-Led Discussions of Literature. *Reading Research Quarterly*, *30*(3), 314. https://doi.org/10.2307/747620

Baarda, B. (2009). *Dit is onderzoek!* Handleiding voor kwantitatief en kwalitatief onderzoek. Groningen/Houten: Noordhoff uitgevers.

Boardman, A. G., Boelé, A. L. & Klingner, J. K. (2018). Strategy instruction shifts teacher and student interaction during text based discussions. *Reading Research Quartely, 53*(2), 175-195. https://doi.org/10.1002/rrq.191

Bogaerds-Hazenberg, S. T., Evers-Vermeul, J., & van den Bergh, H. (2020). A Meta-Analysis on the Effects of Text Structure Instruction on Reading Comprehension in the Upper Elementary Grades. *Reading Research Quarterly*, *56*(3), 435–462. https://doi.org/10.1002/rrq.311

Bogaerds-Hazenberg, S., Evers-Vermeul, J., & van den Bergh, H. (2019). Teachers and researchers as co-designers? A design-based research on reading comprehension instruction in primary education. *EDeR. Educational Design Research*, *3*(1). http://dx.doi.org/10.15460/eder.3.1.1399

Brooks, J. & King, N. (2012). Qualitative psychology in the real world: The utility of template analysis, *British Psychological Society Annual Conference,* April 2012, London, UK. Retrieved from http://eprints.hud.ac.uk/13656

Brooks, J., McCluskey, S., Turley, E., & King, N. (2014). The Utility of Template Analysis in Qualitative Psychology Research. *Qualitative Research in Psychology*, *12*(2), 202–222. https://doi.org/10.1080/14780887.2014.955224

Bryman, A. (2012). Social research methods (4th ed.). Oxford University Press Inc.: New York

Damen, F. (2020, 23 september). Remedie voor gebrekkige leesvaardigheid basisscholen: lezen, lezen, lezen. Geraadpleegd op 15 oktober 2020, van https://nos.nl/nieuwsuur/artikel/2349498-remedie-voor-gebrekkige-leesvaardigheid-basisscholen-lezen-lezen-lezen.html

CED-groep (2012). Algemene handleiding Nieuwsbegrip [Manual Nieuwsbegrip]. Rotterdam, The Netherlands: CED-groep.

Duke, N.K., Pearson, P.D., Strachan, S.L., & Billman, A.K. (2011). Essential elements of fostering and teaching reading comprehension. In S.J. Samuels & A.E. Fastrup (Eds.), *What research has to say about reading instruction* (4th ed., pp. 51–93). Newark, DE: International Reading Association.

Dwyer, J., Kelcey, B., Berebitsky, D., & Carlisle, J. F. (2016). A Study of Teachers' Discourse Moves That Support Text-Based Discussions. *The Elementary School Journal*, *117*(2), 285–309. https://doi.org/10.1086/688896

Elen, J., Clarebout, G., Léonard, R., & Lowyck, J. (2007). Student-centred and teacher-centred learning environments: what students think. *Teaching in Higher Education*, *12*(1), 105–117. https://doi.org/10.1080/13562510601102339

Ghaith, G., & Yaghi, H. (1997). Relationships among experience, teacher efficacy, and attitudes toward the implementation of instructional innovation. *Teaching and Teacher education*, *13*(4), 451-458. https://doi.org/10.1016/S0742-051X(96)00045-5

Gillies, R. M., & Khan, A. (2009). Promoting reasoned argumentation, problem-solving and learning during small-group work. *Cambridge Journal of Education*, *39*(1), 7–27. https://doi.org/10.1080/03057640802701945

Glopper, K. D. (2018). Nieuws over Nieuwsbegrip; Over de uitkomsten en interpretatie van een studie naar de effecten van onderwijs in strategieën voor begrijpend lezen. *Levende Talen Tijdschrift*, *19*(2), 26-32.

Gubbels, J., Netten, A., & Verhoeven, L. (Expertisecentrum Nederlands) (2017). Vijftien jaar leesprestaties in Nederland PIRLS 2016. Retrieved from: https://www.iea.nl/publications/study-reports/national-reports-iea-studies/vijftien-jaarleesprestaties-nederland

Guskey, T. R. (2002). Professional Development and Teacher Change. *Teachers and Teaching*, *8*(3), 381–391. https://doi.org/10.1080/135406002100000512

Inspectie van het Onderwijs (2020). De Staat van het Onderwijs 2020. Utrecht: Inspectie van het Onderwijs. Te downloaden van: www.destaatvanhetonderwijs.nl

Jadallah, M., Anderson, R. C., Nguyen-Jahiel, K., Miller, B. W., Kim, I. H., Kuo, L. J., Dong, T., & Wu, X. (2011). Influence of a Teacher's Scaffolding Moves During Child-Led

Small-Group Discussions. *American Educational Research Journal*, *48*(1), 194–230. https://doi.org/10.3102/0002831210371498

Johnson, E. M. (2017). Balancing comprehension and conversation: How elementary teachers manage multiple purposes for text discussions. *Teaching and Teacher Education*, 66, 325-337. http://dx.doi.org/10.1016/j.tate.2017.05.0050742-051X/

Kafyulilo, A., Fisser, P., & Voogt, J. (2016). Teacher design in teams as a professional development arrangement for developing technology integration knowledge and skills of science teachers in Tanzania. *Education and Information Technologies*, *21*(2), 301– 318. https://doi.org/10.1007/s10639-014-9321-0

Kucan, L., Hapgood, S., & Sullivan Palincsar, A. (2011). Teachers' Specialized Knowledge for Supporting Student Comprehension in Text-Based Discussions. *The Elementary School Journal*, *112*(1), 61–82. https://doi.org/10.1086/660689

Larson, B. E. (2000). Classroom discussion: a method of instruction and a curriculum outcome. *Teaching and Teacher Education*, *16*(5–6), 661–677. https://doi.org/10.1016/s0742-051x(00)00013-5

Lawrence, J. F., Capotosto, L., Branum-Martin, L., White, C., & Snow, C. E. (2012). Language proficiency, home-language status, and English vocabulary development: A longitudinal follow-up of the Word Generation program. Bilingualism: Language and Cognition,15(3), 437–451

Lawrence, J. F., Crosson, A. C., Paré-Blagoev, E. J., & Snow, C. E. (2015). Word Generation Randomized Trial. *American Educational Research Journal*, *52*(4), 750–786. https://doi.org/10.3102/0002831215579485

Lin, M. H., Chuang, T. F., & Hsu, H. P. (2014). The Relationship among Teaching Beliefs, Student-Centred Teaching Concept and the Instructional Innovation. *Journal of Service Science and Management*, *07*(03), 201–210. https://doi.org/10.4236/jssm.2014.73017

