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Design and evaluation of a partnership program
for teachers with lower-educated parents in support of
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# AT HOME IN LANGUAGE

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# THUIS IN TAAL

Ontwerp en evaluatie van een partnerschapsprogramma voor leraren met laagopgeleide ouders ter ondersteuning van de taalontwikkeling van hun jonge kinderen

**PROEFSCHRIFT**

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aan de Open Universiteit
op gezag van de rector magnificus
prof. dr. Th.J. Bastiaens
ten overstaan van een door het
College voor promoties ingestelde commissie
in het openbaar te verdedigen
op vrijdag 27 november 2020 te Heerlen
om 13.30 uur precies

door

**Martine Susan van der Pluijm**
geboren op 31 januari 1972 te Schiedam

**Open Universiteit**

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"Every art communicates because it expresses. It enables us to share vividly and deeply in meanings… For communication is not announcing things… Communication is the process of creating participation, of making common what had been isolated and singular… the conveyance of meaning gives body and definiteness to the experience of the one who utters as well as to that of those who listen."

**John Dewey (1934), Art as Experience**

# CONTENTS

# 1

## Introduction:
## Adapting to lower-educated parents in support of child language development

Since the regulations to prevent the spread of the COVID-19 pandemic, teachers have discovered parents as the first educators of their children worldwide. During the lockdown, teachers were involved at a distance, and parents took over the education of their children, following the school curriculum. On television and in the newspapers, we heard how schools were using remote learning, distance education, and online learning to continue child education, assisted by parents at home. However, many children have parents that are not capable of supporting their children adequately due to less knowledge, low language proficiency, or a lack of resources. Schools, educators, and other parties are worried about the delays of child development that have arisen during these months of education at home.

Interestingly, research has emphasized the impact of parents as first educators for the development of young children for decades. This is not because of their possible roles as educators of the school curriculum but because of the decisive impact of informal relationships between parents and children at home for child development (Bronfenbrenner, 1977; 1992). However, it has also shown significant differences in the richness of these home environments for child learning. One prominent explaining factor is parental education level. Currently, these differences between families based on socioeconomic factors have become more apparent as many parents have taken on the role as the first teachers of schoolwork at home. This situation seems to have raised renewed awareness of the social influence of the home environment for child learning. Meanwhile, teachers are struggling with parent engagement and are trying to find ways to connect the home and school environment to improve child development. Recognizing the home environment with its informal nature as the most important setting for child learning can create new opportunities for teachers to enhance their language education of young children (Crosnoe et al., 2010). This education that integrates the home and school setting can be most significant when teachers develop their abilities to reach out to families with the fewest resources.

## The relevance of this research

This thesis aims to contribute to a better understanding of how teachers can establish meaningful connections between the school and home setting of particularly lower-educated parents in support of young children´s language development. Oral language development of young children deserves our attention as it is a key factor in language and literacy development (Sénéchal & Lefevre, 2002; Storch & Whitehurst, 2002; Verhoeven & Van Leeuwe, 2008). Already in early childhood, children differ significantly in their language acquisition, as can be seen in variations of vocabulary sizes (e.g., Ariaga, Fenson, Cronan, & Pethick, 1998; Hoff, 2006; Kuiken et al., 2005). Exposing young children to rich oral language contributes to later literacy development (Rowe, 2012; Tamis-LeMonda, Bornstein, & Baumwell, 2001). For that reason,

enhancing children´s oral language development is an important issue (Bridging the Word Gap National Research Network, 2015; Carpentieri, Fairfax-Cholmeley, Litster, & Vorhaus, 2011; OECD, 2017; Van Gelderen, 2011).

There is strong evidence that in the early years, parents' behavior predicts children's language and literacy competencies (Gilkerson et al., 2018; Hart & Risley, 1995). Particularly children growing up in lower-educated families are at risk of language delays (Bernstein, 1971; Suizzo & Stapleton, 2007; Rowe, Denmark, & Stapleton, 2016). These language delays affect children's school performance and may cause literacy gaps during elementary school (Gilkerson et al., 2018; Law, Charlton, & Asmussen, 2017; Walker, Greenwood, Hart, & Carta, 1994). Therefore, early intervention aiming at preventing language and literacy delays for children at risk is an international priority (OECD, 2017; UNESCO, 2008).

In the Netherlands, children of lower-educated parents lag behind their peers with higher-educated parents (cf., Denessen, 2017). Many young children of lower-educated parents enter school with low levels of oral language proficiency and leave primary education as 'low-literates' (Inspectie van het Onderwijs, 2018). The Netherlands has introduced several programs for Early Childhood Education and Care (ECEC), targeting preschool and kindergarten (Voor en Vroegschoolse Educatie, 2000). Several policy initiatives have addressed equal opportunities and are directed at child and adult language delays (e.g., Gelijke Kansen Alliantie, 2016; Tel mee met Taal, 2017). There has recently been a growing interest in attempts to prevent the intergenerational transfer of language and literacy delays.

## The role of parents in young children's language development

Parents play an important role in young children's language development (Carter, Chard, & Pool, 2009; Hart & Risley, 1995). At home, parents familiarize children with words to share experiences and emotions, to coordinate actions, and to construe shared knowledge about the world. Children learn how to communicate the meaning of concepts through this social interaction (Vygotsky, 1978). A secure attachment of the child to the caregiver is a prerequisite for learning at home (Bus, Van IJzendoorn, & Pellegrini, 1995). Positive and warm relationships in which parents encourage the child are related to children's language and emergent literacy skills (Berlin, Brooks-Gun, Spiker, & Zaslow, 1995; Tamis-LeMonda, Bornstein, & Baumwell, 2001). The richness and diversity of verbal interactions and activities that parents provide at home, often defined as the Home Language Environment (HLE), significantly affects the language and literacy development of young children (Niklas & Schneider, 2013; Sénéchal & LeFevre, 2014; Van Steensel, 2006).

Parents' (low) educational attainments can explain many differences between children's language skills (e.g., Golinkoff et al., 2019; Hoff, 2013; Leseman & Van den Boom, 1999; Mesman,

2010; Rowe et al., 2016; Van Kleek, 2008). Therefore, schools in the Netherlands receive governmental funding based on the number of pupils with parents with low education levels (Roeleveld, Driessen, Ledoux, Cuppen, & Meijer, 2011). Parental education levels are defined as low when they have a maximum of primary education (very low) or lower secondary education (low), which is in line with the definition of the OECD (2015, p. 15). Many lower-educated families are challenged to provide a rich HLE because of less knowledge of child education and different beliefs about activities that stimulate language development (Aarts, Demir-Vegter, Kurvers, & Henrichs, 2016; Hoff, Laursen, Tardif, & Bornstein, 2002; Rowe, Denmark, Harden, & Stapleton, 2016; Van Tuijl, Leseman, & Rispens, 2001). Parental education level is a limiting factor of the HLE. It is one of the main indicators of parental socioeconomic status (SES), together with occupation and income indicators. After all, poverty and unemployment are other prevalent problems that might lead to stress and can impact parental efficacy (Linver, Brooks-Gun, & Kohen, 2002; Roberts, Jurgens, & Burchinal, 2005). However, more factors are associated with HLE variations in lower-educated families that should be accounted for when investigating the language development of young children. One of these limiting factors is parental literacy. Many lower-educated parents have low reading and writing skills or none at all that can impact their role in stimulating child language development (Boyce, Innocenti, Rogman, Jump Norman, & Ortiz, 2010; Malin, Cabrera. Rowe, 2014; Notten & De Wijs, 2017; Reder, Vanek, & Spruck-Wrigley, 2011; Reese, Leyva, Sparks, & Grolnick, 2010). Second, immigration may be a limiting factor. Immigrants may have had less schooling than parents born in the Netherlands (Allemano, 2013; Anderson et al., 2017; Beacco, Lyttle, & Hedges, 2014). Substantial numbers of immigrant parents have no education or at most primary education, up to six times more than parents born in the Netherlands (Mesman, 2010; SCP, 2009). These parents may also have difficulty speaking and understanding the majority language of the host country (Anderson, Anderson, & Sadiq, 2017; Scheele, 2010).

Compared to higher-educated parents, lower-educated parents tend to be less familiar with providing rich HLEs. The quality of their interactions may be less stimulating when parents are less skilled in warm, sensitive (verbal and non-verbal) communication with their children (Dodge, Pettit & Bates, 1994; Mistry, Biesanz, Chien, Howes, & Benner, 2008). Research shows that interactions contain less quantity and quality (Hart & Risley, 1995; Leseman & De Jong, 1998; Van Steensel, 2006). Lower-educated parents tend to talk less with their child during daily routines and engage their children in fewer language activities, such as shared reading (Boyce, Innocenti, Roggman, Jumo Norman & Ortiz, 2010; Hoff, 2006; Notten & De Wijs, 2017). Additionally, parents with low language proficiency in the majority language might talk less with their children because they experience limitations when they have to speak the majority language and may become insecure (Canibek, 2018; Notten, 2018). Interactions in lower-educated families often contain a lower quality of language and less decontextualized speech, i.e., oral language referring to distant situations and abstract ideas (Snow, 1991). The use of such

decontextualized speech is an important component of young children's language and literacy development (Curenton, Craig, & Flanigan, 2008; Van Kleeck, 2008; Rowe, 2012). In summary, poor HLEs are at the core of children's language and literacy delays (Gilkerson et al., 2018; Hart & Risley, 1995). Attempts to prevent language delays in early childhood require consideration of parental education levels, together with other variables that impact the richness of HLEs.

## Effective programs

For decades, educators, researchers, and policymakers have tried to prevent the intergenerational transfer of language and literacy delays and have developed programs that contribute to enriching the home literacy environment (Wasik & Van Horn, 2012). Most of these attempts are based on the bioecological theory of (Bronfenbrenner 1977, 1992) that places young children at the center of a layered environment. The assumption is that children´s multifaceted interactions, particularly with adults, have an important influence on their development. Young children's interactions at home have proven to be most decisive for their language development. Hence, families are the most influential setting within children's immediate environment (i.e., the microsystem) that shapes a child's language development. Schools are viewed as the other setting that influences child language development. Coherent connections between these two settings form an additional source of influence (i.e., the mesosystem). This source can affect child development positively if there is close coordination between schools and families that supports child development (e.g., Epstein, 1987; 1996). Bioecological theory defines three foci for programs aiming to enrich children's language and literacy development in the immediate environments where they grow up. The first focus is on children's interactions within the primary environment at home. The second focus is on improving interactions between children and adults at schools. Some programs combine these first two foci (i.e., school and home environment) in a dual approach. The third focus is on coordinating child support by parents and teachers to connect the settings of the school and home environment through partnerships. We will discuss research on early childhood intervention programs with these foci and their effects on child language and literacy development.

Family-Literacy Programs (FLPs) focus on enriching language and literacy practices at home by including children and their parents (Hannon, 2003). These interventions can be conducted at home, at school, or at both settings. Several meta-analyses have shown effects for children's language and literacy development (Heidlage et al., 2020; Manz, Hughes, Barnabas, Bracaciello, & Ginsburg-Block, 2010; Mol, Bus, De Jong, & Smeets, 2008; Sénéchal & Young, 2008; Van Steensel, McElvany, Kurvers, & Herppich, 2011; Van Steensel, Fikrat-Wevers, Bramer, & Arends, 2019). However, programs that applied shared reading interventions seem to be less effective for low SES and ethnic-minority children (Manz et al., 2010; Mol et al., 2008). A plausible explanation is that shared reading is difficult for parents with low educational levels and literacy skills (cf.,

Van Steensel, Herppich, McElvany, & Kurvers, 2012). Another problem is the ecological validity of shared reading activities, as many lower-educated parents are not familiar with them (Manz et al., 2010).

Early Childhood Education and Care (ECEC) programs aim to prevent developmental delays of children growing up in disadvantaged contexts at schools (Burger, 2010). The Dutch ECEC programs mainly focus on the school curriculum and not on the home environment. These programs, with a single focus on school, have shown disappointing results. A recent meta-analysis of effect studies in the Netherlands from 2000 to 2015 shows no significant effects on various measures of child development (Fukkink, Jillink, & Oostdam, 2017).

Several meta-studies report that programs with a dual approach (i.e., combining a center (i.e., school) and a home-based approach of child and parent support) show small to medium effects on cognitive and social-emotional development (Blok, Fukkink, Gebhart, & Leseman, 2005; Burger, 2010; Camilli, Vargas, Ryan, & Barnett, 2010; Nores & Barnett, 2010). Most of these programs have been implemented in the United States, where the first early intervention programs were developed (Fukkink et al., 2017). A recent meta-study of Van Steensel et al. (2019) shows larger effects for child literacy when parent programs are conducted at one of these settings, i.e., engaging parents in programs either at home or at school. The authors argue that programs directed at both school and home might be more associated with the school curriculum and might, therefore, lack ecological validity for particularly lower-SES parents.

School-Family Partnerships (SFPs) focus on establishing connections between schools and parents in support of child development (e.g., Epstein, 1987; Sheridan, Knoche, & White, 2019). Meta-studies have shown that SFPs that include measures of language development and reading have a positive effect on children's academic achievement, particularly those that stimulate parental involvement at home (Castro et al., 2015; Hill & Tyson, 2009; Jeynes, 2007; 2016; Wilder, 2014). The effects of parental involvement at home are irrespective of parents' ethnical backgrounds and child grades. Fewer effects have been found for parent-teacher cooperation and parent participation at school. Several meta-analyses (Hill & Tyson, 2009; Jeynes, 2012; Wilder, 2014) reveal that particularly high parental expectations of child achievement have a positive effect on academic development. Parental expectations reflect parents' general beliefs and attitudes towards school and learning. Wilder (2014, p. 392) assumes that parents' positive expectations and encouragements influence children's attitudes towards learning, which in turn might explain their better achievements. Effects of parental expectations on children's academic achievement were also found by two more meta-studies, but these effects were smaller for low SES and minority parent populations (Castro et al., 2015; Jeynes, 2003).

So far, meta-studies have shown effects on child language and literacy outcomes of programs targeting the home environment, dual programs that target both children and parents at schools and at home, and programs directed at partnerships between school and families. No effects have been reported for the single focus of the center approach (as adopted in the Netherlands) that does not target the home environment by structural parent engagement. This implies that Dutch ECEC programs could benefit from a connection to the home environment (Fukkink et al., 2017). Furthermore, it is not clear whether existing programs directed at children's language and literacy development are effective for young children with lower-educated parents, or what activities and delivery modes can be used to support these parents to stimulate their children's language development. Several studies suggest that programs for low-SES groups (i.e., lower-educated) could gain in ecological validity by connecting to specific practices and funds of knowledge of families (e.g., Manz et al., 2010; Jeynes, 2010). Van Steensel et al. (2012) plead for programs that provide 'more than one size' (p. 145) and propose tailoring programs to the needs of diverse groups of parents.

Finally, programs can only be successful if teachers have the skills to transfer the content to parents as intended (Manz et al., 2010; Naoom, Van Dyke, Fixsen, Blasé, & Villagomez, 2012; Van Steensel et al., 2011). This is often referred to as delivery quality (De la Rie, Van Steensel, & Van Gelderen, 2016; Powell & Carey, 2012). Studies have shown that the subtle process of working with parents with lower education levels and diverse backgrounds can be difficult for teachers (Bakker, Denessen, Dennissen, & Oolbekkink-Marchand, 2013; Evans, 2013; Jeynes, 2010; Lusse, Notten, & Engbersen, 2019a). An urgent question that arises from this perspective is how teachers can improve their abilities in involving lower-educated parents, connecting to the home environment, and recognizing families' backgrounds and abilities. Therefore, this thesis addresses the professional development of teachers to optimize their support to lower-educated parents.

## Designing the At Home in Language program

This thesis addresses the need for ecologically valid approaches for teachers to support lower-educated parents to stimulate young children's language development by connecting the school and home environments. To contribute to this aim, we need to improve our understanding of existing SFP and FLP programs and their effects. We also need to investigate how teachers can develop skills to support parents, to strengthen links between school and home, and acquire the abilities to reliably convey the content of the program as intended. Therefore, we need to design an approach that improves teacher guidance in their work with children and parents in preschool, kindergarten and grades 1-2. The central research question is: *What approach can teachers of young children use to build partnerships with lower-educated parents in support of their young children's language development*?

We aim to design an integrated approach that contributes to teachers working with parents and their focus on stimulating child language learning. Building on the body of knowledge that shows the effectiveness of SFPs, we design guidelines and tools to establish partnerships (e.g., Epstein, 1987; Hoover-Dempsey & Sandler, 1995; 1997; Lusse, 2013; Sheridan et al., 2011). Forming these SFPs requires teachers to transform their practices from a school-centered approach to one that recognizes the impact of the home environment in young children's language development. Most teachers are not familiar with this insight since pre-service teacher education does not prepare candidates for this task directed at both children *and* parents (Epstein & Sanders, 2006; Thompson, Willemse, Mutton, Burn, & De Bruïne, 2018). Based on knowledge from empirical studies into FLPs and systematic testing, we develop guidelines for teachers to extend their SFPs with activities and strategies to enhance parental language support. Literature shows that this parent support requires teachers to adapt their guidance to families' abilities and resources (e.g., Anderson & Morrison, 2011; Anderson, Anderson, & Rajagopal, (2017; Auerbach, 1989; Boyce et al., 2010; Landry, Smith, Swank, & Gutentag, 2008; Purcell Gates, 2017; Reese et al., 2010). Finally, this approach requires professional development activities for teachers that help them to engage parents to support their child's language development and to develop the abilities to reliably convey the content of the program as intended. Supplementary to our design goals, the second aim of this research is to improve theoretical knowledge of programs that contribute to connecting the home and school environment to prevent delays in language development.

To ensure the ecological validity of the design for both parents and teachers, we apply design-based research (DBR). This methodology acknowledges the need for extensive explorations of field problems to improve practice with an emphasis on theory building and developing design principles from the perspective of users (Anderson & Shattuck, 2012; Andriessen & Van Aken, 2011; Hoadley, 2004; Kessels, 1999; Plomp, 2009; Sandoval, 2014; Van den Akker, 2009). In line with methodological features of DBR (Anderson & Shattuck, 2012; Design-Based Research Collective, 2003), this thesis comprises a series of multiple case studies in the authentic context at seven primary schools in Rotterdam with large populations of disadvantaged families (e.g., low education, low income). Our research focuses on the systematic testing of prototypes for SFPs that support child language development. We evaluate the prototypes through a mixture of quantitative and qualitative data, collected on issues that contribute to our understanding of the ingredients of the design and possible improvements. Both parents and teachers are actively involved in the design process to establish ownership and to facilitate implementation. This interactive collaboration between stakeholders is the common thread of this thesis, respecting the autonomy of teachers and safeguarding reciprocal relationships with parents in line with the literature (Manz et al., 2010; Van Steensel et al., 2012). For this aim, the researchers will also fulfill the roles of designer and process-leader (Kessels, 1999; McKenney, Nieveen, & Van den Akker, 2006; Nieveen, 2009).