Mackey, A., Gass, S., & McDonough, K. (2000). HOW DO LEARNERS PERCEIVE INTERACTIONAL FEEDBACK? *Studies in Second Language Acquisition*, *22*(4), 471–497. https://doi.org/10.1017/s0272263100004010

Michaels, S., O'Connor, C., & Resnick, L. B. (2007). Deliberative Discourse Idealized and Realized: Accountable Talk in the Classroom and in Civic Life. *Studies in Philosophy and Education*, *27*(4), 283–297. https://doi.org/10.1007/s11217-007-9071-1

Muijselaar, M., Swart, N., Steenbeek-Planting, E., Droop, M., Verhoeven, L., & De Jong, P. (2017). The effect of a strategy training on reading comprehension in fourth-grade students. *The Journal of Educational Research*, *111*(6), 690–703. https://doi.org/10.1080/00220671.2017.1396439

Mullis, I. V. S., Martin, M. O., Foy, P., & Hooper, M. (2017). *PIRLS 2016 International Results in Reading*. Retrieved from Boston College, TIMSS & PIRLS International Study Center website: http://timssandpirls.bc.edu/pirls2016/international-results/

Murphy, P. K., Greene, J. A., Firetto, C. M., Li, M., Lobczowski, N. G., Duke, R. F., & Croninger, R. M. (2017). Exploring the influence of homogeneous versus heterogeneous grouping on students' text-based discussions and comprehension. *Contemporary Educational Psychology, 51 (*10*),* 336-355. Doi: https://doi.org/10.1016/j.cedpsych.2017.09.003

Murphy, P. K., Wilkinson, I. A. G., Soter, A. O., Hennessey, M. N., & Alexander, J. F. (2009). Examining the effects of classroom discussion on students' comprehension of text: A meta-analysis. *Journal of Educational Psychology*, *101*(3), 740–764. https://doi.org/10.1037/a0015576

Ng, W., Nicholas, H., & Williams, A. (2010). School experience influences on pre-service teachers' evolving beliefs about effective teaching. *Teaching and Teacher Education*, *26*(2), 278–289. https://doi.org/10.1016/j.tate.2009.03.010

Nguyen, N. T., McFadden, A., Tangen, D., & Beutel, D. (2013). Video-Stimulated Recall Interviews in Qualitative Research. *Australian Association for Research in Education*. *2(*10), 1-10. Doi:ED603301

Meade, P., & McMeniman, M. (1992). Stimulated recall — An effective methodology for examining successful teaching in science. *The Australian Educational Researcher*, *19*(3), 1–18. https://doi.org/10.1007/bf03219515

Michener, C. J., Patrick Proctor, C., & Silverman, R. D. (2017). Features of instructional talk predictive of reading comprehension. *Reading and Writing*, *31*(3), 725–756. https://doi.org/10.1007/s11145-017-9807-4

Okkinga, M. (2018). *Teaching reading strategies in classrooms: does it work?* Academisch proefschrift. Enschede: University of Twente https://doi.org/10.3990/1.9789036544481

Okkinga, M., Van Steensel, R., Van Gelderen, A. J. S., Van Schooten, E., Sleegers, P. J. C., & Arends, L. R. (2018). Effectiveness of Reading-Strategy Interventions in Whole Classrooms: a Meta-Analysis. *Educational Psychology Review*, *30*(4), 1215–1239. https://doi.org/10.1007/s10648-018-9445-7

Pajares, M. F. (1992). Teachers' Beliefs and Educational Research: Cleaning Up a Messy Construct. *Review of Educational Research*, *62*(3), 307–332. https://doi.org/10.3102/00346543062003307

Richardson, V., Anders, P., Tidwell, D., & Lloyd, C. (1991). The Relationship between Teachers' Beliefs and Practices in Reading Comprehension Instruction. American Educational Research Journal, 28(3), 559–586. https://doi.org/10.2307/1163149

Sassi, A., Bopardikar, A., Kimball, A., & Michaels, S. (2013). From "sharing out" to "working through ideas": Helping teaches transition to more productive science talk. *Presented at the Annual Meeting of the National Association for Research in Science Teaching*. Puerto Rico.

Schenton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information*, *22*, 63-75. doi:10.3233/EFI-2004-22201

Soter, A. O., Wilkinson, I. A., Murphy, P. K., Rudge, L., Reninger, K., & Edwards, M. (2008). What the discourse tells us: Talk and indicators of high-level comprehension. *International Journal of Educational Research*, *47*(6), 372–391. https://doi.org/10.1016/j.ijer.2009.01.001

Stanulis, R. N., Little, S., & Wibbens, E. (2012). Intensive mentoring that contributes to change in beginning elementary teachers' learning to lead classroom discussions. *Teaching and Teacher Education*, *28*(1), 32–43. https://doi.org/10.1016/j.tate.2011.08.007

Webb, N. M., Nemer, K. M., & Ing, M. (2006). Small-Group Reflections: Parallels Between Teacher Discourse and Student Behavior in Peer-Directed Groups. *Journal of the Learning Sciences*, *15*(1), 63–119. https://doi.org/10.1207/s15327809jls1501_8

Wilkinson, I. A., & Nelson, K. (2013). Role of discussion in reading comprehension. International guide to student achievement. In J. Hattie (Red.), *International Guide to Student Achievement* (pp. 299-302). Routledge.

Wilkinson, I. A. G., Soter, A. O., & Murphy, P. K. (2010). Developing a model of quality talk about literacy text. In G. M. McKeown & L. Kucan (Eds.),Bringing reading research to life(pp.142–169). New York: Guilford

Appendix

Appendix A. Program descriptions and materials

Program description

The program consisted of six weekly 30-minute sessions in which teachers orchestrated small group discussions about up-to-date news texts that 'Nieuwsbegrip' (CED-groep, 2012) had offered that week. The text-led discussions were planned one day after students participated in the reading strategy-instruction class. During the reading strategy-instruction class the teacher discussed the 'Nieuwsbegrip' text to the entire class utilizing multiple reading strategies. After the class discussed the text, students did workbook assignments individually or with a peer (Nieuwsbegrip; CED-groep, 2012). The teacher used the discussion template as a guide to stimulate student talk and reasoning. Student participants were subdivided into groups 4-6 students. Each week, an extra discussion group was added to the student participants. This means that in week 1 there was one discussion group, and in week 5 there were five discussion groups. This ensured that an extra discussion group could orchestrate a peer-led discussion session independent of the teacher each week. Within each discussion group, one person (the chairman) was held responsible for the quality of talk by giving turns to peers and summarizing the main conclusions of the discussion. The children who had not yet participated in teacher-led discussions were instructed to individually practice their reading skills (e.g., reading a book and working on 'Nieuwsbegrip' assignments).

*Lesson 1***:** Teacher takes 4 pupils to the instruction table. The teacher starts audio recording by using a tablet or phone. Then, the teacher starts the discussion about the informative text that instructed on Thursday (The other pupils will independently work on reading assignments). The reading objective from the text topics from 'Nieuwsbegrip' are used as a guide in the

discussion. Pupils formulate their answers, and explain how they come to their answer (they learn to predict, to clarify and to ask questions about things they do not understand). The teacher facilitates the discussion by using the ‘talk template’ with the nine talk moves.

Lesson 2: The teacher takes the next 4 pupils to the instruction table, and repeats the procedure of the week before. The teacher maintains her role of leading and facilitating, and tries to apply the 9 talk moves of the talk template. The students who already practiced the discussion with the teacher form their own discussion peer group. The teacher gives one student the task of the chairman, and hands the students the talk template. The student talk template consist of a checklist, with additional talk moves that could serve as a guide for the discussions. They follow the same procedure as last week, and after 30 minutes they evaluate together with the teacher about the quality in talk.

Lesson 3: Repeat, with a new group of pupils.

Lesson 4**:** Repeat, with a new group of pupils.

Lesson 5: Repeat, with a new group of pupils.

Lesson 6: De teacher discusses with the same pupils as in Lesson 1. The teacher once again records the discussion. Procedure is the same as in the other lessons.

Talk Templates

The peer-led discussion template consists of four discussion principles: 1) helping individual students share, expand on, and clarify their own thoughts and ideas; 2) helping students listen carefully to their peers; 3) helping students deepen and build their reasoning with evidence; and 4) helping students engage with others’ reasoning. Each principles is supported with talk moves (e.g., say more, explain what someone else means) and example sentences (e.g., ‘anyone want

to revise Mario´s idea?'; Michaels et al., 2007; Sassi et al., 2013). An adjusted student template with matching talk moves was developed (e.g., from teacher discussion aim 1: 'help individual students share, expand on, and clarify their own thinking' to student discussion aim 1: 'talk a lot').

Table A1. *Original template of the 'Talk Science' program (Sassi et al. 2013; Michaels et al., 2007)*

Goals and APT moves	Description	Example
Goal: Help individual students share, expand and clarify their own thinking APT Moves: Time to think, Say more; So, are you saying;	This set of moves prompts individual students to explicate their thinking	"Okay. Can you say a little more about that?" "What do mean by that?"
Goal: Help students listen carefully to one another APT Moves: Who can rephrase or repeat?	This set of moves prompts students to listen carefully to their peers' ideas	"Ok, is there anyone who understands what Jasmine is saying and might want to maybe say it a different way to help the rest of us understand?"
Goal: Help students deepen their reasoning APT Moves: Ask for evidence and reasoning	This set of moves encourages students to push their reasoning, and justify their ideas with evidence	''Why? What is about text A that makes you think that? Are you sure that the author meant that by those words?''
Goal: Help students think with others ideas APT Moves: Agree/Disagree; Add on; Explain what someone else means	This set of moves encourages students to engage with their peers' ideas for building on, critiquing, and improving the collective science knowledge of the classroom community	"Anyone want to, maybe want to revise Mario's idea, maybe change it, add to it?"

Table A2. *Revised talk template developed for teachers*

De Praatplaat – Doelen en bouwstenen

Vier doelen voor productieve groepsgesprekken met negen gespreksbouwstenen (en voorbeeldvragen)

Doel 1: help leerlingen hun eigen denken te delen, te verdiepen en te verduidelijken

☐ *1. Tijd om te denken*

Geef eventueel schrijftijd als denktijd

Wacht op inbreng

☐ *2. Zeg meer*

'Kun je daar meer over zeggen?'

'Wat bedoel je daar mee?'

'Kun je daar een voorbeeld van geven?'

☐ *3. Dus je zegt eigenlijk …?*

'Even kijken of ik je begrijp. Zeg je nu …?' (altijd ruimte aan leerling geven om het eens te zijn of niet)

Doel 2: help leerlingen zorgvuldig naar elkaar te luisteren

☐ *4. Wie kan dat herhalen of in eigen woorden zeggen?*

'Wie kan herhalen wat Kim net gezegd heeft, of kun je het in je eigen woorden zeggen?'

Doel 3: help leerlingen beter te redeneren

☐ *5. Vragen naar onderbouwing en redeneren*

'Waarom denk je dat?'

'Waaraan zie je dat?'

☐ *6. Daag uit of geef een tegenvoorbeeld*

'Is dat altijd zo?'

'Past dat bij wat Joris net gezegd heeft?'

Doel 4: help leerlingen samen met anderen te denken

☐ *7. Ben je het eens/oneens en waarom?*

'Ben je het eens met wat je hoort? Of oneens?'

'Wil iemand reageren op wat Lotte net zei?

☐ *8. Er aan toevoegen*

'Wie kan iets toevoegen aan wat Jamal net gezegd heeft?'

☐ *9. Uitleggen wat iemand anders bedoelt*

'Wie kan uitleggen wat Jan bedoelt met wat ze net gezegd heeft?'

'wie kan zeggen hoe Inge op dat idee gekomen is'

'Waarom denk je dat hij dat zei?

Appendix B. Interview topic lists

Pre-interview guide

Introduction research

Introduction of the research and ask for any unclarities about purpose/procedures, thank the interviewees for participating, ask for permission recording, give indication time for interview and explain anonymity

Educational background

Numbers of years teaching (parttime/fulltime)? Grade levels? Preservice education. Any special programs? Reading program?

Prior beliefs and teaching habits

1. How would you describe your current comprehensive reading classes? (*teaching habits)*

2. What indicates that a lesson is going poorly or good? (*teaching habits and prior beliefs*)

3. What elements do you find important in comprehensive reading education (*prior beliefs)*

4. Have you ever worked with peer-led (text) discussions in class

a. What kind of teaching methods did you use? (*teaching habits*)

b. Do you believe they are effective? – probe: why / why not? (*prior beliefs*)

5. Do you believe that the talk template will help you facilitate effective peer-led text discussions? Probe: Any unclarities; questions? (*prior beliefs*)

6. Can you describe how this program would be successful for you? *(prior beliefs and teaching habits)*

7. What do you think is the effect of the program on the students in your class? – Probe: Better comprehension? Why? Difference in good/poor readers? (*prior beliefs)*

8. Do you think the program will help you create more successful peer-led text discussions? (*prior beliefs*)

9. Do you think the program will change your teaching habits? (*teaching habits*)

Post-interview guide

Stimulating and hindering factors program

1. How did you experience the program? – probe: What was clear? What not? - (e.g. talk templates, discussion topics, timing, scheduling)