This thesis follows the four phases proposed by McKenney & Reeves (2012) and Plomp (2009). During the first phase, we conduct a literature review to improve our understanding of existing programs and their effects on child language development. The second phase consists of a design study applying iterative cycles of testing to improve the prototype and the design principles of the At Home in Language (AHL) program. We use formative evaluations to investigate how the prototype can be customized to the needs of parents and teachers. We apply a case study design characterized by the proximity of researchers to involve stakeholders in the process and become well informed of the specific context and needs (i.e., alpha and beta testing). In the third phase, we conduct two summative evaluations to assess the impact of the adjusted program and design principles. We investigate the perceptions and behavior of both teachers and parents. In this phase, researchers keep more distance (i.e., gamma testing) and systematically evaluate the outcomes of the program by applying data triangulation (George & Bennett, 2005; Yin, 2018). In the fourth phase, we reflect on the design principles and their theoretical implications to further refine the design (Plomp, 2009). This research process aims at generating general design principles (Andriessen & Van Aken, 2011) that contribute to improved partnerships between teachers and parents, connecting environments for children to become *at home in language*.

## THIS THESIS

This thesis presents four studies. They are structured by a stepwise design process (see Figure 1.1) and were conducted between January 2012 and December 2015. The first study (Chapter 2) extracts effective activities and strategies for language promotion by lower-educated parents through a systematic review study. This study is used to acquire specific pedagogical knowledge for teachers to support lower-educated parents. The second study (Chapter 3) examines the tentative design principles by iteratively testing the initial prototype of the AHL program and making consecutive formative evaluations. The third and fourth studies (Chapters 4 and 5) investigate the outcomes of the adjusted design by assessing the enactment of teachers and parents, considering teachers' abilities to reliably convey the content of the program as intended. Study 3 is a summative evaluation of teachers' perceptions of working with the AHL program and consists of observations of behavior when applying its design principles with parents and children in classrooms. Study 4 is a summative evaluation of parents' perceptions and behavior of the AHL program during their enactment of design principles with children in the classroom. The final chapter (Chapter 6) systematically evaluates the design principles and the theoretical and practical implications of the program.

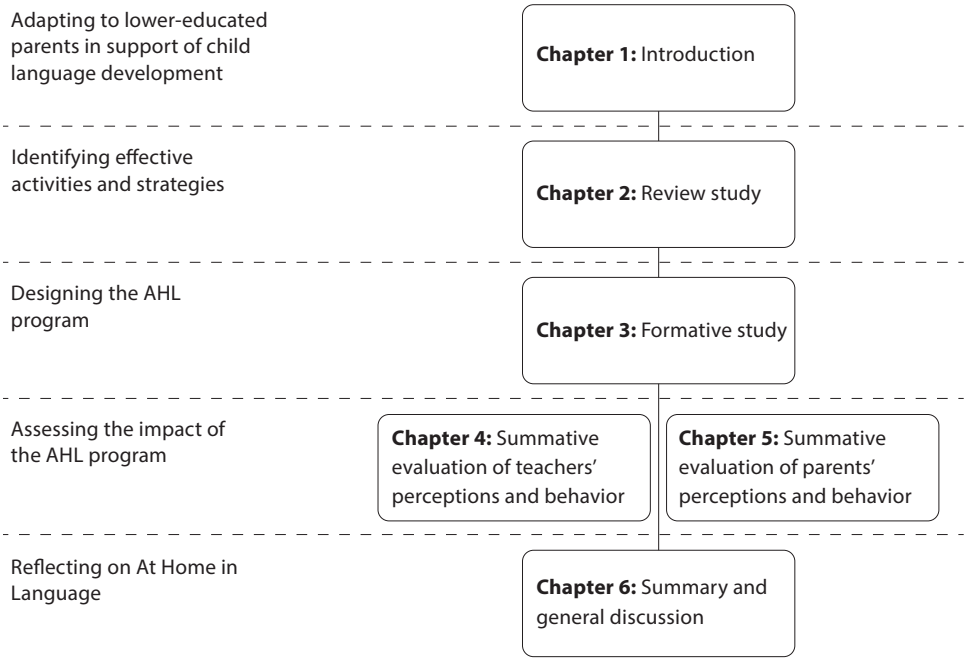


**FIGURE 1.1:** Structure of the thesis

## Identifying effective activities and strategies (Chapter 2)

In Chapter 2, we present a systematic review study to identify activities and strategies that support lower-educated parents to promote their young children's oral language development effectively. Complementary, we establish the effectiveness of the modes of delivery by teachers that are effective for the target population. The central research questions are: 1) *What are effective activities and strategies that can be used by lower-educated parents to promote their children's oral language development?* And 2): *What are effective modes of delivery of these activities and strategies?* We analyzed 28 studies to examine the effects of interventions for lower-educated parents on oral language development of their young children (aged 3 to 8).

## Designing the AHL program (Chapter 3)

In Chapter 3, we show the design of a prototype of the AHL program, comprising a series of principles (partly derived from the review study) for establishing partnerships between school and lower-educated parents and for encouraging rich parent-child interactions. The main research question is: *What modifications of the prototype are needed to contribute to sustainable SFPs directed at lower-educated parents and their young children's language development?*

In collaboration with teachers, principals, and parents at five schools, we investigate what modifications to the prototype are needed to overcome the challenges experienced by participants in applying the design principles. Based on the results, we make adjustments to optimize the AHL program.

## Assessing the outcomes of the AHL program (Chapters 4 and 5)

In Chapters 4 and 5 we present two summative evaluations (Study 3 and 4) of the optimized AHL program. In Chapter 4, we evaluate the impact of the AHL program on teachers' perceptions and behavior. This program comprises seven theoretical steps to establish partnerships with lower-educated parents aimed at stimulating children's language development. The main research question is: *To what extent does the AHL program contribute to teachers' sustained use of the seven steps to improve SFPs that support children's oral language development?* The AHL program was implemented in teachers' classrooms. We investigate teachers' adherence to the AHL program principles and the adaptation of these principles to the specific needs of parents in 14 classrooms in seven schools.

In Chapter 5, we evaluate the impact of the AHL program on parents' perceptions and behavior. Chapter 5 includes two studies that both control for the quality of delivery of the program by teachers. Study 1 investigates parents' perceptions of their partnerships with teachers, their self-efficacy during language promotion at home, and the quantity of language and literacy activities conducted at home. The research questions are*: 1) Does the AHL program improve SFPs with lower-educated parents focused on children's oral language development, parental self-efficacy, and the frequency of language activities parents conducted at home*? And *2) Are there differences that can be attributed to delivery quality of teachers and to the education levels of parents?* We examine the development of parents' perceptions and their home language activities in a heterogeneous sample of parents (lower and higher educated) in 14 classrooms in seven schools.

Study 2 investigates parent-child interactions during specifically designed parent-child activities that were provided at schools applying the AHL steps. The research questions are: *1) Does the AHL program lead to increases in parent-child interaction from pretest to posttest?* And *2) Are there differences that can be attributed to delivery quality of teachers?* In a homogeneous group of lower-educated parents, we examine the development of 19 parent-child interactions at four schools.

## Reflecting on At Home in Language (Chapter 6)

In Chapter 6, we summarize the results and conclusions of the four studies to answer the central research question. We reflect on the design process to identify critical theoretical notions that contribute to our knowledge of involving lower-educated parents in their young children's

language development and requirements for the professional development of teachers. Finally, we explore directions for future research and practical implications that contribute to an advanced focus on partnerships of teachers with lower-educated parents in support of their young children's language development.

# 2

# Activities and strategies for lower-educated parents to promote oral language development of their children. A review of empirical interventions

This chapter has been published as:

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# ABSTRACT

According to several meta-studies, the effects of family literacy interventions on the language development of young children are promising. However, it is still unclear which activities and strategies can successfully be used in supporting lower-educated parents to promote their children's oral language development and what delivery modes are effective for target populations. For the present review, we analyzed 28 studies directed at the effects of interventions for lower-educated parents on the oral language development of their young children (aged 3 to 8). We introduced two groups of activities: shared reading and other home activities. Within each group, we distinguished three categories of strategies: 1) oral language, 2) responsive communication, and 3) print and code awareness. We analyzed the effectiveness of various modes of delivery for these activities and strategies. Talk and play activities that use oral language, and responsive communication strategies seem to be the most effective for lower-educated parents, especially when they mirror activities that occur in the families' daily lives, and do not require the use of print. Activities and strategies that include the use of books and emphasize print and code awareness strategies seem less effective for lower-educated parents. The delivery of activities and strategies is more effective for lower-educated parents when parents and children are involved in coaching sessions. We present recommendations for future research to increase our knowledge of effective interventions in supporting lower-educated parents' engagement in their young children's language development.

# INTRODUCTION

There is strong empirical evidence that the home literacy environment of young children impacts their literacy skills that are related to school performance (Alexander & Entwisle, 1996; Bus, Van IJzendoorn & Pellegrini, 1995; Leseman & De Jong, 1998). In particular, oral language development of young children deserves attention as it is a key factor in literacy development (Sénéchal & Lefevre, 2002; Storch & Whitehurst, 2002; Verhoeven & Van Leeuwe, 2008). Young children's knowledge of vocabulary and syntactic structure originates from the oral language used at home, which influences their later literacy skills, such as reading and writing (Shanahan, 2006). In addition, the acquisition of decontextualized language which demands the child to use oral language that refers to situations and ideas that are not present in the immediate environment is important for children's literacy skills (Snow, 1991). Therefore, the quality of oral language used at home is a key factor for literacy development and school success (Weizman & Snow, 2001).

The quality of oral language development of young children is not only important for their literacy development but also important for communication in its own right. Parents and children use words to share experiences and emotions, to coordinate actions, and to construe their shared knowledge about the world. Through this social interaction, children learn how to communicate, what concepts mean, and what goes on in the world (Vygotsky, 1978). This type of joint attention of parent and child is very effective for learning new words (Tomasello, 2003). In this sense, language contributes to social learning and growing as a human being (Wells, 2009). A secure attachment of the child to the caregiver is a prerequisite for learning at home (Bus, Van IJzendoorn, & Pellegrini, 1995). Through social interaction with the parent - which requires oral language as a natural habit - the child participates in meaningful activities, which are important impulses for (language) development (Dewey, 1916). Positive and warm relationships in which parents encourage the child are related to children's language and emergent literacy skills (Berlin, Brooks-Gun, Spiker, & Zaslow, 1995; Tamis le Monda, Bornstein & Baumwell, 2001). The domain of the family has gained the attention of scholars focusing on ways to stimulate children's literacy development (Wasik & Hendrickson, 2004).

Empirical research has shown that lower-educated parents, often defined as having at best a high-school diploma (Wasik & Van Horn, 2012), engage children in fewer language experiences compared to higher-educated parents (Britto & Brooks-Gun, 2001; Gilkerson et al., 2018; Hart & Risley; Heath, 1990; Hoff, Laursen, & Tardiff, 2002; Van Kleek, Lange, & Schwarz, 2011). Hart & Risley (1995) illustrate in detail how the lower quantity of language use in lower-educated families impacts later school performance. In addition to differences in the quantity of language use, there are also qualitative differences such as the use of decontextualized language (Curenton, Craig, & Flanigan, 2008; De Temple & Beals, 1991; Rowe, 2012; Snow, 1991). The social emotional

environment is different in families with lower-educated parents as well. Lower-educated parents provide less encouraging and warm relationships with their children that evoke the use of oral language (Britto & Brooks-Gun, 2001; Hart & Risley, 1995; Hoff-Ginsberg, 1991). They tend to be more directive with an emphasis on learning by repetitive practice. In contrast, higher-educated parents tend to use speech that follows the child's perspective (Lareau, 2002) and emphasize learning by curiosity, informal learning, and having fun (Fitzgerald, Spiegel, & Cunningham, 1991). These different practices are often related to the limited resources of lower-educated parents, such as school experience and examples in their own family environment (Hoover-Dempsey et al., 2005; Horvat, Weininger, & Lareau, 2003).

Moreover, lower-educated parents initiate relatively few literacy or academic activities, such as reading to their children (Yarosz & Barnett, 2001), talking with children about school, and spending time helping with schoolwork (Kutner, Greenberg, Yin, Boyle, Hsu, & Dunleavy, 2007; O'Donnell & Mulligan, 2008). Many of these issues can be explained by the low literacy skills of lower-educated parents (Laghzaoui, 2011; Sénéchal, 2012). Low literacy skills belong to the most important defining criteria of many lower-educated parents (Drijkoningen, 2015; Kurvers, Van de Craats, & Van Hout, 2015; Reder et al., 2011). Empirical studies show a strong relationship between the way mothers engage their child in learning experiences that promote language development and their own reading skills (Bynner & Parsons, 2006; De Coulon, Meschi, & Vignoles, 2008; Haden, Reese, & Fivush 1996; Neuman, 1996; Sénéchal, 1997). In addition, disappointing experiences of these parents in their educational careers can result in low feelings of self-efficacy and can negatively influence their parental role (Fitzgerald, Spiegel, & Cunningham, 1991; Neuman, Hagedorn, Celano, & Daly, 1995). Despite the importance of parents' literacy levels, little research has focused on the way family literacy interventions should be tailored specifically to the target group of lower-educated parents with low literacy skills (Manz, Hughes, Barnabas, Bracaliello, & Ginsburg-Block, 2010; Menheere & Hooge, 2010; Sénéchal 2012; Van Steensel, McElvany, Kurvers, & Herppich, 2011).

## Activities and strategies that impact oral language development

Knowledge about the importance of a rich home language environment has led to the development of a variety of family literacy interventions (Wasik & Van Horn, 2012). These interventions are characterized by the inclusion of both children and parents to enrich home literacy practices (Hannon, 2003), but vary in their aims and the types of activities provided. Recent meta-analyses and reviews show positive outcomes of family literacy interventions to enhance language and literacy skills of children (Goodall & Vorhaus, 2011; Manz et al., 2010; Mol, Bus, De Jong, & Smeets, 2008; Reese, Sparks & Leyva, 2010; Sénéchal & Young, 2008; Van Steensel et al., 2011). However, reported effect sizes range from small (Van Steensel et al., 2011) to moderate and large (Mol et al., 2008; Sénéchal & Young, 2008). Despite the lack of detailed socioeconomic background information (Fan & Chen, 2001) and the diversity of definitions

of subgroups, interventions have shown different results for parents of lower and higher educational levels. Mol et al. (2008) found different effect sizes ($d$ = 0.13 for the at-risk group and $d$ = 0.53 for the non-risk group, respectively) for dialogic reading interventions, a specific form of shared reading that aims to involve the child actively in dialogues. Manz et al. (2010) showed similar outcomes for dialogic reading and other interventions ($d$ = 0.14 and $d$ = 0.39 for parents with lower and higher socio-economic backgrounds, respectively) and different outcomes for ethnic groups ($d$ = 0.64 for Caucasians and $d$ = 0.16 for ethnic minorities). Parental educational level is one of the indicators used in many studies to determine the risk status of participants (Blok, Fukkink, Gebhart, & Leseman, 2005; Mol et al., 2008; Sénéchal & Young, 2008; Van Steensel et al., 2011)

No systematic reviews have compared the impact of family literacy interventions for lower-educated and higher-educated parents. Available evidence suggests that it is difficult to implement family literacy interventions specifically for lower-educated parents. An evaluation of the Even Start Family Literacy Program, involving primarily lower-educated parents in child education interventions and adult education, found no significant effects on literacy measures for children (St. Pierre et al., 2003; 2005).

Developers of family literacy interventions face the challenge of selecting effective activities and strategies directed at lower-educated parents. However, only a few studies compare the effects of such activities and strategies directed at children's oral language development. Mol et al.'s meta-analysis (2008) focuses on dialogic reading interventions only. Sénéchal & Young (2008) compared the effects of various family literacy interventions focused on children's reading acquisition. Their findings show different effects of three types of intervention activities on children's reading acquisition, for all parents and social classes. Tutoring basic literacy skills appeared to be more effective than shared book reading. Van Steensel et al. (2011) found no differences between the code-focused and comprehension-focused interventions. More research is needed to identify specific activity types that are effective for lower-educated parents considering their social, cultural, and literacy practices (cf., Bus, Leseman, & Keultjes, 2000; Manz et al., 2010; Van Steensel et al., 2011).

There is a knowledge gap concerning the guidelines that lower-educated parents can use effectively for learning activities with their children. These activities can vary from parent-child oral interaction to basic literacy learning techniques (Fine & Henry, 1989). Parents can be coached to use a diversity of strategies during these activities, for example, using open questions during book reading or using specific questions to stimulate the child to think and use language (scaffolding). The use of these strategies is decisive for the effectiveness of interventions, as the provision of activities (such as shared reading) is not sufficient (Mol et al., 2008; Sonnenschein & Munsterman, 2002; Wasik & Sparling, 2012). Although all interventions

use specific activities and strategies to alter parental behavior, the effects of the strategies themselves have rarely been systematically researched (Barbarin & Aikens, 2009; Wasik & Sparling, 2012). Lower-educated parents probably lack some of the skills and experiences needed to carry out strategies that stimulate children's literacy skills (Van Steensel et al., 2011). More knowledge about the effectiveness of strategies that lower-educated parents can use might help to strengthen interventions.

The starting point of this review is the crucial role of oral language development for language and literacy development. Our aim is to contribute to research that shows that family literacy interventions have a positive effect on the oral language development of children. This review addresses the need to further investigate which of the many activities and strategies used in interventions are effective in stimulating the oral language development of children of lower-educated parents.

## Modes of delivery

Recently, several authors raised the issue of delivery of family literacy interventions (De la Rie, Van Steensel, & Van Gelderen, 2016; Powell & Carey, 2012; Van Steensel et al., 2011). Delivery is defined as the methods used to transfer program features to parents (Powell & Carey, 2012). Prior meta-studies included modes of delivery of interventions directed at a mix of target groups that are defined as at risk, including higher- and lower-educated parents (Blok et al., 2005; Grindal et al., 2016; Manz et al., 2010; Van Steensel et al., 2011). A recurrent topic of debate is the effectiveness of center-based compared to home-based delivery. Blok et al. (2005) found that center-based or a combination of center and home-based delivery was more effective. In contrast, Manz et al. (2010) show stronger effects for home-based interventions. Another issue is the need for parent coaching. Although the duration of the intervention seems unrelated to effect size (Blok et al., 2005; Sénéchal & Young, 2008; Van Steensel et al., 2011), findings are not consistent. Some studies show that more frequent coaching of parents produces stronger effects (Grindal et al., 2016; Nievar, Van Egeren, & Pollard, 2010; Olds & Kitzman, 1993). One home coaching session a month has a stronger effect on child outcomes than home visits with less frequency. However, Manz et al. (2010) did not find this effect for coaching frequency. Olds and Kitzman (1993) showed that professional coaches had more positive effects on child outcomes than semi-professionals. In their meta-study, Van Steensel et al. (2011) did not find any difference between the two types of coaches. Additionally, several studies show that teachers can play an important role in the delivery of family literacy interventions (Bakker, Denessen, Dennissen, & Oolbekkink-Marchand, 2013; Epstein, 1991; Van Voorhis, Maier, Epstein, Loyd, & Leung, 2013). This requires teachers to be well-equipped for this role. Teachers need to be trained in how to connect to parents with different (cultural) backgrounds (Bakker et al., 2013; Manz et al., 2010).

For parental behavior to be effective, lower-educated parents need additional knowledge about child education and child support (Hoover-Dempsey et al., 2005; Sheridan, Marvin, Knoche, & Edwards, 2008). Several studies have shown that methods such as modeling and practice are effective in activating parents to use the targeted strategies according to the intervention goals (Bandura, Blanchard, & Ritter, 1969; Grindal et al., 2016; Haguenauer et al., 2005; Kaminsky, Valle, Filene, & Boyle, 2008). Other studies have shown that professionals who can create a relationship of trust through the use of reciprocal communication are more effective in changing parental behavior than those that do not use this type of communication (Bakker et al., 2013; Lusse, 2013; Sheridan et al., 2008).

There seems to be a paucity of empirical knowledge about effective modes of delivery for activities and strategies that promote children's development, specifically those directed at lower-educated parents. These parents may come from several cultural backgrounds and may also have difficulty speaking and understanding the dominant language of the host country. These diverse backgrounds of the target population often seem to be neglected (Manz et al., 2010). It is important to take into account the multilingual and multicultural realities in the targeted parent population (Durgunoglu, 1998; Ezel, Gonzales, & Randolph, 2000). Programs directed at lower-educated parents often provide adult education directed at the language and literacy skills of the parents themselves (Wasik & Hermann, 2004). Additionally, workshops or group meetings to strengthen parental knowledge about child development may be important for the delivery to the target group of lower-educated parents (Kagitcibasi, Sunar, & Bekman, 1988). Such workshops can be extended by hands-on parent activities at school and during home visits and are assumed to involve parents actively in the learning process of their child (St. Pierre et al., 2005). Finally, child involvement during these activities may also be an important aspect of the delivery of family literacy interventions to lower-educated parents (Jacobs, 2004). Due to their importance, analysis of the modes of delivery of family literacy interventions used in empirical studies were also examined in this review.

## Research questions

According to several meta-studies, the effects of family literacy interventions on the language development of young children are promising. However, it is still unclear which activities and strategies can successfully be used in supporting lower-educated parents to promote their children's oral language development and what delivery modes are effective for target populations. Thus, there are two research questions for the present review: 1) *What are effective activities and strategies that can be used by lower-educated parents to promote their children's oral language development?* And 2) *What are effective modes of delivery of these activities and strategies?*

# METHOD

We conducted electronic searches in PsycArticles, PsycINFO, PsycBOOKS, and ERIC. The searches were limited to the period 2000-2016. The reason for this limitation is that the twenty-first century can be considered a turning point in the scope of family literacy research (Wasik & Herrmann, 2004). Since the 1990s, there has been a growing awareness that the quality and quantity of informal language use in the family is of importance for young children's oral language development. Family environments are increasingly regarded as a primary learning environment, whereas schools are regarded as a secondary learning environment (Bronfenbrenner, 1977; Clay, 1993; Dickinson & Tabors, 1991; Neuman & Dickinson, 2001; Reese & Gallimore, 2000; Sénéchal, 2012).

We worked in five phases. In the first phase, which was conducted in January 2015, we conducted an automatic search of family literacy interventions. We combined each of five key terms family literacy, parental involvement, home-based support, home environment, home literacy with each term of the following three groups 1) parental strategies, language interventions, language development, oral language, 2) low education, lower-educated parents, low literacy, illiteracy, 3) impact, effect, influence. The results of the first phase comprised 2172 publications. We then limited our search to the age group of 3 to 8 and the English language, which resulted in 1082 publications.

In the second phase, a further selection was made based on reading the abstracts and selecting interventions that met the following criteria: 1) interventions in which parents were coached to stimulate their children's oral language development, 2) posttests in which oral language development was the dependent variable, 3) education levels of participating parents were reported and 4) articles appeared in English language journals and dissertations. Since few intervention studies target oral language development involving lower-educated or low-literate parents (Manz et al., 2010; Reese, Leyva, Sparks, & Grolnick, 2010), no inclusion criteria were formulated concerning the research designs. We, therefore, included all types of intervention studies, allowing important findings for future (more rigorous) testing. This resulted in 182 publications.

We used the following four exclusion criteria: 1) interventions addressing children with specific learning or developmental problems or parents with specific psychological or behavioral problems, 2) interventions containing no clear information about effects, 3) interventions containing no clear information about activities and strategies used and 4) interventions containing no clear information about the modes of delivery of the intervention. Another inclusion criterion was that our selected studies had to supply the following information: effects of the intervention (posttests of oral language development of children), intervention activity

(the type of activity used to create the necessary environment and possibilities for interaction between parent and child, i.e., shared reading, play, talk, or writing activities), intervention strategies (the type of strategies used during the intervention activity aimed at strengthening oral language development, i.e., asking open questions, expanding sentences, following the child's interests), and mode of delivery of the intervention (description of how the intervention activities and strategies are transferred to the parent).

In the third phase, we examined reference lists of recent reviews and meta-analyses (Bakker et al., 2013; Manz et al., 2010; Mol et al., 2009; Reese, Sparks, & Leyva, 2010; Van Steensel et al., 2011) and previously selected articles. We found another 129 publications using this snowball method. Of these 129 publications, 27 were not obtainable, and 96 were excluded based on the inclusion and exclusion criteria. This resulted in six additional publications. In the fourth phase, the selection of 32 studies was discussed with the second and third author, and codes were adapted to reach full consensus. This resulted in a selection of 27 publications. To provide an update of the search, a new electronic search was carried out in October 2016, which produced 92 new publications. In this final phase, one more study was identified as relevant based on our criteria, resulting in a total of 28 publications.

## RESULTS

Our analyses of the 28 studies are presented in three tables. Table 2.1 presents the characteristics of the selected studies and reported effects on oral language development. Table 2.2 lists the activities and strategies used in the interventions, and Table 2.3 presents the modes of delivery for the activities and strategies in each of the selected studies. Below, we explain the used definitions and coding procedure.

We distinguished two main types of interventions: 'shared reading' and 'other home activities'. Shared reading mainly included parent-child shared book reading activities. Other home activities included play, talk, craft, write, letters, or phonemic practice. Some studies focused on one activity, others on several activities that could consist of shared reading as well. We categorized interventions as other home activities when shared reading was included but not emphasized. We classified 12 studies as shared reading and 18 interventions as other home activities. Two studies were classified in both types of interventions because they reported different experiments that used different types of activities.

In Table 2.1, we distinguish six types of measurements for oral language development. Nine studies reported posttests on oral language development by using the amount of oral language production, three studies used curriculum dependent tests, 17 used standardized

oral language tests, three used a standardized test including oral language development, one used a language assessment, and two studies used ratings by parents or teachers. Sixteen studies reported that they used a translated or bilingual intervention for parents of minority populations. We distinguish two educational attainment levels of the target parent population: 1) high school level with a diploma and lower (HS and less) and 2) higher than high school diploma (>HS). In three cases (7, 8, 13), the percentages of parental education levels were not mentioned, only the range (from no high school education up to and including university). Sixteen studies reported that the sample mainly comprised parents with a high school diploma or less. From now on, we assume that these interventions are considered to be focus on lower-educated parents. Of these studies, 13 reported that all parents were lower-educated, and three studies reported that at least 75% of the sample consisted of parents with high school diplomas or less. Twelve studies in Table 2.1 contained parent samples with a higher educational level than high school for 35% or more, including two studies with exclusively higher educated parents. From now on, we assume that these interventions focus on parents with mixed educational levels. The final two columns in Table 2.1 show whether a significant positive or negative effect of the intervention was found for each posttest (> or <) and what the effect size was of each significant effect when reported.

Table 2.2 presents a detailed account of the activities and strategies used in each study. Within the two main types of shared reading and other home activities, we distinguished several subtypes. We divided shared reading into two subtypes: dialogic reading (DR) and story reading (SR) (see column Reading Activity in Table 2.2). Studies are coded as dialogic reading when authors described and followed the principles of Whitehurst and colleagues (Arnold, Lonigan, Whitehurst, & Epstein, 1994; Whitehurst et al., 1994; Lonigan & Whitehurst, 1998), founders of this intervention. Dialogic reading is a one-on-one interactive reading activity in which the adult reader supports the child to talk about the story by questioning. Adults receive hints to use open questions as well as to deepen the conversation, for example, by asking questions about children's own experiences (Whitehurst et al., 1994). Activities were coded as story reading when the parent and the child applied other forms of shared reading. Twelve studies described shared reading interventions. Seven of these described dialogic reading and five were coded as story reading. We defined the second type of intervention as other home activities (18 studies). Table 2.2 reports the activities of each study (see column Activity type in Table 2.2). Some studies used only one activity, and others employed several activities.

Table 2.2 distinguishes three types of strategies used in shared reading or other home activities. Oral language strategies engage children in conversations, using questioning and other tactics to evoke oral language use by the child. An example is using open questions such as "Why is the bear angry?" Responsive communication strategies provide emotional support and encourage the child to talk with the parent. An example is "I'm sure you can tell me why the bear is angry,"

or "That's right, you know that very well!" Print and code awareness strategies aim to involve children to talk about written language, such as the letters and sounds of words. Examples include "What is the first letter of bear?" and "Do you know a word that sounds like bear?"

Table 2.3 shows the six modes of delivery of the activities and strategies used in all selected studies. The first mode is related to communication with parents. Reciprocal communication refers to building relationships with parents and relating to the perspectives of families. Frequency of communication is coded as frequent if parent coaching took place at least once a month. The second mode is related to the type of adaptation. Fixed by researchers refers to activities that were provided to all parents in the same way. Adapted to families refers to when family situations were used as the starting point to deliver the strategies, for instance, dinner time or talking about the school day. The third mode comprises all additional activities to provide training, such as workshops and conferences. The fourth mode includes coaching sessions with child participation such as home visits (when parent and child practice together with a coach at home), school activities (when parents and children practice an activity at school), or parent-child activities using modeling techniques. The fifth mode refers to various types of coaching strategies such as providing feedback during or after activities. The final mode refers to who trained the parents; teachers, researchers, or other coaches, such as well-trained parent educators and trained parents.

**TABLE 2.1:** Selected studies, interventions and reported effect sizes

| No. | Reference | Design | *n* = | Age child | Type intervention | Duration | Education level % | Language minorities % | Bilingual | Posttest | Sign. Effects | Effect size if sign. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Aram et al. (2013) | 1 exp<br>1 con<br>RA | 58 | 4-5 | Shared reading/ SR | 4 weeks | 34.6% >HS<br>66.4% HS and less | 0 | NA | Curriculum dependent tests<br>1. references to book's plot<br>2. references to socio-cognitive terms<br>3. child's use of mental terms | <br>exp>con<br>exp>con | <br>es=0.24<br>es=0.18 |
| 2 | Blom Hofman et al. (2006) | 1 exp<br>1 con<br>RA | 18 | 3-5 | Shared reading/ DR | 12 weeks | 75% > HS<br>25% HS and less | NR | NR | Amount of oral language<br>1. number of verbalizations during task<br>Delayed test<br>2. number of verbalizations during task | <br>exp>con<br>exp>con. | <br>*d*= 0.78<br>*d*= 1.26 |
| 3 | Boland et al. (2003) | 1 exp<br>1 con<br>RA | 39 | 2-4 | Other home activities | 1 week | 100% >HS* | NR | NR | Curriculum dependent tests<br>1. interview (open answers)<br>2. correct response to y/n feature questions<br>3. correct response to event consistent features<br>Delayed test after 3 weeks:<br>Curriculum dependent tests<br>4. interview (open answers)<br>5. correct response to y/n feature questions<br>6. correct response to event consistent features | <br>exp>con<br>exp>con | |
| 4 | Boyce et al. (2010) | 1 exp<br>1 con<br>RA | 75 | 2-5 | Other home activities | 5-10 weeks | 100% HS and less | 98% Hispanic | Y | Amount of oral language L1<br>1. oral language production<br>2. diversity of words | <br>exp>con<br>exp>con | <br>pes= 0.10<br>pes= 0.07 |
| 5 | Brannon et al. (2012) | 1 exp<br>1 con<br>NRA | 40 | 3-5 | Shared reading/ SR | 10 weeks | 25%> HS<br>75% HS and less | 75% Hispanic | Y | Amount oral language<br>1. number of phrases spoken<br>2. percentage of child participation in conversation | <br>exp>con<br>exp>con | |
| 6 | Brickman (2002) | 1 exp<br>1 con<br>NRA | 31 | 3-5 | Shared reading/ DR | 6 weeks | 100% HS and less | 100% Hispanic | Y | Standardized test English L2<br>1. receptive vocabulary<br>Amount of oral language L1<br>1. number of words<br>3. number of sentences<br>4. mean length utterance<br>Amount of participation<br>5. amount of turn-taking | <br><br><br><br><br>con>exp | |

**TABLE 2.1:** Continued

| No. | Reference | Design | *n* = | Age child | Type intervention | Duration | Education level % | Language minorities % | Bilingual | Posttest | Sign. Effects | Effect size if sign. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7 | Chow & McBride-Chang (2003) | Exp 1 DR, Exp 2 usual book reading 1 control RA | 86 | 4-7 | Shared reading/ DR | 8 weeks | Mixed * | 100% Chinese | Y | Standardized test Chinese L1<br>1. receptive vocabulary (PPVT)<br>2. preschool and primary Chinese literacy scale ((PPCLS) | <br><br>exp1 >con | <br><br>*d*=0,47 |
| 8 | Chow et al. (2008) | Exp 1: DR, Exp 2: DR + morphological training, exp 3: usual book reading 1 con RA | 148 | 4-7 | Shared reading/ DR | 12 weeks | Mixed* | 100% Chinese | Y | Standardized test Chinese L1<br>1. receptive vocabulary | <br>exp1>con, exp3 | *d*=0,59 Exp1 v. c *d*=0,49 exp1 v. exp3 |
| 9 | Jiménez et al. (2006) | 1 exp | 16 | 7-8 | Shared reading/ DR | 10 weeks | 100% HS and less | 88% Spanish | Y | Amount of oral language production L1<br>1. amount of word tokens<br>2. amount of word types<br>3. type-token ratio<br>Amount of child participation<br>4. amount of turn-taking<br>5. mean length of turns<br>6. relative child participation compared to parent | <br>growth<br>growth<br>growth<br><br>growth<br>growth<br>growth | |
| 10 | Kagitcibasi et al. (2001) | 1 exp 1 control NRA | 280/217 | 3-5 | Other home activities | 2 years | 100% HS and less | 0 | NA | Standardized test:<br>1. vocabulary (6-year delay) | <br>exp>con | |
| 11 | Kupzyk, Banks, & Chadwell (2016) | 1 exp | 7 | 2-4 | Other home activities | 14 weeks | 100% HS and less | 100% African refugees | Y | Standardized test L2:<br>1. receptive vocabulary | <br>growth | |

**TABLE 2.1:** Continued

| No. | Reference | Design | *n* = | Age child | Type intervention | Duration | Education level % | Language minorities % | Bilingual | Posttest | Sign. Effects | Effect size if sign. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12 | Landry et al. (2008)<br>Landry et al. (2012) | Exp: Play and Learning Strategies for toddlers (PALS II)<br>1 control | 166 | 2-3 | Other home activities | 15 weeks | 100% HS and less | 30% African<br>40% Hispanic<br>25% Caucasian<br>10% other | Y | Standardized tests (partly L1):<br>1. receptive vocabulary<br>2. composite language skills<br>Amount of oral language child<br>3. use of words child<br>4. coordinating attention child and word use<br>Child cooperation and engagement:<br>5. cooperation verbal/nonverbal<br>6. social engagement verbal/nonverbal<br>7. positive affect (nonverbal)<br>Child cooperation during book reading<br>8. verbal responses<br>9. questions and requests<br>10. coordinating gestures with verbal behavior<br>11. social engagement (nonverbal) | <br>exp>con<br><br><br>exp>con<br><br><br>exp>con<br>exp>con<br><br><br>exp>con<br>exp>con | <br>*d*=0.36<br><br><br>*d*=0.37<br><br><br>*d*=0.30<br>*d*=0.32<br><br><br>*d*=0.30<br>*d*=0.16 |
| 13 | Levin & Aram (2012) | Exp 1: SR,<br>Exp 2: writing,<br>Exp 3: visuo motor<br>1 control<br>RA | 124 | 4-5 | 1 group shared reading group / SR<br>2 groups other home activities | 7 weeks | Mixed* | 0 | NA | Standardized test<br>1. receptive vocabulary,<br>2. productive vocabulary<br>3. word definitions<br>Child participation<br>4. child-initiated dialogues immediate posttest<br>Delayed posttest<br>5.child-initiated dialogues | <br><br><br><br><br>exp1>con,<br>exp 2, exp3 | |
| 14 | Morgan & Goldstein (2004) | 1 exp | 5 | 3-4 | Shared reading/ SR | 24 weeks | 100% HS and less | 20% Caucasian<br>80% African American | N | Amount of oral language<br>1. decontextualized talk<br>2. preschool Language Assessment Instrument (PLAI) | <br>growth<br>growth | |

**TABLE 2.1:** Continued

| No. | Reference | Design | *n* = | Age child | Type intervention | Duration | Education level % | Language minorities % | Bilingual | Posttest | Sign. Effects | Effect size if sign. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 15 | Pelletier & Corter (2005) | Exp 1: readiness center,<br>Exp 2: other preschool programme experience)<br>1 con (no intervention)<br>NRA | 186 | 4 | Other home activities | 12 weeks | 59% > HS<br>41% HS and less** | 22% Indian<br>9% Tamil<br>4% Chinese<br>17% Other | Y (when possible) | Standardized test L2<br>1. Early Development Instrument (incl. vocabulary)<br>Ratings oral language<br>2. parent ratings of early development | exp 1, exp2 >con<br><br>exp1>exp2, con | |
| 16 | Plata Potter (2013) | 1 exp (3 cohorts) | 103 | 3-5 | Other home activities | 2 years | 23% > HS<br>77% HS and less | 59% SP | Y | Pre-K early literacy assessment<br>1.PALS L2<br>Standardized tests<br>2. receptive vocabulary L2<br>3. early literacy L1/L2 | <br><br><br>neg. growth | |
| 17 | Reese et al. (2010) | exp 1: DR, exp 2: conversation about past events<br>1 con<br>RA | 33 | 4-5 | 1 group shared reading/ DR,<br>1 group other home activities | NR | 100% HS and less | 48% Hispa-nic, Albanian, French, Arabic, African American | Y | Standardized test<br>1. productive vocabulary<br>Curriculum dependent test<br>2. story recall,<br>3. narrative quality<br>4. story comprehension | <br>exp2>exp1<br><br><br>exp2>con, exp1 | |
| 18 | Rolla San Francisco et al. (2006) | Exp: family intervention<br>1 con<br>RA | 210 | 5-6 | Other home activities | 8 weeks | 100% HS and less | 0 | NA | Standardized test<br>1. productive vocabulary<br>2. phonological awareness | | |
| 19 | Ryan (2005) | 1 exp<br>1 control<br>NRA | 52 | 4 | Other home activities | 1 year | 100% HS and less | 100% Hispanic | Y | Pre-K early literacy assessment<br>1. PALS L2 | <br>exp>con | <br>*d*=0.77 |
| 20 | Sheridan et al. (2011) | 1 exp<br>1 con<br>RA | 217 | 3-5 | Other home activities | 2 years | 61.1% > HS<br>37.9% HS and less | 26,5% Hispanic,<br>17.5% African,<br>2.8% Indian,<br>21.3% other | NR | Standardized test L1/L2:<br>1. productive vocabulary<br>Ratings oral language:<br>2. rating by teachers | <br>exp>con | <br>*d*= 1.11 |