2. What drivers and what barriers did you experience during the program?

3. Any comments/notes about things that could have been done differently?

4. What are the next steps for this intervention/further directions?

Beliefs and teaching habits

1. Does this peer-led discussion method fit your personal beliefs about elements of good reading comprehension education? - How would you rate the peer-led discussions in terms of effectiveness compared to other comprehensive reading methods (*beliefs*)

2. Do you still believe peer-led text discussions are effective? - probe: Did the program influence this perspective? - Do you think that this program helped you facilitate effective peer-led text discussions (*beliefs*)

3. To what extent did the outcomes of the program live up to your expectations? - Probe: Can you give an example/situation to illustrate? (*beliefs and teaching habits*)

4. Did you notice differences in high-ability and low-ability students? – Probe: Why do you think that happened? (*Beliefs and teaching habits*)

5. When you look back at the start of the intervention, do you think the program changed your teaching habits? - Why did you succeed/why not? *(Teaching habits*)

6. What kind of support do you need to be able to come there? (*beliefs)*

stimulated recall

Ask for unclarity about the process of SRI. Explain process (*I selected events beforehand based on your use of talk moves and teaching habits. I will play the selected events on the audio files. First, the two events of the pre-interview are re-listened. Then, the two events of the post-interviews are re-listened. If you want to re-listen and reflect to an event of your own choice, they you are allowed to do so*)

During the SRI the teachers are invited to explain behaviour and their thoughts in this process and/or comment on students' reactions.

1. Why did you say this to the students at this moment?

2. What were you thinking when you decided to say this?

3. What kind of effect do you think this had on the students?

Appendix C. Information Letter and Informed Consent

Toestemmingsformulier voor leerkrachten

Titel onderzoek:

Werkplaats Onderwijsonderzoek Gelijke Onderwijskansen (WOU-GO) en de covid-crisis

- Ik weet wat het doel is van het 'WOU-GO en de covid crisis' onderzoek op de school waar ik werk

- Ik weet dat we dit onderzoek nu uitbreiden met de vraag: "Wat is het effect van in kleine leerling-groepjes praten over de Nieuwsbegrip teksten op de begrijpende leesvaardigheid van onze leerlingen?"

- Ik geef toestemming om geïnterviewd te worden voor het onderzoek

- Ik weet dat de gegevens van het onderzoek 10 jaar zonder mijn naam veilig bewaard worden door de Universiteit Utrecht.

- Ik weet dat ik op elk moment mijn toestemming voor deelname weer mag intrekken.

- Als ik een klacht heb weet ik dat ik kan mailen met de klachtenfunctionaris van de Universiteit Utrecht.

Naam:
Datum:
Handtekening

Appendix D. Quality criteria description

Researchers position

It is important to acknowledge my position as a researcher, as I was both responsible for conducting current study as for the program implementation that was intended to match with the desires and wishes from the primary school. This might have biased my role as being both responsible for teachers' implementation process, as being responsible for studying the phenomenon that teachers' experienced when applying the strategy. Furthermore, as an outsider of the school I might missed out on certain aspects, that an insider would have mentioned. For this qualitative research I am aware that my perception towards reality can differ from anybody else's or that multiple realities can coexist. The aim of this thesis is therefore not to define truth, but to reflect on different perspectives and help further researchers understand certain (underlying) meanings of teachers.

Shenton's (2004) quality criteria model

Credibility

Before start of the first data collection, I attended an online meeting with schools' team leader and a researcher that was involved in this project. In this meeting, research purposes were made clear and mutual trust was increased. Afterwards, all relevant documents about the school were shared via Teams environment. This made it possible to gain an in-depth understanding of school context and research motives. During data collection process, I regularly planned a meeting with the team leader to keep up to date and communicate /resolve difficulties in data collection. Furthermore, I participated in two meetings with the participants of my study, that helped develop and further adapt the program materials and procedures for current study. In the first meeting, core issues in comprehensive reading class were discussed with teachers, and in the second meeting I explained the research methods and

procedures of the program I developed for current study. Suggestions from teachers were adjusted in the design of the program. In this way, I developed *an early familiarity* with the culture before conducting the study (Shenton, 2004).

Before the start of the pre- and post-interviews, I communicated research and program procedures via e-mail to each participant. Every interview included an introduction of the topics to be discussed, and I started with the question whether they had any questions/unclarities about the study/program so far. I gave a short summary of my notes in the interview to evaluate if I had left something important out and to ensure nothing was misinterpreted and afterward. For the SRI, I used audiotapes collected by the teachers as an 'observation' data collection method. This gave me, as an researcher an in-depth understanding of teachers' contexts without interfering this with my presence in class (e.g. *reduce researchers bias*). All interviews were fully transcribed as an attempt to reduce bias when analysing and interpreting the results. Data will be revisited until all constructs were conclusive for all data.

At last, I used *peer debriefing* by regularly presenting my reports to my supervisor and to other peers to receive comments on my data collection methods, data analyses and research findings.

Transferability

To stimulate the possibility to transfer or judge this research in other contexts, This study provided a description of the undertaken methodological steps, considering the contextual factors from derived from the school (e.g. specific schools characteristics, such as: low-SES school). Furthermore, this study used a specific case selection criterium. In agreement with the team leader, I decided that all upper-elementary school teachers from the school are essential for the intended purpose of this research.

Dependability

A logbook was used and added in Appendix F in which the trace of the investigation and decisions and procedures can be found step-by-step. In data analyses, a second researcher (independent of this research) analysed two transcripts separately. Afterwards, disagreements were discussed, and the coding template used to analyse the data was adjusted. In this research process, I frequently discussed my research findings with peers who are experienced with qualitative data. I tried to explain the main message of my research to them, to create a honest bird-view of my the value and meaning of my findings.

Confirmability

Collected audio-recordings were retrieved via SURFfilesender. To ensure that findings are clearly derived from data, each collected interview or audio file is privately stored, until after the research is finished. (files and reports are deleted afterwards to ensure data privacy.

Appendix E. Academic integrity

In this section, I will explain possible ethical or privacy dilemma's regarding my research plan. In the following paragraphs I will discuss the sample characteristics, and consent procedures, the choice of my instruments and possible sensitive questions, efforts required from participants and how this effort is contributing to relevance and purpose of this study.

The sample of this study consists of seven teachers, with respect to the available resources and time-consuming method for both quantitative and qualitative research. This study is part of the WOU-GO teacher-researcher collaboration. Last year, the school established problems in their comprehensive reading instruction, and therefore established the need for a comprehensive reading intervention, which involved peer-led text discussions. This indicates that the school voluntarily participated in this research. However, the teachers who are selected for this study needed to conduct two interviews, and two audio-recordings, which requires effort and time from teachers. Since teachers are examined by their professionalism, this might be a sensitive area. I however only ask teachers to elaborate on specific events of used talk moves (of the audio-recordings) to prevent biases or assumptions during interviews. Since this research is particularly focussed on teachers professional development, and durable implementation of the design, benefits for teachers will hopefully outweigh the time-investment.

For data handling and storage audio-recordings, I will ask teachers to sign an informed consent which asks for permission of audio-recording in class. In the informed consent the study aim, and the relevance of audio-recordings is explained. Furthermore, teachers can read when the data is required, and what will happen with the data after recordings. These informed consents will be handed out by teachers in classroom. Only students from parents who agreed on taking part in the research are selected for the audio-recordings. From each

upper-elementary class, I will use audio-recordings from one pre- and one post- discussion session. Each session contains the four same students'. So in total, six teachers will participate, with twenty students between the age of 8-12.

For data handling and storage of the interviews, I will ask teachers to fill in a time-slot what suits them best. Beforehand, an informed consent agreed that all information was used for this particular study only, and asked permission for recording. During the interview, I will focus on making the teacher feel comfortable by looking in the camera and making as few notes possible. Afterwards I work out the recording by transcribing and encoding the data. To ensure that all personal data is kept anonymously in the transcript, I will anonymize all personal aspects of teachers.

Data for both methods is stored in secure place, offered by faculty of social sciences at Utrecht University. Personal data might be useful for schools follow-up study of further development of the intervention. Therefore, the data itself is stored for 10 years, according to the VSNU guidelines. Furthermore, unless permitted, only researchers have access towards this data.

https://autoriteitpersoonsgegevens.nl/nl/onderwerpen/avg-europese-privacywetlement. Contact details of the data protection authority can be found on the university website: https://www.uu.nl/organisatie/praktischezaken/privacy/functionaris-voor-gegevensbescherming.

Appendix F. Logbook

Week	What	Preparation
January 2021		
Week 2 11-17	13 januari Meeting 4 – Supervision	Prepare questions about the teacher feedback, discuss your FERB-application with your supervisor and decide on when you will submit your FERB-application.
	15 januari Meeting Research Team (Lotte & Ylse)	Share meeting document: Prepare summary of collected literature, ask for unclarities regarding the intervention Update about situation in school.
	Improvement of research plan	Ask for feedback, design observation tool, design interview guide, prepare school meeting
Week 3 18-24	Continue working on research plan	Collect teacher feedback (via e-mail) and Peer feedback, focus on coherence of research plan
Week 4 25-31	31 January Deadline Research Plan	Finalize research plan. Contact with Lotte & Ylse (get admission from school)
February 2021		
Week 5 1-7	Prepare meeting school Design teacher training for intervention	Design an interactive presentation
	Contact with school & teachers: Mail: Article + Survey (pre-test)	Literature search about peer-led discussion: Why/and How?
Week 6 8-14	8 februari 1.5 workshop het Schateiland	Prepare interactive online course Value of peer-led discussion in teaching (WHY: more child-centered learning?)
Week 7 15-21	Pilot study round 1	Teacher intervention training Collect feedback

Week 8 22-28	Pilot study round 2	Teacher intervention training Collect feedback
Maart 2021		
Week 9 1-7	Deadline Revisit Plan	
Week 10 8-14	Pre-Interview teacher A, B, C	E-mail Teachers
Week 11 15-21	Pre-Interview teacher D, E, F	
Week 12 22-28	Start intervention Audio-recordings (pre-measurement)	Ensure enough recording materials
April 2021		
Week 13 29-4	Study-group session	Tackle problems/initiate peer-feedback
Week 14 5-11	Intervention phase	
Week 15 12-18	Intervention phase	
Week 16 19-25	Intervention	
Mei 2021		
Week 17 26-2	Audio-recordings (post-measurement)	Ensure enough recording materials
Week 18 3-9	Analyze audio-recordings Post-interviews	Set-up Microsoft teams E-mail topic list beforehand Communicate afterwards main conclusions
Week 20 10-16	Transcribing of interviews	
Week 21 17-23	Transcribing of interviews	
Week 22 24-30	Result Section	
Juni 2021		
Week 23 7-13	Finish Result section	
Week 24 14-20	Discussion Section	
Week 25 21-27	Presentation Research (short pitch + interactive discussion for further research)	
Week 26 28-4		

Appendix G. Coding Procedures

Table G2. *Final template of teachers' experiences with the program derived from post-interview*

Stimulating and hindering factors of peer-led discussion program		
First code	**Second code**	**Tertiary code**
Usability of the peer-led discussion method	Easy, practical method	
	Generalizable method	
	Challenging method	
Program set-up	Sufficient time	
	Scheduling program	
	Lack of guidelines evaluation	
	Short time-frame	
Talk templates	Teacher template	
	Student template	Checklist
		Amount of text vs. symbols
Text discussion topics	Connect to prior knowledge	
	Quality of reading topics	
Group size	Groups of 3/4	
	Groups of 6	
Role division in peer-led group	Use of discussion leader	
Differences in student skills in peer-led groups	Heterogeneous/Homogeneous groups	Low-ability students Lack of engagement Insecure or dominant personality

		traits pre-teaching
Lack of guidance	Lack of practical video examples Lack of collegial support	

Table G3. *Final template of teachers' beliefs and teaching habits with regard to peer-led discussions derived from pre- and post-interview*

Beliefs and teaching habits with regard to peer-led text discussions		
First codes	Secondary codes	Tertiary codes
Beliefs	Beliefs related to teacher-centred education	
	Beliefs related to student-centred education	
	Reluctance with current reading materials	
	Importance of critical thinking skills for comprehensive reading education	
	Importance of variation of instruction method for comprehensive reading education	
	Importance of interaction and vocabulary for comprehensive reading education	Importance of communication skills Importance of vocabulary
	Openness to peer-led discussion method	Openness to program Willingness to change habits
	Success peer-led discussion program depended on students' enjoyment	
	Success peer-led discussion program depended on student skill	

	Low self-efficacy with peer-led discussions	Fear of losing control Perceived incompetence Lack of teaching experience
Habits	Teacher-centred habits	
	Student-centred habits	

Table G4. *Definition of teachers' expressed beliefs and habits (secondary codes) provided with examples derived from the pre and post interview.*