**TABLE 2.1:** Continued

| No. | Reference | Design | *n* = | Age child | Type intervention | Duration | Education level % | Language minorities % | Bilingual | Posttest | Sign. Effects | Effect size if sign. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 21 | Sim et al. (2014) | Exp 1: story reading,<br>Exp 2: story reading and print<br>1 con<br>RA | 80 | 4-6 | Shared reading/ SR | 8 weeks | 91% >HS<br>9% HS and less | 79% Caucasian<br>19% Asian<br>3% other | N | Standardized test<br>1. productive vocabulary<br><br>2. receptive vocabulary<br>3. rhyme<br><br>Delayed posttests (3 months later)<br>4. productive vocabulary<br>5. receptive vocabulary<br>6. rhyme | <br>exp1, exp2>con<br><br>exp1, exp2 >con | <br>exp1, exp2: *d*=0.20<br>exp1, exp2: *d*=0.28 |
| 22 | St Clair et al. (2006) and (2012) | 1 exp<br>1 con<br>NRA | 29 | 3-5 | Other home activities | 1 year | 100% < and less HS** | 97% Hispanic | Y | Standardized test L2<br>1. receptive vocabulary<br>2. verbal reasoning<br>Delayed posttest 6 years later:<br>3. state reading assessment score | <br><br>exp>con<br><br>exp>con | |
| 23 | Strouse (2011) | Exp 1: dialogic questioning, Exp 2: directed attention, Exp 3: actress<br>1 con<br>RA | 81 | 3-4 | Other home activities | 4 weeks | 100% > HS | 6% African and Hispanic | N | Standardized language test<br>1. productive vocabulary<br>Curriculum dependent test<br>2. story comprehension<br><br>3. story specific | <br>exp1, exp2 >exp3, con<br>exp1, exp3 >exp2, con<br>exp1, exp3 >exp2, con | |
| 24 | Sundman-Wheat (2012) | 1 exp<br>1 con<br>NRA | 26 | 4-5 | Other home activities | 9 weeks | 67% > HS<br>31% HS and less | 58% African<br>23% Hispanic | N | Preschool early literacy assessment L2<br>1. vocabulary L2<br>2. phonemic awareness | <br>exp>con<br>exp>con | |
| 25 | Sylva et al. (2008) | 1 exp<br>1 con<br>RA | 112 | 5-6 | Other home activities | 1 year | 64% >HS<br>36% HS and less | 34% NR | N | Standardized test L2<br>1. receptive language<br>2. phonemic awareness | | |
| 26 | Tardáguila-Harth (2007) | 1 exp | 4 | 4-7 | Shared reading<br>DR | NR | 100% HS and less | 100% Hispanic | Y | Amount of language L1<br>1. oral language production<br>Delayed posttest<br>2. oral language production posttest | <br>growth<br><br>growth | |

**TABLE 2.1:** Continued

| No. | Reference | Design | *n* = | Age child | Type intervention | Duration | Education level % | Language minorities % | Bilingual | Posttest | Sign. Effects | Effect size if sign. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 27 | Van Tuijl et al. (2001) | Exp 1: Turkish parents bilingual programme, Exp 2: Moroccan group<br>Dutch version<br>1 control<br>NRA | 319 | 4-6 | Other home activities | 2 years | 100% HS and less | 57% Turkish 43% Moroccan | Y for Turkish N for Moroccan | Standardized test L2<br>1 receptive vocabulary L2<br>2. productive vocabulary L2<br>Standardized test L1<br>3. receptive vocabulary<br>4. productive vocabulary<br>Delayed posttest (After 2 years and 6 years)<br>5. oral language development | | |
| 28 | Zhang et al. (2010) | Exp 1: mainly low educated group,<br>Exp 2: mostly higher educated group,<br>Exp 3: mixed educated group) | 42 | 4-5 | Other home activities | 8 weeks | 1st group<br>7% >HS<br>93% HS and less<br>2nd group:<br>55% > HS<br>45% HS and less<br>3rd group:<br>41%> HS<br>59% HS and less | 100% Chinese | Y | Standardized test<br>1. receptive vocabulary English L2<br>2. receptive vocabulary Chinese L1<br>3. productive vocabulary English L2<br>4. productive vocabulary L1<br>Delayed posttest:<br>5. productive vocabulary English L2<br>6. productive vocabulary L1 | growth in exp 2> exp1<br>growth in exp2> exp1 | |

** Exact percentages of education levels at and below HS level and higher are not reported.*

***Exact percentages of education levels received from the first author.*

*Abbreviations: exp=experiment group; con=control group; RA=Random Assignment; NRA: no Random Assignment , DR= Dialogic Reading, SR=Story Reading, HS=High school; Y=yes, N=no, NA= Not applicable; NR=Not reported; L1= first language of minorities, L2= second language or dominant language, <= smaller than, >=more than, d = Cohen's d; es = eta squared; pes = partial eta squared.*

**TABLE 2.2:** Activities and strategies in the interventions

| | | Shared reading | | | | Other home activities | | | |
|---|---|---|---|---|---|---|---|---|---|
| **No.** | **Reference** | **Reading activity** | **Oral language strategies** | **Responsive communication strategies** | **Print and code awareness strategies** | **Activity type** | **Oral language strategies** | **Responsive communication strategies** | **Print and code awareness strategies** |
| 1 | Aram et al. (2013) | SR - Social cognition –added activities | Question, discuss, retell, decontext, expand | | | | | | |
| 2 | Blom Hofman et al. (2006) | DR | Complete, recall question, decontext, prompt, evaluate, expand, repeat | Follow, encourage | | | | | |
| 3 | Boland et al. (2003) | | | | | Talk during outdoor activities | Question, associate, evaluate | Follow, encourage | |
| 4 | Boyce et al. (2010) | | | | | Talk (story telling) during book making | Question, retell, expand | Encourage | |
| 5 | Brannon & Dauksas (2012) | SR | Comment/wait, Ask open questions/wait, respond (CAR), comment by child, add vocabulary, relate to life child | Follow, encourage | | | | | |
| 6 | Brickman (2002) | DR | Complete, recall question, decontext, prompt, evaluate, expand, repeat | Follow, encourage | | | | | |
| 7 | Chow & McBride-Chang (2003) | DR | Complete, recall question, decontext, prompt, evaluate, expand, repeat | Follow, encourage | | | | | |
| 8 | Chow et al. (2008) A. DR | DR | Complete, recall question, decontext, prompt, evaluate, expand, repeat | Follow, encourage | | | | | |
| | B. DR Morphological training | DR | Complete, recall question, decontext, prompt, evaluate, expand, repeat | Follow, encourage | Morphological | | | | |
| | C. DR Typical reading | DR | | | | | | | |

**TABLE 2.2:** Continued

| | | Shared reading | | | | Other home activities | | | |
|---|---|---|---|---|---|---|---|---|---|
| **No.** | **Reference** | **Reading activity** | **Oral language strategies** | **Responsive communication strategies** | **Print and code awareness strategies** | **Activity type** | **Oral language strategies** | **Responsive communication strategies** | **Print and code awareness strategies** |
| 9 | Jiménez et al. (2006) | DR | Complete, recall question, decontext, prompt, evaluate, expand, repeat | Follow, encourage | | | | | |
| 10 | Kagitcibasi et al. (2001) | | | | | Read, problem solving, math-visuo motor | Questions | NS | NS |
| 11 | Kupzyk et al. (2016) | | | | | Play, sing, read, color | Comment/wait, ask open questions/ wait, respond (CAR), add, repeat | | |
| 12 | Landry et al. (2008, 2012)) PALS I infancy | | | | | Talk and (social) play during daily situations | Prompt, vocabulary, labeling | Affective responsive behavior, Cognitive responsive behavior | |
| 13 | Levin & Aram (2012) A: 1 reading group | SR | Question | Age appropriate encouragement, scaffolding | Phonemics, letter | | | | |
| | B: writing | | | | | Write | Question | Encouragement, scaffolding | Phonemics, letter spelling |
| | C: visuo motor | | | | | Visuo motor | Question | Encouragement, scaffolding | Phonemics, letter |
| 14 | Morgan & Goldstein (2004) | SR | Decontext (text to life, explanatory, interpretation) | | | | | | |
| 15 | Pelletier (2005) | | | | | Talk and play during daily situations, story reading | Question | NS | Phonemics |
| 16 | Plata Potter (2013) Rural LLC | | | | | Curriculum related activities NS | NS | NS | NS |

**TABLE 2.2:** Continued

| | | Shared reading | | | | Other home activities | | | |
|---|---|---|---|---|---|---|---|---|---|
| **No.** | **Reference** | **Reading activity** | **Oral language strategies** | **Responsive communication strategies** | **Print and code awareness strategies** | **Activity type** | **Oral language strategies** | **Responsive communication strategies** | **Print and code awareness strategies** |
| 17 | Reese et al. (2010)<br>A: 1 dr | DR | Complete, recall question, decontext, prompt, evaluate, expand, repeat | Follow, encourage | | | | | |
| | B: 1 reminiscing | | | | | Talk about past events during daily situations | Complete, recall question, decontext, prompt, evaluate, expand, repeat | Follow, encourage | |
| 18 | Rolla San Francisco et al. (2006) | | | | | Talk, make word webs during book reading, talk activities during mealtime. | Question, associate, vocabulary, expand, discuss, decontext | | Letter, phonemics |
| 19 | Ryan (2005)* | | | | | Talk, play and read related to daily situations | Vocabulary, expand | NS | NS |
| 20 | Sheridan et al. (2011) | | | | | Talk and play during daily situations | Question and wait, prompt to respond and wait | Affective responsive behavior, Cognitive, responsive behavior | |
| 21 | Sim et al. (2014)<br>A. story reading | SR | Discuss title, question, expand, repeat | Follow, encourage | | | | | |
| | B. story reading and print | SR | Discuss title, question, expand, repeat | Follow, encourage | Phonemics, letter, print, rhyme | | | | |
| 22 | St Clair et al. (2006) | | | | | Talk and play activities at home, related to daily situations | Vocabulary, expand | NS | Letter, rhyme |
| 23 | Strouse (2011)<br>(4 interventions: A. dialogic questioning, direct, video, actress) | | | | | Talk activities related to video stories | Complete, recall questions, decontext, prompt, evaluate, expand, repeat | Follow encourage | |
| | B. directed attention | | | | | Talk activities (video) | Comment | Redirecting | |
| | C. regular video (control) | | | | | Talk activities (video) | | | |

**TABLE 2.2:** Continued

| | | Shared reading | | | | Other home activities | | | |
|---|---|---|---|---|---|---|---|---|---|
| **No.** | **Reference** | **Reading activity** | **Oral language strategies** | **Responsive communication strategies** | **Print and code awareness strategies** | **Activity type** | **Oral language strategies** | **Responsive communication strategies** | **Print and code awareness strategies** |
| | D. dialogic actress | | | | | Talk activities (video) | | | |
| 24 | Sundman (2012) | | | | | Curriculum related activities NS | Prompt, repeat | Encourage | Phonemics, letter |
| 25 | Sylva et al. (2008) SPOKES | | | | | Read, write, curriculum related, play | Prompt, decontext | Encourage | Phonemics, letter, rhyme, print |
| 26 | Tardaquila-Harth (2007) | DR | Complete, recall questions, decontext, prompt, evaluate, expand, repeat | Follow, encourage | | | | | |
| 27 | Van Tuijl et al. (2001) Opstap Opnieuw | | | | | Problem solving, math, concepts, play, story reading | Vocabulary, decontext | Follow, praise | Phonemics, print, letter, textual |
| 28 | Zhang et al. (2010) | | | | | Read, write, sing, story reading | | | Phonemics, letter, print, rhyme, concepts |

**Abbreviation: NS=activity or strategy mentioned but not specified, decontext=decontextualized language use.*

**TABLE 2.3:** Modes of delivery of activities and strategies

| | | Communi-cation with parents | | Type of adaptation | Additional activities | | | | | | Training sessions with child involvement | | | | Coaching strategy | | | Parent coach | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. | Reference | Reciprocal relationships | Frequent communication | Fixed by researchers | Adapted to family life | Workshops and other instruction (incl.modelig) | Materials to support home involvement | Explanation of curriculum | Parent-teacher conferences | Adult education | Home visits | School activities | Group meetings | Modeling of strategies | Feedback during activity | Feedback after activity | Planning future activities | Teacher | Researcher | Other |
| 1 | Aram et al. (2013) SR | | + | + | | + | + | | | | | | | | | + | + | | + | |
| 2 | Blom Hofman et al. (2006) SR | | | + | + | | + | | | | | | | | | | | | | + |
| 3 | Boland et al. (2003) OH | | | + | | | + | | | | | | | | | | | | + | |
| 4 | Boyce et al. (2010) OH* | + | + | | + | | + | | | | + | | | | + | | | + | | + |
| 5 | Brannon & Dauksas (2012) SR* | | + | + | | + | + | | | | | + | | + | | | | + | | |
| 6 | Brickman (2002) SR* | | + | + | | + | + | | | | | | | | + | + | + | | + | |
| 7 | Chow & McBride-Chang (2003) SR | | + | + | | + | + | | | | | | | | | | + | | + | |
| 8 | Chow et al. (2008) SR | | + | + | | + | + | | | | | | | | | | + | | + | |
| 9 | Jiménez et al. (2006) SR* | | + | + | | + | + | | | | | | | | | | + | | + | |
| 10 | Kagitcibasi et al. (2001) OH* | + | + | + | | + | + | | | | + | | | | | | + | | | + |
| 11 | Kupzyk et al. (2016) OH* | + | + | + | | + | + | | | | | | + | + | + | | | | + | |
| 12 | Landry et al. (2008, 2012) OH* | + | + | | + | | + | | | | + | | | | + | + | + | | | + |
| 13 | Levin & Aram (2012) SR/OH | | + | + | | + | + | | | | + | | | + | + | + | + | | + | |
| 14 | Morgan & Goldstein (2004) SR* | + | + | + | | | + | | | | + | | | | + | + | + | | + | |
| 15 | Pelletier (2005) OH | + | + | | + | + | | + | + | | + | + | | + | + | + | | + | | |
| 16 | Plata Potter (2013) OH* | | + | + | | | + | + | | | + | | + | + | | | | + | + | + |
| 17a | Reese et al. (2010) exp. 1 SR* | + | + | + | | + | + | | | | | | | | | | | | + | |
| 17b | Reese et al. (2010) exp. 2 OH* | + | + | | + | + | + | | | | | | | | | + | + | | + | |
| 18 | Rolla San Francisco et al. (2006) OH* | | + | + | | + | + | | | | | + | + | + | | | + | + | | + |
| 19 | Ryan (2005) OH* | | + | | + | + | + | | | + | + | + | | | | | | + | | + |
| 20 | Sheridan et al. (2011) OH | + | + | | + | | | + | + | | + | | | + | + | + | + | + | | |
| 21 | Sim et al. (2014) SR | | + | + | | | + | | | | | | | | | | + | | + | |
| 22 | St. Clair et al. (2006) OH* | | + | | + | + | + | | | + | + | + | | | | | | + | | + |
| 23 | Strouse (2011) OH | | + | + | | | + | | | | | | | | | | + | | + | |
| 24 | Sundman (2012) OH | | + | + | | | + | | | | | | + | | + | + | + | | + | |
| 25 | Sylva et al. (2008) OH | + | + | + | | + | + | | | | + | | | | + | + | | | | + |
| 26 | Tardaquila-Harth (2007) SR* | + | + | + | | | + | | | | + | | | | + | + | + | | + | |
| 27 | Van Tuijl et al. (2001) OH* | + | + | + | | + | + | | | | + | | | + | NS | NS | + | | | + |
| 28 | Zhang et al., (2010) OH* | | + | + | | + | + | | | | | | + | + | | | + | | | + |

*Abbreviations: SR= Story reading activities, OH=Other home activities, NS=coaching mentioned but not specified.*

**= Samples with mainly or only low-educated parents.*

## Shared reading

We discuss the results of the dialogic reading and story reading interventions separately related to Tables 2.1, 2.2, and 2.3.

### *Dialogic reading*

Two of the four dialogic reading studies directed at lower-educated parents reported positive effects on oral language development. These two studies used measures of Spanish (first language) word production and turn-taking, small samples, and no control conditions. One study exclusively directed at lower-educated parents showed negative results for Spanish (L1) word production. The modes of delivery of the four studies directed at lower-educated parents were quite intensive, and more additional coaching activities were included to tailor the intervention compared to the three studies with more heterogeneous samples. Three studies included parents with higher education levels, and all three reported positive effects. Researchers were involved in parent coaching in all dialogic reading studies.

### *Story reading*

Two story reading studies (mainly) directed at lower-educated parents reported positive effects on oral language skills in L2. Both studies used oral language strategies, but each had a different focus. One used specific strategies aimed at strengthening decontextualized language, a central aspect that is related to both reading ability and classroom participation. The other used a specific strategy aimed at helping parents to interact with their child to combined with a responsive communication strategy. Both studies used intensive forms of coaching to tailor the delivery of the intervention. Three studies were directed at heterogeneous groups of parents. Two of these combined print and code awareness strategies with oral language and responsive communication strategies and used comparable forms of parent coaching similar to those in the studies directed at lower-educated parents. One study used oral language strategies only and only few delivery activities. All three studies directed at heterogeneous groups reported positive effects on immediate posttests. However, two of these studies reported no positive effects of delayed posttests. Researchers were involved in parent coaching in all studies but one, which involved teachers.

### *Other home activities*

Seven of the eleven studies directed at lower-educated parents reported significant positive effects on oral language development. Five of these seven studies used talk and play activities that were adapted to the families' home environment. All these studies had control conditions, and three used randomization. Reported effects varied from small to medium. These studies all emphasized the use of oral language and responsive communication strategies. The other two studies that reported positive effects used a combination of talk and play and read and

write activities. Only one of these compared effects with a control condition. Four of the eleven studies that did not report positive effects used mainly read and write activities, which were the same for all parents (fixed). These studies used less oral language and fewer responsive communication strategies but more print and code awareness strategies than the previously mentioned group. All studies directed at lower-educated parents used several types of delivery activities, mostly coaching sessions with child involvement focusing on reciprocal relationships. Interventions that included fixed read and write activities and emphasized code and print awareness strategies showed fewer effects despite this intensive mode of delivery.