Code	**Description**	**Examples**
Beliefs related to teacher-centred education	Belief in teacher-centred approach where instruction in the class is centred on the teacher and the teacher is in control. Learners are more in the passive, receptive mode (Acat & Dönmez, 2009)	*''Structure is essential for students. Just sit down and get to work''* *''I do everything for them: the pupils won't do it on their own anyway''*
Beliefs related to student-centred education	Belief in learner-centred education, shift the focus of instruction from the teacher to the student. Aims to develop students' autonomy and independence by giving them the responsibility for their learning path. Teachers act as a facilitator, as opposed to an instructor (Elen et al., 2007)	*''Teachers must realize that it's okay to not always be in control''* *'I am only needed to provide a safe environment so I operate on the background (chairman/jury/etc., are all responsibilities of the children)''*
Reluctance with current reading materials	Teachers express frustration or difficulties with the current used comprehensive reading method 'Nieuwsbegrip' (CED-groep, 2012)	*''I find reading comprehension difficult to instruct and also find it vague, the steps 'Nieuwsbegrip' offers''*
Importance of critical reading skills for comprehensive reading education	Belief that growth in students' critical reading and thinking skills are essential for success of comprehensive reading education.	*''If children investigate critically why a certain answer is needed, then for me the reading lesson is successful''*
Importance of variation of instruction method for comprehensive reading education	Belief that multiple instruction methods are essential for textual understanding (e.g. strategy-instruction, reading assignments, collaboration and talk)	*'I belief that different ways of learning ensures better text understanding'* *''I think that because you then process such a subject in several ways, it also contributes to vocabulary and all those things that come with reading comprehension''*
Importance of interaction and vocabulary for peer-led discussions	Belief that peer-led discussions will enhance students' vocabulary and communication skills.	*''Because they are language-impaired, I think it is important that they talk a lot more''*

		''I hope they will adopt the talk moves. I hope they start to feel safer speaking in interaction''
Openness to peer-led discussion method	Teachers' express willingness and importance of being open to new method and practices. This includes not shying away from certain challenges, like adapting teaching style	*''I'm really someone who grabs new challenges that with both hands, so I want to try it''* *''I belief the program is a nice challenge to let go of my structured and controlling habits''*
Success peer-led discussion program depended on students' engagement and enjoyment	Belief that the peer-led discussion strategy should be able to stimulate students' involvement and fun in reading	*''I really hope to stimulate their enjoyment in reading with this''* *''I actually hope that the pupils want to belong to those four who are then chosen to do the peer-led discussion.''*
Success peer-led discussion program depended on student skill	Belief that the success of the peer-led discussion strategy is dependent on the individual ability level of students	*''I also have to say honestly that the effect of this program is such a big difference per child, how they are used to communicating things, to say things and to tell things''*
Low self-efficacy with guiding peer-led discussions	Teachers' low confidence in his or her individual capacity to orchestrate effective peer-led discussions	*''I am scared that I am not able let my students take the discussions seriously''* *''Sometimes I worry that they will blare through the classroom too quickly and I fear losing control.''*
Teacher-centred habits	Teachers' habits with regard to peer-led discussions that correspond to teacher-centred education. <u>In peer-led discussions:</u> Teachers give limited wait time, overrule in talk or steer the conversation.	*''I have trouble giving children enough time to think. I go on too fast and think kids will understand''* *''I haven't given them enough time to think. I wanted to fill it in myself or steer the conversation''*
Student-centred habits	Teachers' habits with regard to peer-led discussions that correspond to student-centred education. <u>In peer-led discussions:</u> Teachers apply talk moves and facilitate student interaction.	*''Sometimes I let go too quickly: maybe the pupils need a little more guidance than I think.''* *I hear that I now leave more space to really let them think, that I fill in less.*

Table G5. *Agreement of codes prior beliefs and habits between coder 1 and 2 using initial template obtained from pre-interview of Participant 4*

Unit of meaning transcript	**1st coder**	**2nd coder**	**Agreement**
´´Betrokkenheid hangt af van aanspreekbaarheid leesonderwerp´´	Importance of variation of instruction method for comprehensive reading education	Reluctance with current reading materials Also: Importance of variation of instruction method for comprehensive reading education	0.5
´´Als ze actief praten over wat ze hebben geleerd is het een goede leesles´´	Importance of interaction and vocabulary for comprehensive reading education	Importance of interaction and vocabulary for comprehensive reading education	1
´´Ik vind het moeilijk om leerlingen essentie uit te leggen van tekst (hoofdzaken & bijzaken onderscheiden)´´	Reluctance with current reading materials	Reluctance with current reading materials	1
´´Ik ben nodig enkel nodig het verzorgen van veilige omgeving en sta op de achtergrond (voorzitter/jury/etc, zijn verantwoordelijkheden van de kinderen). Het is in mijn ogen heel Leerlinggestuurd´´	Beliefs related to student-centred education Also: Student-centred habits	Beliefs related to student-centred education	1
´´Leerkrachten moeten inzien dat ze meer kunnen loslaten: mindset verandering van leerkrachten´´	Beliefs related to student-centred education	Beliefs related to student-centred education	1
''Ik zou peer-led discussions als vaardigheid willen niet meer als losstaand vak''	Openness to peer-led discussion method	Openness to peer-led discussion method	1
''Ik hoop dat leerlingen meer gaan praten''	Importance of interaction and vocabulary for comprehensive reading education	Importance of interaction and vocabulary for comprehensive reading education	1
''Ik hoop dat ze de strategieën overnemen en inzetten als vaardigheid/niet als vak (dus ook gs/ak /etc.)''	Success peer-led discussion program depended on student skill	Openness to peer-led discussion method?	0
''Ik focussen op puur het proces van leerlingen: Gebruik van sleutelvragen om proces van leerlingen te onderzoeken''	Student-centred habits	Student-centred habits	1

''Regelmatig leerlingen laten debatteren: Ik word daar heel blij van als ik zie hoe actief leerlingen bezig zijn met wat ze geleerd hebben en ook goed laten horen wat ze ervan vinden''	Success peer-led discussion program depended on student skill Of: Student-centred habits	Beliefs related to student-centred education	0
''Soms laat ik te snel los: misschien dat ze nog iets meer begeleiding nodig hebben dan ik denk''	Student-centred habits	Student-centred habits	1
			Inter-rater reliability 77.2 %

Table G6. *Agreement of codes stimulating and hindering factors between coder 1 and 2 using initial obtained from post-interview of participant 4*