Five of the seven studies with heterogeneous groups of parents reported positive effects. Five had a control condition, and three used randomization. Five of these studies used mainly talking activities (sometimes combined with play), and one study used reading and writing activities. Similar to the studies directed at lower-educated parents, the read and write studies used print and code awareness strategies, whereas the talk and play studies used more oral language and responsive communication strategies. Two of the five (talk and play) studies that reported positive effects, used activities that were adapted to the families' home environment. Both studies that did not report positive effects on oral language development used read and write, fixed activities and emphasized print and code awareness strategies. Five of the seven studies used several types of delivery activities, mostly coaching sessions with child involvement and some with emphasis on reciprocal relationships. Interventions that involved fixed read and write activities and emphasized code and print awareness strategies showed fewer effects despite this intensive mode of delivery.

# CONCLUSIONS AND DISCUSSION

## Analysis of the results and conclusions

We now conclude by answering the two research questions of this article: What are effective activities and strategies to support lower-educated parents to promote their children's oral language development?, and: What are effective modes of delivery of these activities and strategies, according to empirical studies?

Table 2.4 compares the experimental groups and a control group with respect to types of activities. The results show that talk and play activities are the most effective to support lower-educated parents (see Table 2.4 left side). All five talk and play studies with lower-educated parents (of which three use randomized assignment to conditions) reported significant effects on oral language development. These five studies included 19 experimental comparisons, 12 of which showed positive effects of the intervention (63%).

We found less evidence for the effectiveness of shared reading for lower-educated parents and their children. Of the three experimental studies (two dialogic reading, one story reading), one reported significant positive effects, one no effects, and one negative effects. These three studies included 11 experimental comparisons (see Table 2.4), two of which showed positive effects (22%).

We found the least evidence for the effectiveness of read and write activities for lower-educated parents. One of the three experimental studies reported positive effects on children's oral language development, whereas two reported no effects. These studies included ten experimental comparisons (see Table 2.4), only one of which showed a positive effect on oral language development (10%).

When comparing these results for lower-educated parents to the results of the heterogeneous groups of parents, we see similar results for the talk and play activities. In total, five experimental talk and play studies reported positive effects (of which four use random assignment). These studies included 25 experimental comparisons, 15 of which showed positive effects (60% compared to 63% for lower-educated parents). For shared reading in heterogeneous groups, however, a different picture emerges. Six studies (three dialogic reading and three story book reading) comparing experimental and control groups directed at heterogeneous groups of parents reported positive effects. The six studies included 25 experimental comparisons, 11 of which showed positive effects of shared reading (44% compared to 22% for lower-educated parents). The evidence for the effects of shared reading with *heterogeneous* groups of parents, based on much more experimental evidence than for lower-educated parents, can therefore be considered as more convincing. Finally, for read and write activities directed at heterogeneous groups, we find no evidence at all for effects on children's oral language development. Only two studies in this category included 12 experimental comparisons (see Table 2.4), none of which showed effects.

In addition to the studies presented in Table 2.4, six studies (9, 11, 14, 16, 26, 28) without comparison to control groups are all directed at lower-educated parents. Three of these studies used read and write activities and reported mixed results. One study showed increased oral language development, one showed no development, and one showed negative growth. The other three studies used shared reading (two dialogic and one story reading) and showed an increase in children's oral language development. Given that these are all rather small-scale studies with few participants (4-16), and do not have a comparison group, we cannot give much weight to their results. Perhaps lower-educated parents received more individualized coaching in shared reading in such small scale interventions, explaining the positive results found.

**TABLE 2.4:** Overview of experimental comparisons for activity type for low-educated and heterogeneous groups of parents (*n* = 22)

| **Studies directed at low-educated samples** | | | | **Studies directed at heterogeneous samples** | | | |
|---|---|---|---|---|---|---|---|
| **Author** | **No. exp. compa-risons*** | **No.sign. Effects**** | **RA** | **Author** | **No. exp. compa-risons*** | **No. sign. Effects **** | **RA** |
| **Shared reading activities** | | | | | | | |
| 1. Dialogic reading | | | | | | | |
| Brickman (6) | 5 | 1 (neg.) | N | Blom-Hofman (2) | 2 | 2 | Y |
| Reese (17) | 4 | 0 | Y | Chow (7) | 2 | 1 | Y |
| | | | | Chow (8) | 1 | 1 | Y |
| *Total* | *9* | *1 (neg.)* | *1* | *Total* | *5* | *4* | *3* |
| 2. Story book reading | | | | | | | |
| Brannon (5) | 2 | 2 | N | Aram (1) | 3 | 2 | Y |
| | | | | Levin (13) | 5 | 1 | Y |
| | | | | Sim (21) | 12 | 4 | Y |
| *Total* | *2* | *2* | *0* | *Total* | *20* | *7* | *3* |
| **Other home activities** | | | | | | | |
| 1. Talk and play activities | | | | | | | |
| Boyce (4) | 2 | 2 | Y | Boland (3) | 6 | 2 | Y |
| Landry (12) | 9 | 6 | Y | Pelletier (15) | 6 | 4 | N |
| Reese*** (17) | 4 | 1 | Y | Sheridan (20) | 2 | 1 | Y |
| Ryan (19) | 1 | 1 | N | Strouse (23) | 9 | 6 | Y |
| St.Clair (22) | 3 | 2 | N | Sundman (24) | 2 | 2 | Y |
| *Total* | *19* | *12* | *3* | *Total* | *25* | *15* | *4* |
| 2. Read and write activities | | | | | | | |
| Kagitcibasi (10) | 1 | 1 | N | Sylva (25) | 2 | 0 | Y |
| Rolla San Francisco (18) | 2 | 0 | Y | Levin ***(13) | 10 | 0 | Y |
| Van Tuijl (27) | 7 | 0 | N | | | | |
| Total | 10 | 1 | 1 | Total | 12 | 0 | 2 |

** Number of comparisons between experimental and control groups x number of posttests.*

***effect sizes are reported in Table 1.*

****Studies have two interventions and are therefore included in two categories.*

*Abbreviations: Y:yes, N=no, No=number, exp=experimental, RA=Random Assignment*

Regarding the effects of the strategies accompanying the above activity types, the following conclusions can be drawn. All talk and play studies directed at lower-educated parents used oral language and responsive communication strategies (see Table 2.2) and are therefore partly responsible for the positive effects associated with talk and play activities. However, the shared reading studies also used these strategies, but were apparently less successfully,

especially for lower-educated parents in experimental studies. The combination of strategies emphasized (oral language and responsive communication) and the activity type (talk and play) may make the intervention effective for children's oral language development. The read and write activities directed at lower-educated parents and heterogeneous groups used print and code awareness strategies. Studies that emphasized these strategies reported no results for children's oral language development. Therefore, we conclude that print and code awareness strategies in combination with read and write activities may not be effective for children's oral language development.

We now answer our second research question (i.e., What are effective modes of delivery for these activities and strategies?). Our findings show that delivery is most effective when it is flexible and tailored to the specific backgrounds and personal experiences of families, especially when interventions are adapted to activities that occur in families' homes. Five studies adapted the intervention to families' home environments (see Table 2.3). These are the same five studies that used talk and play activities and oral language and responsive communication strategies for lower-educated parents (see Table 2.4, left side). As previously discussed, all five reported significant effects on oral language development, based on 19 experimental comparisons.

Our findings also show that the delivery of activities and strategies are more effective for lower-educated parents when parents *and* children are involved in training sessions. Four of the five talk and play studies and one shared reading study (5) showed positive effects with lower-educated parents when using this mode of delivery (see Table 2.3). In contrast, two shared reading studies that did not involve the child during coaching sessions showed no effects on oral language development. Three studies with no control condition directed at shared reading that involved the child during coaching showed a positive effect on children's oral language proficiency. However, this delivery mode is less effective for read and write activities. One experimental read and write study reported positive effects on oral language development, and a study with no control condition showed growth. Both involved the child during coaching sessions. The remaining four read and write studies that used this mode of delivery with lower-educated parents (two experimental studies and two studies without control condition) showed no effect on children's oral language development. Therefore, we can conclude that child participation in coaching is effective for lower-educated parents, especially when used in combination with talk and play or shared reading activities.

## Discussion

This review aims to contribute to the knowledge about the effectiveness of activities and strategies that promote children's oral language development that can be used by lower-educated parents and the most effective delivery modes for these activities and strategies. First, our findings show that talk and play activities seem more effective for lower-educated parents

than shared reading and read and write activities. Second, the combination of oral language and responsive communication strategies seems effective. Third, an adaptive mode of delivery is important for our target group. Finally, child involvement during parent training seems an effective mode of delivery. Below, we discuss possible explanations for each of these findings separately.

Talk and play appear to be the most effective activities for promoting oral language development of the children of lower-educated parents. As argued in our introduction, having conversations with children at home is a natural way for young children to be involved in language use and to learn using it. The richer the language used, the more children's oral language will benefit from these conversations. Talk and play activities are effective if we assume that these activities directly connect to lower-educated parents' daily lives and therefore enrich the language exchange between these parents and their children.

Coaching parents to elicit rich dialogues by using narratives, conversations, and storytelling in which print does not play a central role are examples of talk activities. Avoiding printed material may be important because lower-educated parents may find literate activities such as shared book reading difficult, and may therefore prefer print-free talk activities (Boyce et al., 2010; Reese et al., 2010a). Play activities seem to be easily accessible as well, especially forms of social play that do not require specific knowledge and reading skills (Landry et al., 2008; 2012). In addition, this type of play (such as "I spy") is fun and challenges participants to enrich the dialogue by asking questions and by eliciting varied vocabulary.

It is not just the nature of the activity itself that may be decisive for the effectiveness of the intervention. The strategies used for eliciting oral communication are equally important (Mol et al., 2008). Both the talk and play and the shared reading studies used a combination of oral language and responsive communication strategies, through which cognitive support is supplemented by an emotional component. This means that parents recognize the child's needs and follow the child's interest, and give the child enough time to think and talk, and at the same time challenge the child by using appropriate (open) questions intended to elicit decontextualized language (cognitive support). Research into child-parent dialogues has shown that lower SES parents often use a directive style of communication (Hart & Risley, 1995). The combination of oral language and responsive communication strategies may support parents in changing their communication style to one in which the child becomes a partner in an open discussion or even takes a leading position as opposed to a style in which the adult leads the conversation and the child follows the adult. This challenging role for the child may be an important ingredient of interventions directed at children's oral language development. When parents use stimulating questions that help children enrich their language use (Swain, 2000), children are stimulated to produce oral language expressing their thoughts in words, which

may result in learning new words. Reese et al. (2010a) provide an example of how strategies and activities are intrinsically related in interventions for lower-educated parents. The researchers emphasize the use of questions as a strategy that directs parents to connect to the child's experiences by talking about past events and by evoking decontextualized language.

Our third conclusion states that the mode of delivery for lower-educated parents is most effective when it is flexible and is adapted to the families' specific backgrounds and personal experiences, especially when the intervention is tailored to activities that occur in the families' homes. Examples include daily activities such as having dinner, trips to school, and buying groceries. These findings are in line with previous research that emphasized the need to connect closely to the specific social environment of target populations (Hart & Risley, 1999; Korat, 2001; Roggman, Boyce, & Innocenti, 2008). Lower-educated parents are likely to be familiar with such activities, and this could positively affect the effectiveness of interventions (Jacobson, Degener, & Purcell-Gates, 2003), whereas an activity such as shared reading is probably unfamiliar to many lower-educated parents (Yarosz & Barnett, 2001). Familiarity with the activity contributes to parents' confidence, which is an important prerequisite for successfully using the targeted strategies. An effective ingredient of adaptive interventions to family backgrounds and activities could be that it helps to prevent transfer problems that are often encountered (Manz et al., 2010). If parents learn to use the strategies in a family situation, for instance by talking about the child's favorite dishes, the parent can likely repeat these strategies in the same activity at home ("All right, tell me more about what you really like most? When did we eat that? On what occasion?"). In addition, using strategies adapted to daily family activities prevents parents from spending extra time on top of their busy schedules. The fact that the implementation of activities and strategies is less time consuming for the parents might help to break barriers for change (De la Rie et al., 2016).

Remarkably, none of the studies into shared reading and read and write activities used flexible activities that were adapted to the social environment of families' homes. Using printed materials that are normally present in family life can enable lower-educated parents and children to practice reading and writing. Ethnographic studies show that all families use print to some extent, but the frequency and quality of the print and the way it is used varies (Purcell-Gates, 1996; Teale, 1986). Examples are the labels of groceries, the subtitles of television programs, religious sources, and local papers or advertisements that people receive at home. More modern examples include computer games and social media. Outside their homes, all families make use of print, for example, when looking at the metro timetable or at the names of shops. The presence of these types of materials and the way they are used are related to children's emergent literacy skills (Purcell-Gates, 1996; Purcell-Gates, L'Allier, & Smith, 1995).

Supporting parents and children to talk about these available sources of print with emphasis on oral language and responsive communication strategies might be an effective activity for oral language development, phonological awareness, and print knowledge.

Two additional aspects of adapting interventions to lower-educated parents are of interest. First, adapting the intervention language to the home language of language minorities is an important issue. All 16 studies directed at lower-educated parents reported details about ethnicity and language of the participants. All 14 studies that include language minorities adapted the intervention language to their home language (see Table 2.1: 4, 5, 6, 9, 11, 12, 16, 17, 18, 19, 22, 26, 27, 28). This means that researchers recognize the importance of adapting to the family language of lower-educated parents, which contrasts with Manz et al. (2010), who concluded that the importance of ethnicity and language is overlooked in studies. Second, studies that adapt interventions to families by investing in reciprocal relationships and by stimulating dialogues to contribute to mutual understanding are considered to be effective (Bakker et al., 2013; Lusse, 2013). However, only five studies invested in these relationships (5, 10, 11, 12, 27). Four studies (4, 10, 11, 12) reported positive results and one did not (27). Based on these findings, it is not possible to draw firm conclusions about the effectiveness of this aspect of delivery.

The results of this review give reason to believe that the delivery of activities and strategies is more effective for lower-educated parents when their children are involved during parent training. The effectiveness of child involvement during parent training might be explained by the opportunities it creates, such as modeling by the coach how to interact with a child, and parents imitating the trainer during interaction with their child (Jacobs, 2004). This makes training meaningful and might stimulate parents to use the strategies. Learning by experiencing seems to be an effective didactic approach for lower-educated parents, as it recognizes their experience and willingness as a dedicated parent and de-emphasizes their limited language and literacy skills (Prins & Van Horn, 2012). These experiences might also contribute to parents' positive beliefs and feelings of self-efficacy (Wilson Toso & Gungor, 2012).

Positive beliefs and feelings of self-efficacy are important prerequisites for parents to become more involved in their child's development (Hoover-Dempsey et al., 2005). Therefore, increasing parental knowledge about child development and stimulating positive beliefs about their enriching role are important for an effective delivery of interventions directed at changes in parental behavior (Hoover-Dempsey & Sandler, 1997; Wasik & Sparling, 2012). Several studies directed at lower-educated parents report positive results in children's oral language development by organizing workshops for parents (5, 9, 10, 11, 17, 19, 22). The workshops might have contributed to the effectiveness of these interventions. However, there are also other ways

to transfer knowledge to parents, for instance, by reflection activities during coaching sessions. Therefore, based on our findings it is not possible to draw conclusions about the effectiveness of workshops.

Finally, both a center-based and a home-based delivery of the intervention for lower-educated parents can be effective. Most studies directed at lower-educated parents that report positive results on oral language development train parents at home (4, 9, 10, 12, 14, 17, 26). However, four studies report positive results while using a center-based delivery (5, 11) or a combination of center- and home-based delivery (19, 22). This might indicate that the location is not decisive for the effectiveness of the intervention. However, there are good reasons to consider a combination of a center- and home-based delivery. Most interventions are implemented by researchers for a limited period, while it may be important to involve teachers to increase their commitment to the intervention principles. The relationships between teachers and parents at school may be a starting point for a sustainable collaboration to strengthen oral language development at home and at school (Wasik & Sparling, 2012).

***Implications for future research***

A limitation of this review is the small number of studies specifically directed at lower-educated parents. Despite our efforts, we were not able to find more studies that targeted only lower-educated parents or studies that reported results differentially for high and low educational levels of parents. This study is the first systematic review comparing the effects of interventions on children's oral language development directed at lower-educated parents with interventions targeting more heterogeneous populations.

Our review has several implications for future research. First of all, we recommend more research specifically directed at the target group of lower-educated parents. In addition, studies should pay more attention to defining the target group. Many studies that we encountered lacked information about parental education levels. Researchers could distinguish at least three levels of education: the level of attainment of high school, below and above high school. However, it would be desirable to distinguish parental education levels more precisely. In particular, the group of lower-educated parents is much more heterogeneous than the often used criterion of 'high school as the highest attained level of education' would suggest. This group can vary in country of origin and mother tongue, culture, level of education, biography, life conditions, job or expectations, and type of immigration (Wasik & Van Horn, 2012). In addition, there are many parents with little or no schooling and minimal literacy skills in their first or second language, who are also struggling with their oral skills in the second language and with the notion that print carries meaning (Allemano, 2013; Beacco et al., 2014; Scheele, 2010). Many of these low-literate, lower-educated migrant parents differ from mainstream parents in their home literacy experiences, home literacy activities, their beliefs about what counts in educating children, and

in their knowledge about activities that trigger language development (Aarts, Demir-Vegter, Kurvers, & Henrichs, 2016; Scheele, 2010). Parental literacy skills should be used as an additional indicator to define the target group, which has only been reported scarcely (Manz et al., 2010; Senechal, 2008; 2012). However, testing literacy skills can be intrusive and time-consuming. Self reports and observations may be useful alternatives to estimate literacy levels, for instance, based on observations of parents filling out a form or when reading with their child. More detailed descriptions of the characteristics of lower-educated target groups allow researchers to conduct more systematic comparisons of interventions directed at these groups.

More research investigating the effectiveness of family literacy interventions that use talk and play activities adapted to family situations to promote oral language development of young children is recommended. Our findings suggest that such adapted talk and play activities are more effective for lower-educated parents than fixed (pre-programmed) activities emphasizing the use of print. There seems to be a tendency in the literature to prioritize family literacy interventions that focus on school-related activities and literacy skills instead of on the family context. In contrast, we suggest focusing on how to contribute to more effective parental support of emergent literacy development by using families' social cultural resources. This research should focus on interventions aimed to adapt to and influence parental knowledge and beliefs.

Finally, we have some recommendations that can expand our knowledge about the effectiveness of interventions directed at talk and play activities. First, it is important to pay attention to precise descriptions of the investigated activities and strategies. We excluded a substantial number of studies for this review due to a lack of information about the intervention. Second, further research should investigate if activities can contribute to oral language and literacy development simultaneously. Third, in light of the complexity of oral language skills, researchers could use a variety of posttests that can provide insight into the effectiveness of the intervention, for example, the amount of oral language (i.e., word count) and standardized tests (e.g., productive vocabulary). Only three studies used combinations of these types of posttests. We recommend the use of posttests to measure children's oral language development in both the first (home) and second language to be able to appreciate effects in both languages.

***Implications for practice***

We have three recommendations for practitioners who aim to support lower-educated parents to promote oral language at home. First, we suggest using talk and play activities and a combination of responsive communication and oral language strategies. Suitable activities include storytelling, sharing experiences about past events, or forms of social play. The main goal should be to support parents to facilitate the child to be an equal discussion partner leading to an enrichment of the child's vocabulary. Three basic steps can support parents to

enrich their dialogues with the child. Many lower-educated parents lack the knowledge and experience for such dialogues. First, it is important to use explicit instructions to follow the child's initiative, to change turns, and to wait for the child to respond (Sheridan et al., 2011). For instance, a social play activity as 'I spy' can include explicit instructions to give time to the child to think, and to change turns after the right answer. Second, dialogues can be enriched by using *scaffolding*. This strategy can naturally intertwine both emotional and cognitive support, by following the child's perspective and challenging the child by the use of acquired language and new language (Landry et al., 2008). Parents should follow the children's interests and sensitively support and encourage their initiatives (Boyce et al., 2010). Parents should be supported to ask open questions linked to the interests of the child. Third, parents can ask children to talk about their past *experiences*, a strategy that challenges the child to use decontextualized language (Reese et al., 2010).

Our second recommendation is directed at the delivery modes that contribute to the effectiveness of the intervention. We recommend adapting the intervention to the families' social environment in two steps. The first step is to determine which familiar activities can be used to deliver the strategies (Landry et al., 2008). Therefore, practitioners could map out the social-cultural environment of the family, such as daily routines and the activities that they enjoy (Boyce et al., 2010). Background information such as parental education levels, their language skills in the dominant or a minority language, and their literacy skills can provide insight into parental knowledge and skills. By building reciprocal relationships with parents and children (Bakker et al., 2013; Lusse, 2013), intervention activities and goals can be adapted to the sociocultural environment of the family. The second step is to help parents practice the strategies repeatedly with the child and coach the dyads to use the strategies (Wasik & Sparling, 2012). If possible, translators or native speakers should be involved (Boyce et al., 2010).

Our final recommendation is to explore how teachers can play a role in supporting lower-educated parents to promote oral language at home (Neuman et al., 1995). Teachers can have a unique position to collaborate with parents directed at strengthening oral language development in a sustainable way (Sheridan et al., 2011). However, most teachers lack the knowledge to collaborate with parents effectively, especially when it concerns lower-educated parents (Bakker et al., 2013). Therefore, they should be trained to fulfil this role and establish collaboration that strengthens home support adapted to family needs and perspectives (Pelletier & Corter, 2005; Sheridan et al., 2011). Training sessions with child involvement can take place during school activities and during home visits in which the parent and child carry out activities together (Jacobs, 2004). In both situations, teachers can play an important role in supporting lower-educated parents, thereby contributing to the enrichment of the home language environments of their children.


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# Creating partnerships between schools and lower-educated parents to enhance young children´s language development. A formative evaluation

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# ABSTRACT

Parental support is critical for young children's language and literacy development. It is important that teachers are aware of this parental role. Particularly in the case of lower- educated parents, teachers can improve their education when they engage parents in partnerships to support young children's language development. These parents are often challenged to provide a rich home language environment with opportunities for interaction and using language. However, teachers have little experience in building partnerships with lower-educated parents. We designed a series of interventions to establish partnerships between school and lower-educated parents and to encourage rich parent-child interactions, based on the literature. In close collaboration with teachers, principals, and parents, we evaluated the application of these interventions using interviews, questionnaires, and classroom observations. We present the results of this formative evaluation and examine the implications for future practice in developing partnerships between school and lower-educated parents directed at young children's language development. We focus on understanding how partnership approaches can contribute to tailoring interventions to teachers' and lower-educated parents' perspectives.

# INTRODUCTION

Parental support is critical for young children's language and literacy development (Aikins & Barbarin, 2008; Sénéchal & LeFevre, 2002; Storch & Whitehurst, 2002). The Home Language Environment (HLE), defined as the way parents engage their children in daily interactions (talking about what to cook, eat or what had happened during the day) and activities (e.g., playing games, shared reading), affects children's language and literacy skills, which are related to (later) school performance (Leseman & De Jong, 1998; Niklas & Schneider, 2013; Sénéchal & LeFevre, 2014). The richness of HLEs in families varies (Van Steensel, 2006). Particularly lower-educated parents, with education levels of lower secondary education at most (OECD, 2015, p. 15), are challenged in providing a rich HLE for their children (Gilkerson, Richards, Warren, Montgomery, Greenwood, Oller, & Hansen, 2017; Rowe, Denmark, Harden, & Stapleton, 2016; Van Tuijl, Leseman, & Rispens, 2001). Compared to higher-educated parents, these parents tend to be less familiar with providing HLEs of sufficient quality and quantity (Leseman & De Jong, 1998; Van Steensel, 2006) and with practicing sensitive communication with their children (Dodge, Pettit, & Bates, 1994; Hart & Risley, 1995; Hoff, 2013; Mistry, Biesanz, Chien, Howes, & Benner, 2008). Particularly parents' use of decontextualized language, referring to objects and situations that are not present in the immediate environment, is important for preventing children's language and literacy delays (Curenton, Craig, & Flanigan, 2008; Van Kleeck, 2008; Rowe, 2012). In general, poor HLEs can be at the core of children's language and literacy delays (Gilkerson et al., 2018; Hart & Risley, 1995). Therefore, knowledge about pupils' HLEs is important for teachers and schools when deciding on the proper conditions for language and literacy learning (Hoff, 2013).

The significance of teachers' efforts to connect to families HLEs is acknowledged in the literature (Bronfenbrenner, 1977, 1992; Epstein, 1987; Goodall & Vorhaus, 2011). Nevertheless, working with parents with lower education levels and diverse cultural backgrounds can be a struggle for many teachers (Bakker, Denessen, Dennissen, & Oolbekkink-Marchand, 2013; Jeynes, 2010; Lusse, Notten, & Engbersen, 2019a; Noel, 2016; Santoro, 2009; Waddel, 2013; Walker, 2019). Several programs have been developed to establish partnerships between schools and parents of diverse educational levels and cultural backgrounds (Sheridan, Knoche, & White, 2019; Van Voorhis, Maier, Epstein, Loyd, & Leung, 2013). These programs emphasize an inviting attitude (e.g., asking parents to be involved, making them feel welcome), transparent school procedures that establish reciprocal relationships (e.g., introductory conferences), and continuous alignment of child support between teachers and parents (Anderson & Minke, 2007; Deslandes & Bertrand, 2005; Epstein & Sanders, 2006; Hoover-Dempsey et al., 2005; Lusse, Van Schooten, Van Schie, Notten, & Engbersen, 2019b; Sheridan et al., 2019). However, it is still unclear how teachers can establish partnerships to support lower-educated parents effectively in their young children's language development (Sheridan, Knoche, Kupzyk, Edwards, & Marvin,

2011; Van der Pluijm, Van Gelderen, & Kessels, 2019). A major problem is that teachers have little knowledge about families' backgrounds (Banks & Banks, 2004; Manz, Hughes, Barnabas, Bracaciello, & Ginsburg-Block, 2010; Van der Pluijm, 2014), leading to a lack of understanding of their needs in terms of supporting children's language development (Hutchins, Greenfeld, Epstein, Sanders, & Galindo, 2013; Scott, Brown, Jean-Baptiste, & Barbarin, 2012).

These problems have also been reported by teachers using Family Literacy Programs (FLPs), which are specifically aimed at involving parents and children together to improve children's language and literacy development (Hannon, 2003). Teachers engaged in these programs still experience serious difficulties in involving lower-educated parents in program activities and in following its guiding principles (Powell & Carey, 2012; St. Pierre et al., 2003; Teepe, 2018). For example, the use of modeling, a technique for demonstrating program activities to lower-educated parents is a problem (De la Rie, 2018). Moreover, teachers often tend to select activities that are tailored to higher-educated parents without considering the abilities of lower-educated parents (e.g., lack of experience with certain types of activities and literacy problems) (Boyce Innocenti, Rogman, Jump Norman, & Ortiz. 2010; Reese Leyva, Sparks, & Grolnick. 2010a; Van der Pluijm et al., 2019). These problems can explain why FLPs often have little effect on children's language development, particularly on children from lower-educated family backgrounds (De la Rie, 2018; Mol, Bus, De Jong, & Smeets, 2008; Reese, Sparks, & Leyva, 2010b).

The mismatch between language interventions for lower-educated families and their needs and perspectives has led to calls for partnership approaches with more adapted support (Anderson, McTavish, & Kim, 2017; Manz et al., 2010; Van Steensel, Herppich, McElvany, & Kurvers, 2012). Programs that prepare teachers to establish these School-Family Partnerships (SFPs) in support of children's language development should therefore acknowledge the complexity of the skills required (Epstein & Sanders, 2006; Goodall & Voorhaus, 2011) and offer teachers a frame of reference consisting of adequate knowledge, sensitive communication skills, and empathy (cf., Walker, 2019). Furthermore, such programs are most effective when they are situated in the authentic education context and in close collaboration with their main users (Epstein & Sanders, 2006; Kessels, 1999; McKenney & Reeves, 2012; Van Veen, Zwart, & Meirink, 2012). Against this background, we developed a prototype for a program that aims to professionalize teachers in building SFPs with lower-educated parents to contribute to a richer language environment for their young children. The prototype is based on five provisional design principles. This study shows how the prototype was used in a series of school contexts and how it can be better adapted to the needs and resources of teachers and lower-educated parents.

## Conceptual framework for the prototype to establish SFPs in support of young children's language development

The prototype draws upon the assumption that families are the most important domain where young children acquire language (Bronfenbrenner, 1977; 1992; Epstein, 1987) and is built on existing theory on SFPs (Epstein, 1992; Hoover-Dempsey et al., 2005; Lusse, 2013; Sheridan et al., 2019) and the experiences from extensive fieldwork with teachers and parents (Van der Pluijm, 2014). It consists of a whole classroom approach, enabling teachers to adapt their approach to lower-educated parents. Based on the literature (Boyce et al., 2010; Epstein & Sanders, 2006; Hoover-Dempsey et al., 2005; Landry, Smith, Swank, & Gutentag, 2008, Lusse, 2013; Reese et al., 2010a; Sheridan et al., 2011), we identified five design principles for building SFPs with lower-education parents in support of their children's language development: (1) Assess the HLE of families, (2) Establish a school policy that includes intentional SFP procedures, (3) Establish reciprocal relationships, (4) Arrange interactive parent-child activities, (5) Stimulate language strategies to support parental interaction with the child. These design principles form the skeleton of the program and are complemented by intended teacher behavior and tools for teachers.

The first design principle and corresponding tool (class inventory list) require teachers to explore families' HLE to improve their understanding of families' needs and resources on which they can base their interventions (Hoover-Dempsey et al., 2005; Hutchins et al., 2013). Teachers gain understanding if they have insight into parents' abilities (e.g., educational levels, literacy skills, language proficiency), learn about their preferred family activities (e.g., playing games, shared reading, or other family interests), routines (e.g., having meals or walking to school) and how parents usually interact with their child (Moll, Amanti, Neff, & Gonzalez, 1992; Van der Pluijm et al., 2019).

The second design principle and tool (SFP procedural guidelines) require teachers to critically review their existing procedures with parents (e.g., parent-teacher conferences to discuss child progress, collective parent meetings) and make an action plan with procedures to build SFPs in line with parental resources (Epstein & Sanders, 2006; Hoover-Dempsey et al., 2005). Teachers and their colleagues are encouraged to translate these procedures to school policy to establish coherence at the school level (Epstein, 2013; Epstein & Van Voorhis, 2012).

The third design principle and corresponding tool (reciprocal communication guidelines) require teachers to ensure that all parents feel invited and are recognized as equal partners (Hoover-Dempsey et al., 2005; Lusse, 2013; Manz et al., 2010; Sheridan et al., 2019). Teachers are stimulated to be open to parents, value parents' perspectives, and build on parents' interests and capacities (Scott et al., 2012; Van Regenmortel, 2009). They are encouraged to use reciprocal communication strategies during their communication with parents and align teachers' and

parental goals to support the child at school and at home (Anderson et al., 2017; Lusse et al., 2019b; Walker & Leg, 2018). These first three principles aim to align parents' and teachers' needs and resources for their joint interventions (cf., De la Rie, 2018; Meyers, Durlak, & Wandersman, 2012).

The fourth design principle and tool (parent-child activity checklist) require teachers to regularly arrange interactive parent-child activities, e.g., talk and play activities (Reese et al., 2010a; Van der Pluijm et al., 2019). These activities need to be adapted to the resources and capabilities of lower-educated parents by creating a low threshold for lower-educated parents (e.g., use easy language, avoid written materials, encourage the use of the home language, and use themes that are familiar to parents), providing intentional support (e.g., explain activities in a simple way, explain how they impact children's oral language development, use modeling) and using reciprocal communication strategies (e.g., share perspectives and beliefs, give positive feedback).

The fifth design principle and corresponding tool (oral language strategy guidelines) require teachers to develop language strategies to support the parent-child interaction both in quantity and quality (Hoff, 2013; Van der Pluijm et al., 2019). Teachers are encouraged to first focus on strategies that stimulate the process of talking, such as stimulating child initiative, turn-taking, asking open-ended questions, and scaffolding by continuous sensitive behavior (Landry et al., 2008; Leung, Hernandez & Suskind, 2018). Next, teachers can explain strategies to expand children's use of language, such as extending the use of words in a sentence to increase the quantity of language and supporting dialogues that require the use of decontextualized language (Reese et al., 2010a; Rowe, 2012; Van Kleeck, 2008).

## This study

We conducted a multiple case study (Yin, 2018) to gain in-depth insights into how each teacher interacted with parents in different classroom contexts where we implemented the prototype, as a part of design research. This research aims to investigate how the prototype contributes to the establishment of SFPs with lower-educated parents in support of children's language development and whether any modifications are needed. This prototype was developed based on a review of the literature (see Chapter 2; Van der Pluijm et al., 2019) and an extensive needs analysis (Van der Pluijm, 2014). The research was set up as a partnership model by involving teachers, parents, and school principals in an iterative process of collaborative learning in the authentic context of the schools (McKenney & Reeves, 2012) aimed at aligning these stakeholders' perspectives and fostering ownership (Engeström, 2001; Kessels, 1999; Manz et al., 2010).

Our main research question is: *What modifications of the prototype are needed to contribute to sustainable SFPs directed at lower-educated parents and their young children's language development?*

To answer this central question, we formulated four subquestions:

1. Are teachers able to implement the prototype in their classroom?
2. Do teachers perceive the prototype as usable?
3. Does the prototype contribute to (lower-educated) parental involvement in support of young children's language development?
4. How can school teams continue their SFPs in support of children's language development?

# METHOD

## Participants

We contacted 19 primary schools in the city of Rotterdam (the Netherlands) in areas with high percentages of lower-educated families. An additional criterion for participation was prioritizing the collaboration with lower-educated parents as a key activity for at least one year. If schools were interested, we informed them about the objectives and conditions of our research. We requested each school to appoint at least two teachers of preschool (pupils aged 3 to 4), kindergarten (pupils aged 4 to 6), first grade (pupils aged 6 to 7), and/or second grade (pupils aged 7 to 8). In addition, we requested schools to appoint members (teachers, the principal, and the parent educator) to participate in the design teams. Three schools with five locations agreed to our objectives and were invited to participate. In these three schools, we asked parent educators to involve parents at school through informal contacts with parents and through regular parent meetings about child education (e.g., stimulating child learning, healthy food). The teachers (10), principals (6), and parent educators (3) were prepared to be intensively involved in the research activities. The teachers taught four different age groups: preschool (1), kindergarten (5), grade 1 (1), and grade 2 (3). In total, parents of 178 children were involved in the classrooms of these ten teachers. Most of these parents were lower educated: 37% of the parents had attained primary education as their highest education level, 35% had completed secondary education up to the age of 15. The remaining 27% of the parents had finished education ranging from secondary school at 16 or older to university.

## The prototype to establish SFPs in support of young children's language development

The prototype of the intervention consisted of the five design principles of the conceptual framework that were translated into intended teacher behavior and accompanied by tools to support teachers' actions (see Figure 3.1).

**FIGURE 3.1:** Operationalization of design principles

| Design principle | Intended teacher behavior | Tool |
|---|---|---|
| 1. Assess the HLE of pupils | Teachers gather information about parental backgrounds and their interactions with their child. | Class inventory list |
| 2. Establish a school policy that includes SFP procedures in support of child language development | Teachers systemize their SFP procedures (informal contact, introductory conferences, etc.). | SFP procedures guidelines |
| 3. Establish reciprocal relationships with parents | Teachers show inviting behavior to involve parents during informal and formal procedures (e.g., introductory conferences with parents). | Reciprocal communication guidelines |
| 4. Arrange regular interactive parent-child activities | Teachers conduct weekly parent-child activities that stimulate interaction adapted to the parents' needs. | Parent-child activity checklist |
| 5. Stimulate language strategies to support the parent-child interaction | Teachers explain and model how parents can stimulate and expand the child's use of oral language. | Oral language strategy guidelines |

***Professionalization strategy***

Teachers were guided by a series of professionalization activities for each of the five design principles aimed to stimulate them to develop an integrated reference frame of working with parents (Dee Fink, 2013). We distinguished two main domains of professionalization. First, we focused on teachers' knowledge (e.g., information about the impact of the parental role on children's language development) and skills to work with parents (e.g., reciprocal communication strategies or modeling) and their ability to integrate this knowledge and skills (e.g., evaluating design principles and linking theory to design new solutions). Second, we focused on teachers' personal development, consisting of improved understanding of one's self and relevant others (e.g., teachers assess their own performance critically or use observations of parents to adjust their own views), dedication to this new aspect of their profession (e.g., showing timely and responsive behavior towards parents), and awareness of one's preferred learning style (e.g., identifying ways and needs to continue learning).

Our professionalization process acknowledged teachers' need for autonomy, competence, and relatedness (Deci & Ryan, 2000). This implied that teachers could develop plans depending on their time and energy and were provided with positive feedback on their performance to support their feelings of self-efficacy (Hattie & Timperley, 2007). In addition, teachers were coached to find satisfying solutions to improve their practice and overcome barriers (Van Veen et al., 2012). Situated learning, embedding learning in teachers' authentic work, was used to meet the needs of teachers and facilitate deep learning (Ericson, 2006; Kemmis & McTaggart, 2005; Kolb, 2014; Korthagen, 2010; Walker & Dotger, 2012).

Three types of activities were employed to facilitate the process of developing teachers' professional behavior. First, we organized workshops (four sessions of 90 minutes) to explore the theoretical backgrounds underpinning the prototype and exploring teachers' contexts and questions. Preliminary simulations were enacted to design and test teachers' solutions and discuss possible behavior (Walker & Leg, 2018). Second, we formed design teams at each of the three schools with teachers, principals, parent educators, and researchers to develop and evaluate solutions for teachers' practice and school policy (six sessions of 90 minutes). Third, we supported teachers individually through continuous plan-act-reflect coaching cycles in their classrooms (approximately 22 sessions with each teacher). We continued these coaching sessions until we found satisfying solutions for teachers' practices, and until teachers were confident in using the required skills (Van Veen et al., 2012).