Unit of meaning transcript	**1st coder**	**2nd coder**	**Agreement**
''De praatplaat voor de kinderen waren wel echt goed werkbaar zegmaar. Ze waren hier ook wel serieus mee bezig''	Student template +	Student template +	1
''De materialen van het programma werkten goed, want het is heel helpend om binnen de juiste doelen, bepaalde vraagstelling voor handen te hebben''	Practical method + Also: Talk templates +	Talk templates +	0.5
''Ik merk dat in mijn groepje, er een kind bijna niet aan het woord was. Of in ieder geval niet zelf het initiatief nam om het woord te nemen. Dus daar was die praatplaat wel handig voor''	Student template +	Role division + Also: Student template +	0.5
''Verdeling werkte goed. Donderdag leesles en vrijdagochtend discussie''	Scheduling program +	Scheduling program +	1
''Groepsgrootte van 4 was overzichtelijk''	Group size +	Group size +	1
''Het gesprek gister ging wat moeizamer dan het eerste gesprek, maar ik denk ook dat dit te maken heeft met het leesdoel. het leesdoel van het eerste gesprek zat vooral in dat ze ook moesten nadenken of ze het zelf zouden gebruiken of dat het gevaarlijk was. Dus daar zat veel meer	Quality of reading topics -	Quality of reading topics -	1

in wat ze moesten beargumenteren''			
''Bij dat gesprek van gister ging het er eigenlijk over dat ze meer wisten van Maxima. Dus dan is het eigenlijk meer een gesprek van feitjes opnoemen en kun je niet echt in gesprek over wat vind je daar nou van''	Connect to prior knowledge +	Quality of reading topics -	0
''Ik zou de rol van voorzitter nog duidelijker met ze willen bespreken met ze''	Role division +	Role division +	1
			Inter-rater reliability 75%

Table G7. *Agreement of codes beliefs and habits between coder 1 and 2 using initial obtained from post-interview of participant 4*

Unit of meaning transcript	**1st coder**	**2nd coder**	**Agreement**
''Wat ik eigenlijk direct al merkte, dat was wel vanaf het eerste gesprek al is dat de kinderen super enthousiast zijn om in gesprek te gaan. Dus ik word er heel blij van, als ik zo de kinderen hoor praten over hun tekst en wat ze geleerd hebben''	Success peer-led discussion program depended on students' enjoyment	Importance of interaction and vocabulary for comprehensive reading education	0
''Ik denk zeker dat dit een goede stap is geweest, doordat ze de ene dag heel cognitief bezig zijn in de zin van dingen lezen en dingen opschrijven en de dag erna zijn ze echt bezig met het gebruiken van de woorden, het goed nadenken over wat zij er zelf nou eigenlijk van vinden''	Importance of variation of instruction method for comprehensive reading education	Importance of variation of instruction method for comprehensive reading education	1
''Maar ook, ben ik begrijpelijk voor de ander, wordt er op mij gereageerd, kan ik reageren op de ander. Ik denk dus wel dat dit absoluut bijdraagt aan tekstbegrip, maar ook zeker aan een stukje algemene ontwikkeling en spreekvaardigheid''	Openness to peer-led discussion method?	Importance of interaction and vocabulary for comprehensive reading education Also: Openness to peer-led discussion method	0.5
''We moeten het wel zien te borgen zegmaar. Dat dit niet een eenmalige interventie is geweest, waar we	Openness to peer-led discussion method	Openness to peer-led discussion method	1

vervolgens mee stoppen. wel dat dit gewoon standaard is. Dus op een vrijdag een gesprek, punt. Dus ik zou hem wel naast een gewone taal of rekenles in het curriculum willen ja''			
''Ik merkte dat de betrokkenheid hoog was, bijvoorbeeld een meisje had het opgegeven moment over de populariteit van het koningshuis in het laatste filmpje dat is iets wat ik erbij heb verteld, dat stond niet zozeer in de tekst, maar dat heeft ze dus erbij onthouden en vond dat wel nodig om dat wel in te brengen. Dus ik merk dat ze heel betrokken zijn, ja zeker''	Success peer-led discussion program depended on students' enjoyment	?	0
''Ik ben wel een leerkracht die zelf sowieso vind dat de leerlingen meer verantwoordelijkheid moeten hebben voor hun leerproces en eigenaarschap. Ik ben dus ook heel erg van het samenwerkend leren. Dus eigenlijk, als het maar kan dan laat ik ze ook heel erg samenwerken, en dan geef ik ze ook die ruimte en heb ik het ook met ze over de verantwoordelijkheid die ze hebben. Dusja ik denk wel dat dat invloed heeft op hoe ze met elkaar in gesprek gaan''	Beliefs related to student-centred education	Beliefs related to student-centred education	1
''Ik heb dan alleen met de rol voorzitter gewerkt en heb geprobeerd de voorzitter te ondersteunen tijdens de gesprekken''	Student-centred habits	Student-centred habits	1
''Dat heb ik ook naar ze uitgesproken, dat ik vind dat ze zich heel goed kunnen verwoorden, en dat ik het gaaf vond om ze zo met elkaar in gesprek te zien''	Importance of interaction and vocabulary for comprehensive reading education	Student-centred habits	0
''Ik denk dat ik ook wel ze positieve feedback geef. Je ziet mij natuurlijk wel achter de camera, maar dat ik wel af en toe ze laat zien met mijn lichaamstaal dat ze op de goede weg zijn. Ik geef ze denk ik wel het vertrouwen	Student-centred habits Also: Beliefs related to student-centred education	Student-centred habits	0.5

dat ze het zelf kunnen en het is ook hun gesprek, niet mijn gesprek. Ik benoem het dus letterlijk: het is jullie gesprek niet mijn gesprek''			
''Feedback geef ik ze wel achteraf, dat ik het mooi vind om te zien. Dit zorgt er dus ook voor dat je dus ziet dat je na elkaar luistert. dat ik het zo knap vond dat ze echt goed naar elkaar luisteren, want ik vind echt dat ze elkaar ook goed uit laten praten''	Beliefs related to student-centred education Importance of interaction and vocabulary for comprehensive reading education	Beliefs related to student-centred education	1
''Ze pakken wel zelf de ruimte, met oh juf mag ik dan voorzitter zijn en mag ik dan die vragen stellen'' *''Ik dat ze nadenken en dan wacht ik gewoon even. Ik heb wat coachopleidingen gesprek, en daar is het altijd van laat die stilte maar vallen''*	Student-centred habits	Student-centred habits	1
''In het tweede gesprek merkte ik dat de voorzitter wat onzeker was. Toen zei ik ook van, he jij bent de voorzitter, jij mag ook een vraag stellen. Dat is ook wat ik van te voren met ze bespreek''	Student-centred habits	Student-centred habits	1
			Inter-rater reliability 69%

Appendix H: Comprehensive overview of teachers' individual results

Table H1. *An overview of stimulating and hindering program factors as experienced by the teachers.*

Factors	**Stimulating**	**Hindering**	**Neutral**
1. Usability of the discussion method	2, 3, 4, 6	1, 5	
2. Program set-up	2, 4	1, 3, 6	
3. Talk Templates	1, 2, 3, 4, 6	5	
4. Text Discussion topics	1, 2, 3, 5, 6	4	
5. Group size	1, 2, 3, 4, 5, 6		
6. Role division in peer-led groups	1, 2, 3, 4, 5, 6		
7. Differences in student skills in peer-led groups	2, 4	1, 3, 5, 6	
8. Lack of practical examples and collegial support		1, 3, 6	2, 4, 5