***Participation in professionalization sessions***

We invited teachers, parent educators, and principals to participate in workshops and design activities that supported professional development at their school locations. All participants of each of the schools took part in the workshops that were organized at the five locations. The group of ten active teachers, the principals, and parent educators were all invited to the design sessions. Two teachers participated in the first three sessions only (design principles 1 to 3) and then decided not to extend their SFPs (see later). One teacher stopped after testing design principle 4. The other seven teachers participated in all the sessions. Finally, ten teachers participated in cyclic testing in classrooms. Seven teachers completed the full range of cycles to implement the prototype. The three teachers that stopped during the design teams also stopped testing in classrooms. The parent educators participated only two or three times due to other duties. The school principals participated in all the sessions.

## Procedure

The study took place from January 2013 until the summer of 2014. To facilitate the process of collaborative learning and research, we prepared a schedule for each of the three school teams that included workshops, testing sessions of the prototype in the classroom, and meetings with design teams dependent on teachers' agendas. The first author, an experienced process

manager and coach, combined the roles of process leader, designer, and researcher. Balancing between these roles required different principles and activities (Akkerman, Brinkhorst, & Zitter, 2011). Therefore, plans for these three procedures were developed, focusing on the aims of the change process, the design project, and knowledge generation about the usability of the intervention (McKenney & Reeves, 2012). The first author was assisted by three students of pedagogy from the Rotterdam University of Applied Sciences.

**TABLE 3.1:** Design procedure and collected data

| Phase | Data collection | Planned number |
|---|---|---|
| **Start** | | |
| | Structured observations teachers | 2 per teacher |
| | Participant observations classroom | 2 in each classroom |
| | Interviews with teachers | 1 per teacher |
| | Group interview with design team | 1 at each school |
| **Implementation process (iterative testing)** | | |
| Design principle 1: | Participant observations classroom | 5 in each classroom |
| | Participant observations design team | 1 at each school |
| | Structured observations teachers | 1 per teacher |
| | Interviews teachers | 1 per teacher |
| Design principle 2: | As design principle 1 | |
| Design principle 3: | As design principle 1, 2 | |
| | Additionally: structured observations parent involvement | 2 in each classroom |
| Design principle 4: | Participant observations classroom | 6 in each classroom |
| | Participant observation design team | 1 at each school |
| | Structured observations teachers | 2 per teacher |
| | Interviews teachers | 2 per teacher |
| | Structured observations parent involvement | 2 in each classroom |
| Design principle 5: | As design principle 4 | 6 in each classroom |
| **After implementation** | | |
| | Interviews with teachers | 1 per teacher |
| | Group interviews with parents | 1 in each classroom |
| | Group interviews with design team | 1 at each school |

Teachers informed parents about the aims of the research and the activities and requested their consent. This was done in writing, with teachers giving the letter to parents personally and ascertaining that parents agreed to participate in this research. Teachers involved parents during each of the steps to implement the design principles. Knowledge about the usability of the intervention was obtained before, during, and after the implementation of the five design principles of the prototype (see Table 3.1: Design procedure and collected data). Participant

observations took place at schools at least one morning a week, ensuring that each tryout of the design principles was observed and discussed with teachers. We followed teachers' abilities and schedules, leading to different numbers of participant observations for different schools. Interviews were audiotaped, and video recordings of classroom activities were made.

## Data collection and analysis

We used a variety of data sources to answer the research questions. Table 3.2 gives an overview of our research questions, our data sources, and how we present our results.

**TABLE 3.2:** Overview of research questions, data sources, and results

| Research question | Data sources | Results |
|---|---|---|
| 1. Are teachers able to implement the prototype in their classrooms? | Structured observations teachers<br>Participant observations | Table of implementation intended teacher behavior<br>Qualitative summary |
| 2. Do teachers perceive the prototype as usable? | Interviews teachers<br>Participant observations | Table with individual teacher perceptions<br>Qualitative summary |
| 3. Does the prototype contribute to (lower-educated) parental involvement in support of young children's language development? | Structured observations parental involvement<br>Participant observations | Percentage parental involvement in classroom and participation/ duration in parent-child activities<br>Qualitative summary |
| 4. How can school teams continue their SFPs in support of children's language development? | Interviews design teams<br>Participant observations | Qualitative summary |

### *Observations*

We carried out two types of observations:

1. *Structured observations in classrooms, partly by video*

We observed teachers' and parents' enactment before and after the implementation of each of the design principles of the prototype:

- Teachers were observed using a coding scheme that followed the intended behavior of the prototype. Based on a revised version of Lusse (2013), we monitored whether teacher behavior followed the five design principles of prototype. We classified teacher adherence as *convincing* if the teacher integrated at least one aspect of the step, and *strong* if two or more aspects of a specific step were used. These codes were summarized in a matrix. In addition, details of the intended behavior or adaptations were qualitatively described (McKenney & Reeves, 2012). This process led to a qualitative summary.

- Parent involvement was observed using a semi-structured observation scheme. Monitoring started before and after implementation of the third, fourth, and fifth design principles. We monitored the number of reciprocal relationships by parental involvement during informal contacts with teachers and registered the amount of eye contact, the number of exchanges with the teacher, and the number of parents that entered the classroom *[design principle 3]*. We monitored the number of parents and the duration of their involvement in parent-child activities (from the moment the activity started by the teacher until the first parent left the classroom). We also monitored the number of parent-child dyads that showed moments of joint attention, defined as the moments that parent and child were visually focused on an object during the activity for at least three seconds (Tomasello & Todd, 1983) *[design principle 4]*. These data were summarized in tables and included the duration of activities and percentages of involved parents. We qualitatively described parents' sensitive behavior (e.g., support of child initiative versus directive parent behavior, encouragements versus discouragements, scaffolding) (Landry et al., 2008), and their behavior to stimulate more quantity (e.g., turn-taking, asking open questions, expanding number of words) (Boyce et al., 2010) and quality of language (e.g., asking questions referring to objects or situations absent in the immediate context) (Van Kleeck, Gillam, Hamilton, & McGrath, 1997) *[design principle 5]*.

*2. Participant observations*

The research team participated actively during the design sessions and the testing in classrooms. They also took part in daily school routines and had informal talks with teachers and parents. This involvement contributed to the feelings of partnership and trust so that teachers, children, and parents felt comfortable and in a safe environment. Participant observations contributed to the researchers' in-depth insights into the motivations and perceptions of the participants. We used pre-coded logbooks to describe participants' behavior, following the leading theoretical concepts of the AHL framework (e.g., establishing reciprocal relationships).

***Interviews***

We conducted three kinds of interviews to determine the usability of the prototype:

*1. Semi-structured interviews with teachers after the tryouts*

We asked teachers to evaluate the usability of the prototype in the classroom measured by three variables (McKenney & Reeves, 2012), its *compatibility* (to what extent is the prototype connected to existing activities or can it be connected), its *feasibility* (to what extent do teachers have sufficient time, space, and resources to implement the prototype, and its *relevance* (do teachers perceive that the prototype contributes to establishing partnerships with parents' and

children's involvement). Second, we evaluated the *successfulness* (the perceived contribution of the prototype to successful partnerships that enrich children's language environment) (Bradley & Reinking, 2010) and teachers' suggestions to further optimize the usability and successfulness of the prototype, including the implementation of the prototype and the possible modifications to the design principles.

*2. Semi-structured group interviews with parents after tryouts in seven classrooms (n =83)*

We asked parents' perceptions of their relationship with the teacher and the usability of the oral language support for them as parents. We asked specifically about the compatibility, the feasibility of the activities, and their relevance (McKenney & Reeves, 2012). Finally, we asked parents to provide suggestions for optimizing the parent-child activities.

*3. Semi-structured group interviews with three design teams*

Questions were structured using the framework of McKenney & Reeves (2012), exploring the success factors for sustained maintenance of the design. We asked the teams to evaluate the SFPs in support of children's language development on three themes:

1. Strengths of the design that may contribute to further implementation (i.e., value, transparency of the intervention, compatibility, tolerance of the framework).
2. Additional needs to improve the design or implementation.
3. Suggestions that further support the use of the prototype in school teams (i.e., strategies for implementation and spread), recognizing the immediate context (e.g., capacity, abilities, school policy, teacher beliefs), and broader surrounding environment (e.g., national policies, funding).

***Analysis***

All interviews and video recordings were transcribed. We used thematic coding for our qualitative summaries (Braun & Clarke, 2006), recognizing previously defined concepts based on the literature defined in our theoretical framework (e.g., reciprocal relationships adapted activities to lower-educated parents, child initiative). Additional open coding was used for concepts that were found during data collection (Saldaña, 2013) (e.g., stimulating roles, prioritizing language). Data analyses took place continuously by the researcher together with one of the assistants, who coded the data independently. These codes were discussed until there was full agreement. Results were validated with teachers to ascertain that researchers' interpretations corresponded to teachers'views (Yin, 2018).

We compressed our data in overviews, illustrating behavior and perceptions of the individual cases (teachers) or percentages of parental involvement in classrooms. Further analysis took

place by comparing data of interviews and observations and by investigating patterns. Based on our observations and interviews, we noticed that some teachers were less motivated to implement design principles 4 and 5 of the prototype. We compared their explanations (e.g., prototype is not usable for my population) with our results of other cases. We also searched for explanations for increases of observed interaction between parents and children and if these increases could be explained by observed teacher behavior.

# RESULTS

## Are teachers able to implement the prototype in their classrooms? (research question 1)

We used observations to examine whether the teachers had managed to implement the intended behavior and apply the tools. Table 3.3 shows the results.

**TABLE 3.3:** Implementation of intended behavior and application of tools by teacher

| | T1 | T2 | T3 | T4 | T5 | T6 | T7 | T8 | T9 | T10 |
|---|---|---|---|---|---|---|---|---|---|---|
| **1. Assess the HLE of pupils** | | | | | | | | | | |
| Intended behavior | + | +/- | +/- | +/- | + | +/- | +/- | +/- | + | +/- |
| Tool: class inventory list | + | + | + | + | + | + | + | + | + | + |
| **2. Establish a school policy incl. SFP procedures** | | | | | | | | | | |
| Intended behavior | + | + | + | + | + | + | + | + | + | + |
| Tool: SFP procedural guidelines | + | + | + | + | + | + | + | + | + | + |
| **3. Establish reciprocal relationships with parents** | | | | | | | | | | |
| Intended behavior | + | + | + | + | + | + | + | + | +/- | +/- |
| Tool: reciprocal communication guidelines | + | + | + | + | + | + | + | + | + | + |
| **4. Arrange regularly interactive parent-child activities** | | | | | | | | | | |
| Intended behavior | + | + | + | + | - | - | + | +/- | + | + |
| Tool: parent-child activity checklist | + | + | + | + | - | - | + | + | + | + |
| **5. Stimulate language strategies to support the parent-child interaction** | | | | | | | | | | |
| Intended behavior | + | + | + | + | - | - | + | - | + | +/- |
| Tool: oral language strategy guidelines | + | + | + | + | - | - | + | - | + | + |

*T=teacher; + = convincingly implemented, +/- = partly implemented, - = not implemented.*

Table 3.3 shows that practically all teachers convincingly implemented the first three design principles and applied the tools. All teachers gathered information about parental backgrounds (educational levels, literacy skills, home language) and used the class inventory list to assess the HLE of the pupils. Three teachers (1, 5, and 9) managed to fully assess the nature of verbal parent-child interactions (e.g., richness of language use, language activities) that were included in the class inventory list. However, most teachers needed more knowledge and support to implement the principle. We therefore arranged more (2 to 4) coaching cycles than initially planned. All teachers developed and executed plans with SFP procedures for their classroom (e.g., informal contacts, introductory conferences, weekly parent-child activities). Most teachers managed to establish reciprocal relationships with parents. They showed inviting behavior in informal contacts with parents but needed more (2 to 4) coaching cycles than planned. Teachers were more open when parents entered the classroom when bringing their child (being visible for parents, making eye contact, greeting both child and parent). Teacher 9 and 10 did not set up introductory conferences with parents to build reciprocal relationships. These teachers worked at a school that did not include these conferences as part of school policy and lacked the necessary conditions (e.g., no extra time or support).

Not all teachers were able to successfully implement the last two design principles and use the tools. Eight teachers (1, 2, 3, 4, 7, 8, 9, 10) arranged regular interactive parent-child activities and used the parent-child activity checklist. Two teachers (5, 6) did not implement this design principle and decided to stop further participation. These teachers had fewer parents in their classroom with very low education levels (29% respectively 14% with primary school and less) compared to populations of the other teachers (at least 35%). One teacher (8) did not feel comfortable in his new role of actively engaging parents. The other seven teachers implemented the design principle as intended, including explaining to parents why and how the activity could be stimulating for children and modeling. However, most teachers had to overcome two major barriers. First, some teachers had initial feelings of hesitation and uncertainty to start explaining and modeling to parents. Second, we observed that, although the seven teachers reported that they had adapted their parent-child activities to the needs of lower-educated parents' needs, they decreased their use of these tailored parent-child activities during the testing afterwards. We noticed that teachers needed more encouragement to develop suitable parent-child activities. After extra coaching, the seven teachers developed activities that were more adapted to the parents and children (e.g., Memory). In some classrooms, these activities were less related to the home environment.

Regarding the fifth design principle, seven teachers (1, 2, 3, 4, 7, 9, 10) showed the intended behavior and used the guidelines. One teacher (10) showed less modeling behavior to stimulate interaction. Instead, she directed children and parents to choose books to talk about and explained why talking about books contributed to children's language development.

Afterwards, she explained that it was difficult for her to accept that some parents were unable to help their children (e.g., hesitant speech, insufficient Dutch language proficiency) and how this impacted her motivation. The other six teachers experienced similar difficulties. Their efforts to stimulate interaction between parents and children were often thwarted when parents continued directing the child instead of stimulating child initiative. Each of the seven teachers needed more knowledge and support to establish the principle and more coaching cycles (2-4) than initially planned. During these coaching cycles, additional interactive sessions with parents were designed and tested. These focused on explaining the parent-child activities (e.g., the different roles teachers and parents can play to stimulate children's language development and the value of child initiative). After these sessions, teachers were able to stimulate interaction more easily, as more parents evoked child initiative.

## Do teachers perceive the prototype as usable? (research question 2)

***Perceptions of compatibility, feasibility, and relevance***

We conducted interviews with the teachers to evaluate the compatibility, the feasibility, and the relevance of their work with parents of each of the design principles. We recorded whether their evaluation was positive (+), negative (-), or mixed (+/). Table 3.4 shows the results.

Four teachers (1, 2, 7, 9) evaluated design principle 1 *[Assess the HLE of pupils]* as compatible, feasible, and relevant for their work with parents. Six teachers (3, 4, 5, 6, 8, 10) assessed this principle as less compatible with their work, four teachers (3, 4, 8, 10) as less feasible, and two teachers (5, 6) as less relevant. Moreover, assessing the HLE was new to nine teachers (except teacher 1). Teachers had problems to understand the specific concepts (e.g., parent educational level, literacy skills, home language, interactive parent behavior) and to obtain this information about their pupils' families (e.g., school administration, asking parents, observing). This unfamiliarity influenced their evaluations and led to teachers' suggestions to improve the compatibility (see next section) and feasibility of this design principle. Most teachers decided to implement these improvements since they thought the principle was relevant for their work with children and parents as it improved their insight in families' situations. Some teachers had more parents in their classroom with low levels of education (i.e., 14% to 62% primary education and less, 6% to 43% lower secondary education up to 15 years of age) than they expected. Additionally, teachers observed that parents had more literacy problems (e.g., problems with reading the schools' newsletter, problems with signing forms) than expected (i.e., 33% to 76% of the parents in the classroom). More parents also had a different home language than expected (i.e., 81% to 100%). These eight teachers, who had no prior experience in assessing the home language, reacted positively towards the relevance of the first principle. Two teachers

(5, 6), who had significantly fewer parents with the lowest education levels (29% and 14% with primary school and less, respectively), evaluated this principle as more suitable for teachers with higher percentages of parents who attained primary school and less.

**TABLE 3.4:** Teacher perceptions of the usability of the prototype

| | T1 | T2 | T3 | T4 | T5 | T6 | T7 | T8 | T9 | T10 |
|---|---|---|---|---|---|---|---|---|---|---|
| **1. Assess the HLE of pupils** | | | | | | | | | | |
| Compatibility | + | + | +/- | +/- | +/- | +/- | + | +/- | + | +/- |
| Feasibility | + | + | +/- | +/- | + | + | + | +/- | + | +/- |
| Relevance | + | + | + | + | +/- | +/- | + | + | + | + |
| **2. Establish a school policy incl. SFP procedures** | | | | | | | | | | |
| Compatibility | + | + | + | + | + | + | + | + | + | + |
| Feasibility | + | + | + | + | + | + | + | + | + | + |
| Relevance | + | + | + | + | + | + | + | + | + | + |
| **3. Establish reciprocal relationships with parents** | | | | | | | | | | |
| Compatibility | + | + | + | + | + | + | + | + | + | + |
| Feasibility | + | + | + | + | + | + | + | +/- | + | +/- |
| Relevance | + | + | + | + | + | + | + | + | + | + |
| **4. Arrange regularly interactive parent-child activities** | | | | | | | | | | |
| Compatibility | + | + | + | + | NA | NA | + | +/- | + | +/- |
| Feasibility | + | + | + | + | NA | NA | + | +/- | + | +/- |
| Relevance | + | + | + | + | NA | NA | + | + | + | + |
| **5. Stimulate language strategies** | | | | | | | | | | |
| Compatibility | + | + | + | + | NA | NA | + | NA | + | +/- |
| Feasibility | + | + | + | + | NA | NA | + | NA | + | +/- |
| Relevance | + | + | + | + | NA | NA | + | NA | + | + |

*T=teacher; +=positive, -=negative, +/-=mixed, NA= not available*

All teachers evaluated the second principle *[Establish a school policy that includes SFP procedures in support of child language development]* as compatible, feasible, and relevant. Teachers reported that systemizing SFP procedures helped them to organize their work with parents and prevented them from doing new things without clear intentions. All teachers also considered the third principle *[Establish reciprocal relationships with parents]* to be compatible and relevant. Teachers found that improving their inviting behavior contributed to more positive dialogues with parents. Although teachers were convinced that improving reciprocal communication was important, they often did not have enough time to establish these relationships due to their

hectic work with children. Eight teachers considered reciprocal relationships to be feasible, but two teachers (8, 10) were less positive regarding feasibility. They explained that they had older pupils (aged 7 and 8, grade 2) that usually came to school without their parents. Due to this situation, teachers had little opportunity to have informal dialogues with these parents. Another teacher in grade 2 (teacher 4) did not experience this limitation.

Although arranging regular interactive activities with parents required teachers to overcome barriers, most teachers evaluated this fourth principle as compatible, feasible, and relevant. Most teachers were used to inviting parents in their classroom and felt that these activities improved their existing practice (e.g., higher numbers of parent involvement, more focus). Two teachers (8, 10) experienced the principle as less compatible and feasible. One teacher (10) mentioned that it was more difficult to guide children in this age group (grade 2) when their parents were in the classroom. The other teacher (8) decided to stop participating because he did not feel comfortable in actively engaging parents. Six teachers reported that stimulating the language strategies, the fifth design principle, was compatible, feasible, and relevant. Teacher (10) evaluated the compatibility and feasibility less positively for the same reason as above. She did however value the relevance of this principle.