Table H2. *Teachers' individual profiles with experiences, beliefs and habits prior to and after participating in the program*

Participant	Teachers' Prior beliefs and teaching habits with regards to peer-led discussions (from pre-interview and SR)	Teachers' experience with the program (from post-interview)	Teachers' beliefs and teaching habits in response to program (from post-interview and SR)
1 Novice	*Prior beliefs* - Importance of interaction and vocabulary comprehensive reading education - Low-self efficacy with guiding peer-led discussions - Openness to peer-led discussion method - Success of peer-led text discussions depends on student skill - Success of peer-led discussions depends on student' enjoyment *Teaching habits* - Limited experience with peer-led text discussion - Teacher-centred habits	*Stimulating* - Small peer groups - Clear task division - Talk templates *Hindering* - Usability of the discussion method - Program set-up - Lack of practical examples and collegial support - Lack of guidelines evaluation - Differences in students skills in peer-led groups - Lack of experience in student-centred instruction methods - Usability of the discussion method: Very challenging program for both students and teacher	*Beliefs* - Impact of program depends on teacher skills and self-efficacy - Student interaction and enjoyment during peer-led discussion is difficult to achieve - Student-centred teaching requires practice and time - Low-self efficacy with peer-led discussions - Impact of program depends on student skills and on amount of interaction, but strongly depends on teachers' experience - Wide range of students competencies leads to ineffective peer-led discussions *Teaching habits* - Experienced struggle switching to student-centred education - Experienced fear of losing control
2 15 Years	*Prior beliefs* - Importance of interaction and vocabulary comprehensive reading education - Reluctance with current reading materials - Success peer-led discussion program depended on student skill - Openness to peer-led discussion method - Success depends on student skills and integration time	*Stimulating* - Usability of the discussion method: Concrete applicable program for teacher and students - Program set-up - Talk templates - Clear task division - Small peer groups	*Beliefs* - Beliefs in student-centred education - Program as standard component in reading instruction - Program increased student interaction and increased enjoyment in reading - Program is effective for low-skilled readers - Program stimulated students' ownership

	Teaching habits - Showed teacher-centred habits, gave limited wait time students, dominated in talk (SR)	*Hindering* X	*Teaching habits* - Experienced change in her habits - Showed student-centred habits, gave wait time students (SR)
3	*Prior beliefs* - Teacher-centred beliefs, prefers structure, control and overview in class. - Low self-efficacy with guiding peer-led discussions - Openness to peer-led discussion method - Importance of variation of instruction methods for comprehensive reading education - Success of peer-led text discussions depends on interaction and vocabulary - Success depends on students' enjoyment, self-efficacy and collaboration skills. *Teaching habits* - Limited experience with student-centred education - Showed teacher-centred habits, gave limited wait time students, steers in talk (SR)	*Stimulating* - Usability of the discussion method: Concrete, fun and valuable program for teacher and students - Program set-up - Talk templates - Clear task division - Collegial support *Hindering* - Lack of practical examples - Lack of guidelines evaluation - Differences in students skills in peer-led groups - Challenging program low-skilled students	*Beliefs* - Change student-centred beliefs: Experience with program increased quality in student-centred guidance - Growth in self-efficacy with guiding peer-led discussions - Program increased students' motivation, self-efficacy and collaboration skills - Variation of instruction increased students' comprehensive reading skills - Self-reflection improved quality in student-centred guidance *Teaching habits* - Experienced change in her habits - Showed student-centred habits , asked open questions, ensured everybody contributed to talk (SR)
4	*Prior beliefs* - Strong beliefs in student-centred learning: Students' are responsible for learning - Openness to peer-led discussion method - Importance of variation of instruction methods for comprehensive reading education - Skills necessary for discussions should be implemented in all courses (generalizability method) - Importance of interaction and vocabulary for peer-led discussion	*Stimulating* - Usability of program: Concrete and valuable program for teacher and students - Program set-up - Talk Templates - Clear task division - Small peer groups	*Beliefs* - Confirmed beliefs student-centred education: Program as standard component in reading instruction - Impact program depends on integration time - Variation of instruction increases students' comprehensive reading skills - Program increased students' enjoyment, interaction and overall development (social and cognitive skills)

	Teaching Habits - Experience with student-centred education, focuses on the process of students learning, encourages students' self-confidence - Showed student-centred habits, use of revoicing techniques and gives wait time (SR)	*Hindering* - Reading objective determines quality of discussion	*Teaching habits* - Experienced easy adjustment to program - Showed student-centred habits, barely interrupted in talk, encouraged students with non-verbal communication (SR)
5	*Prior beliefs* - Teacher-centred beliefs: Importance of structure and modelling - Openness to peer-led discussion method - Success depends on the amount of interaction, vocabulary and enjoyment of students. *Teaching habits* - Showed teacher-centred habits, asked steering questions (SR)	*Stimulating factors* - Usability of the program: valuable program, but needs adaption for low-skilled students - Teacher template - Small peer groups *Hindering factors* - Low usability student template - Time consuming program - Differences in students skills in peer-led groups - Short time to integrate method - Challenging program for low-skilled students	*Beliefs* - Confirmed teacher-centred beliefs: Structure, steering and modelling in peer talk is essential for low-skilled students - Impact program depends on students skills on integration time - Wide range of students competencies leads to ineffective peer-led discussions *Teaching habits* - Experienced struggle switching to student-centred education - Showed teacher-centred habits, steering in talk (SR)
6	*Prior beliefs* - Teacher-centred beliefs, prefers structure, control and overview in class. - Low self-efficacy with guiding peer-led discussions - Openness to peer-led discussion method - Importance of interaction and vocabulary for peer-led discussions - Success depends on students' improved social and critical thinking skills *Teaching habits*	*Stimulating factors* - Clear task division - Quality of materials - Small peer groups *Hindering factors* - Short time to integrate method - Low usability student template - Challenging program low-skilled students - Lack of experience in student-centred instruction methods	*Beliefs* - Change student-centred beliefs: program stimulated students' ownership and responsibility - Growth in self-efficacy with peer-led discussions - Impact of program depends on integration time - Success peer-led discussion program depended on student skill - Program increased students' enjoyment and critical thinking skills

	- Limited experience with peer-led text discussions - Showed teacher-centred habits, gave limited wait time, asked steering questions (SR)	*Teaching habits* - Experienced change in her habits - Showed more student-centred habits, gives more wait and think time, less steering in talk (SR)