***Perceived successfulness of the prototype***

After implementation of the fifth principle, seven teachers evaluated the successfulness of the prototype. All teachers experienced substantial improvements in their SFPs on language support. Examples of progress were more intentional partnerships, more meaningful exchanges with parents about child support, more parental support to interact with the child, and more confident children. A teacher: "*I see parents who come here every week. We have the same aims; we want to support their child in communicating. And I see children growing during these moments.*" The teachers who implemented the complete version of the prototype reported that its principles and tools contributed to their performance in their daily practice as a teacher. A teacher (7) said: *"It's my daily routine, but better."* Another teacher (9) said: "*It gives me words to tell what I do or want to do.*" However, some teachers struggled. They became more aware of the diversity of parents' backgrounds and the complexity of the partnership. A teacher: "*I see parents who talk more with their child, which is progress. But I also see where parents come from. They aren't used to the role we ask them to play. They need time to get used to that role.*"

***Suggestions for optimization of the usability***

Teachers suggested improving the usability of the prototype by adjusting their school intake procedure and focusing more on parental backgrounds and their HLE (first design principle). Teachers also suggested using the class inventory list again later during the school year to complement initial overviews with new impressions about the HLE. Most teachers felt that intentional SFP procedures (second design principle) should be part of school policy and could

thereby contribute to improving the compatibility and feasibility for teachers of this principle. Similar suggestions were given for the third principle. Incorporating reciprocal relationships with parents as part of school policy could contribute to more shared practices and better conditions (e.g., time schedules). The two teachers who were not able to conduct introductory interviews provided suggestions regarding the third principle. These teachers recommended adding an additional option to the tool 'Outline reciprocal communication guidelines' for teachers working in school teams where the concept of the introductory interviews is not part of school policy and where there might be a lack of the needed conditions to conduct these interviews. This option should point out the importance of informal contact when parents drop off and pick up their children at school. This can also contribute to reciprocal relationships.

Another suggestion refers to the fourth design principle. Teachers suggested extending the parent-child activity checklist by encouraging teachers to value the use of the home languages and to support dyads to use their preferred language during the parent-child activities. Teachers reported that this support stimulated parent-child interaction. Other suggestions refer to scheduling extra coaching sessions for parents to focus on sharing knowledge and beliefs about children's oral language development. Teachers also require more tools to prevent parents from being goal-oriented during activities.

Final suggestions were given by the three teachers that stopped implementing the design principles. Two teachers (5, 6) suggested targeting only schools with high numbers of parents with only primary education. The other teacher (8) suggested using the prototype in preschool, kindergarten, and grade 1. However, other teachers did not agree with these suggestions. They thought that parents with secondary, middle, and higher education levels and different age groups could also benefit from participating in the program.

## Does the prototype contribute to (lower-educated) parental involvement in support of young children's language development? (research question 3)

***Observations before and after implementation of the third design principle [Establish reciprocal relationships with parents].***

We observed parental involvement in the classrooms of the ten teachers during an informal contact (dropping the child off at school) before and after teachers implemented the third design principle. Table 3.5 shows the percentages of parents who greet teachers and make eye contact, have exchanges with teachers, and those who enter the classroom.

**TABLE 3.5:** Percentages of parental involvement before and after implementation

| | Parents have eye contact with teacher | | Parents have exchanges with teacher | | Parents enter classroom | |
|---|---|---|---|---|---|---|
| **Teacher** | **before** | **after** | **before** | **after** | **before** | **after** |
| 1 (grade 1) | 85% | 100% | 31% | 38% | 69% | 100% |
| 2 (kindergarten) | 56% | 100% | 44% | 56% | 31% | 67% |
| 3 (preschool) | 80% | 90% | 30% | 60% | 80% | 90% |
| 4 (grade 2) | 30% | 60% | 15% | 25% | 15% | 45% |
| 5 (kindergarten) | 71% | 95% | 14% | 19% | 33% | 57% |
| 6 (kindergarten) | 50% | 45% | 18% | 23% | 41% | 41% |
| 7 (kindergarten) | 25% | 100% | 7% | 31% | 31% | 81% |
| 8 (grade 2) | 19% | 75% | 0% | 19% | 13% | 25% |
| 9 (kindergarten) | 71% | 95% | 14% | 19% | 33% | 57% |
| 10 (grade 2) | 13% | 39% | 5% | 22% | 13% | 39% |

Parents of children in all classrooms (except classroom of teacher 6) had more eye contact with teachers and entered the classroom more often after implementation of design principle 3. Parents in all ten classrooms increased their exchanges with the teacher. As might be expected due to children's increased autonomy around the age of seven (grade 2), parents went into their children's classrooms (teachers 4, 8, 10) less frequently, compared to other classrooms with younger children.

***Observations before and after implementation of the fourth design principle [Arrange regular interactive parent-child activities]***

Table 3.6 shows the percentages of parental involvement during parent-child activities and their duration (the classrooms of teacher 5 and 6 are excluded as these teachers stopped implementation).

Parents' participation during parent-child activities increased in seven of the eight classrooms that implemented the fourth design principle. Percentages of participation after implementation ranged from 40% to 95%. Before implementation, there were no parent-child activities in two grade 2 classrooms (teachers 8, 10), but after implementation, approximately half of the parents were involved in activities. The duration of parental participation in the parent-child activities in each of the eight classrooms increased after implementation. The duration of participation (until the first parent left) varied from 11.36 to 33.18 minutes. We observed a decrease in one classroom (1). However, parent participation in this teacher's classroom was very high during the first observation. Observations showed that this classroom had the highest and most stable parent participation, except for this moment of observation.

**TABLE 3.6:** Percentages of parental participation during parent-child activities and duration

| | % of parent participation* | | | Duration of participation** | | |
|---|---|---|---|---|---|---|
| **Teacher** | **before** | **after** | **result** | **before** | **after** | **result** |
| 1 | 92% | 77% | -15% | 12.31 | 18.11 | +5.8 |
| 2 | 10% | 75% | +65% | 4.51 | 22.02 | +17,51 |
| 3 | 40% | 90% | +50% | 3.37 | 22.10 | +18,73 |
| 4 | 10% | 80% | +70% | 5.22 | 25.51 | +20.29 |
| 5 | No data | | | | | |
| 6 | No data | | | | | |
| 7 | 12% | 95% | +83% | 2.31 | 33.18 | +30.87 |
| 8 | 0 | 50% | +50% | 0 | 11.36 | +11.36 |
| 9 | 30% | 85% | +55% | 8.49 | 16.18 | +7.69 |
| 10 | 0 | 40% | +40% | 0 | 12.27 | +12.27 |

**Numbers of participating parents are calculated as a percentage of the total number of children in each classroom. **Duration of participation is measured in minutes from the start of the teacher's explanation until the first parent leaves the classroom.*

***Informal observations during parent-child activities***

We observed parent-child activities in the classrooms of the eight teachers that implemented design principle four *[Arrange regular interactive parent-child activities]*, and in the seven classrooms where design principle five *[Stimulate language strategies]*, was implemented. The observation protocol focused on dyads' moments of joint attention, their turn taking behavior, the amount of child initiative versus directive parent behavior, and parents' use of strategies to support their children's language development (e.g., asking open questions, expanding the number of words).

During the implementation of the fourth design principle, there was a gradual increase in the moments of joint attention and a decrease of children that walked away, leaving the parent alone with the task. When parents and their child played a game for several weeks (e.g., Memory), parents became more confident, the activity was more fun, and there was more turn-taking. This was observed particularly in younger children (preschool and kindergarten) and when parents were lower educated. We observed more interaction when teachers increased their stepwise explanations to dyads about how the activity could be conducted and how parents could follow the child's lead, assuring them that their children were very capable of leading. Parent-child interactions increased when teachers started modeling. Some lower-educated parents repeated the gestures used by the teacher (e.g., pointing to the picture, to their eyes, etc.). During the implementation of the fifth principle, parents' interactive behavior increased. When teachers modeled asking questions, parents would repeat these questions. Gradually, we also observed that parents imitated the behavior of other parents.

Two types of parental behavior seemed to decrease interaction. One was parental determination to achieve the desired results (e.g., saying the right color, reading the text correctly), limiting their attention to the child's perspective. We observed less interaction when teachers provided crafting activities or worksheets to teach words or letters instead of talking and playing openly. We observed how parents took over and ended up finishing the worksheet while their child was playing elsewhere in the classroom. The second type of behavior was related to parents with low Dutch language proficiency. Some parents were reluctant to talk or whispered to their child. We observed more interaction when teachers assured parents that they could speak in their preferred language.

***Parental perceptions after implementation of the fifth design principle***

We conducted group interviews with 83 parents in the seven classrooms to evaluate parental perceptions. These classrooms had implemented all five design principles. We asked them how the program activities had supported them to focus on their children's oral language development and asked them to evaluate the compatibility, feasibility, and relevance of the activities. Finally, we asked parents to provide suggestions for further improvement of the prototype.

Parents valued the weekly interactive parent-child activities. Most parents agreed that these activities were compatible with their daily activities because they were scheduled on a fixed day and at a suitable time (when parents took the child to school anyway). Only a few parents had scheduling problems due to work but asked other family members to help. All parents agreed that their participation in the parent-child activities helped them to support their child. A parent with a child in grade 1 said: "*It's a way to support my child so that I'm there for him. It's like: I'll come to help you. The teacher gives me this opportunity, and I'm there for you*." Parents reported that the activities were compatible with their role. Another parent reported: "*It helps, being in the classroom. You see what your child does, what the teacher does, and what you can do as a parent.*" The parent-child activities were perceived as feasible due to the brief set-up and the joy they gave to the children. A parent with a child in kindergarten said: "*I'm always in a hurry, but it only takes me fifteen minutes. And when I see how proud my daughter is when we're in the classroom together…*" Parents in each of the seven groups mentioned that the child's invitation was an important reason to participate in the classroom. A parent with a child in grade 2 reported: "*He wants me to be there. But I don't speak the language. He says I don't care; I want you to be there.*" Most parents see their participation as relevant for their role as a parent. They mentioned that it showed them how their child was developing and how they could connect to their child at school and at home. A parent with a child at preschool mentioned: "*The teacher shows me what my daughter can do without my help. It's important for me to see this. Maybe I want to do too much for her, like when she was a baby.*" A parent with a child in kindergarten said: "*I use these suggestions. For example, when we walk home, we now talk more about what we see: the bus,*

*the bicycle… and about what she did at school.*" Some parents reported that they had learned new things themselves, like words or reading. A parent with a child in grade 1 said: "*I don't know so many words in Dutch myself. So, we learn together, my child and I.*" However, some parents seemed to adopt a school type of support at home for their young children. Some parents made a schedule to do activities when their child arrived home from school. A parent with a child in grade 1: "*He knows what to do when he gets home: reading and homework (given by the parent educator). An hour. Eating. Homework.*"

Parents evaluated teachers' efforts to build SFPs as positive. They valued teachers' efforts to communicate with them and to involve them in the classroom. All parents were aware that the teachers invested more in parents compared to other teachers in the school or at other schools. A parent with a child in kindergarten noted: "*I really like my child's teacher. She's kind, open to me and my child. She explains things to me and shows me what my child learns. But I don't like all the teachers. Some don't even say hello when they see you.*" A parent with a child in grade 1: "*I have a friend, her daughter goes to a school across the street, and she's not even allowed to enter her daughter's classroom. She hardly ever speaks with the teacher. That's really different. Why?"* Parents agreed that these relationships with teachers are important and should become core practice. Some parents wondered why schools did not invest more in parents.

Parents also had suggestions. At the top of their list was more homework. Several parents of children in preschool or kindergarten suggested starting with real homework such as learning words, and parents with children in grades 1 and 2 suggested giving more different assignments (e.g., counting) and language classes (e.g., English). A parent with a child in grade 1 said: "*I know that homework helps my child to perform better.*" Finally, parents said that they hoped that the school would continue the partnerships because they thought they were useful. One of the parents said: "*I feel welcome, that's important to me.*"

## How can school teams continue their SFPs in support of children's language development? (research question 4)

The interviews helped us to evaluate whether the three school teams wished to continue their work with the prototype and what they would need for a follow-up. This evaluation resulted in opportunities, needs, and suggestions for phased continuation.

The teams agreed that continuing to work with the prototype was important, given the improved partnerships with parents. These improvements were reported by teachers and were confirmed by the principals. One of the school principals reported: "*We always hoped parents would come to us. The door is open. But parents have their reasons not to enter. I think this is changing. I see more parents coming into our doors now.*" The teams agreed that working with the prototype had developed their knowledge and abilities. An important aspect was

their increased awareness of the specific needs of lower-educated parents. One principal said: "*I now realize that it's a huge problem and that we should be much more alert from the moment parents register their child at our school. We need to know their background from that moment*." These interventions led to the professional development of other colleagues who were not part of the design team. More colleagues in the teams changed to a more reciprocal style of communication with parents. As one of the principals reported: "*I'm sure that all the colleagues in my team asked parents questions about their home environment. For me, that's a significant step.*" This process fostered improvements and created opportunities to continue working with the prototype. More opportunities include adjustments to school-family procedures and policy. Two teams mentioned introductory conferences as an example of a procedure that will remain part of school policy in the coming years. One of the school principals said: "*Every teacher in the team participated in the training and conducted introductory conferences. It wasn't perfect, but it was a real good start. I am convinced that these conferences will contribute to better family-school partnerships in the future.*" This progress led to a shared vision of SFPs and a feeling of urgency. One of the principals reported: "*I never stop thinking of the triangle that symbolizes the collaboration between school, parents, and children. We are in this together, and we better make it work. And I see that I'm not the only one who really wants to make it work*."

However, teams had additional needs for continuing with the fourth and fifth design principle. Although they were convinced that the required expertise was available to continue applying the first three design principles, principals reported that they lacked the knowledge and the people to implement the fourth and fifth design principle directed at the children's language development. One of the principals said: *"It's simple, many colleagues really don't want parents in their classroom. I'm not happy about this. But it's the truth. I can't fire them, can I? I'm fortunate to have teachers who want to teach the kids*." Schools would require more time and means to continue working with parents using the full prototype. One of the principals mentioned: "*You don't have to convince me that what we're doing right now contributes to a better education for our children. But, I don't know how to sell this to my team. There's a structural problem, i.e., lack of time and energy for other activities besides teaching the kids.*

Teachers who tested the prototype in the classroom reported the need for better school policies. These teachers had developed their annual program to work on SFPs in support of children's language development and felt a lack of shared foci as a team. One teacher (1) mentioned: "*We should do this more as a team. I see too many colleagues who are not open for dialogues with parents. I work hard to build relationships with parent. I see colleagues who ignore parents. That hurts.*" Many teachers felt that colleagues had different visions on bilingualism and different expectations of parents. A teacher (2) said: "*I think we should share a similar intention and arguments. Otherwise, it feels like we're just doing something*."

Teams agreed that a phased implementation of working with the prototype would be desirable. They suggested continuing to implement the first three design principles of the prototype in the entire school. The fourth and fifth design principle was perceived to be more useful for teachers of young children. Principals suggested providing these teachers with the opportunity to participate in further professional development. One of the principals said: "*This prototype should feel as an enrichment and not as a burden.*"

# DISCUSSION

We developed a prototype for teachers to build School Family Partnerships (SFPs) focused on improving the HLE of lower-educated families. The prototype consists of five design principles and tools for professionalizing teachers. The aim of this study was to investigate modifications to the prototype so that the design principles are more tailored to the needs of teachers and parents in schools with high numbers of lower-educated parents. Each of the five design principles contributed to the professionalization of most teachers in building SFPs with lower-educated parents. In addition, the results of this study provide opportunities to refine the prototype. First, we discuss the modifications needed for each design principle and the implications for the professionalization program. Second, we evaluate the design-based research approach. Finally, we discuss suggestions for future research, policy, and practice.

## Modification of the five design principles

The first design principle *[Assess pupils' HLE]* contributed to teachers' knowledge of families' backgrounds and helped them to adapt their activities to them. However, most teachers experienced difficulties assessing the HLE due to a lack of familiarity with home environments and access to that information. Therefore, several teachers evaluated this principle as less compatible and feasible. However, they thought the results were relevant because they raised their understanding of lower-educated parents' perceptions and behavior. The teams evaluated this design principle as an eye-opener and a condition to improve teachers' partnerships with all parents. This was different for two teachers with a majority of higher-educated parents, which might explain why they found it less relevant to get acquainted with the HLE of their pupils. Our findings showed that this design principle could be improved as follows. First, before starting the process of building SFPs, we need to examine how teachers can be supported in applying this principle. School principals can allow teachers access to the school administration system so that they have more information about the family background of pupils (e.g., parental education levels, home language, literacy problems). Secondly, teacher training can be improved. We explain how teachers can be coached to assess the HLE of their pupils in the next section on professional development.

The second design principle *[Establish a school policy that includes SFP procedures in support of child language development]* contributed to teachers formulating plans with SFP procedures and alignment with colleagues and parents. This progress was found for teachers who participated in the pilot and for other teachers in the teams. However, school principals concluded that implementing SFP procedures in support of child language development (design principle four and five) as part of school policy required more measures than possible at this moment (e.g., overcoming lack of expertise and time). Therefore, the autonomous role of teachers in planning SFP procedures in support of child development for their classroom may need more emphasis.

No modifications seem to be needed for the third design principle *[Establish reciprocal relationships with parents]*. Our findings showed that, with additional coaching, all teachers implemented the intended behavior during informal contacts with parents and evaluated this principle as compatible, feasible, and relevant. Two teachers of one school could not conduct the introductory interviews due to inhibiting conditions (e.g., insufficient facilitation by school policy, lack of time), but reported to have spent more time on introductions during informal contacts with parents.

The findings can be used to improve the implementation of the fourth design principle *[Arrange regularly interactive parent-child activities]*. First, coaching can contribute to overcoming barriers teachers might experience when explaining and modeling activities (see Professional Development). Second, assistance during parent-child activities contributed to teachers' implementation of more and better individual support towards parents, such as encouraging dyads to use the home language and modeling examples of turn-taking as a participant. The assistant helped to conduct the activity successfully (e.g., preparing the activity with the teacher, inviting parents into the classroom), particularly by taking care of the children when the parent could not be present. However, despite these adaptations, four teachers still had mixed feelings, three of who decided to stop applying this principle. Each of these teachers reported that the fourth (and fifth) design principle was not very relevant for their population. The other teacher decided to invest in further implementation, but maintained her mixed feelings and expressed doubts of parents' abilities (e.g., limited Dutch language proficiency). In contrast, the other teachers found that this principle was relevant for all teachers of young children (aged 3 to 8), regardless of parental education levels or age group. They also claimed that more leadership of school principals might be needed to improve teachers' efforts to involve parents in their child's language development.

Regarding the fifth design principle *[Stimulate language strategies to support the parent-child interaction]*, our findings showed that the realization of this principle could be improved by reinforcing interactive parental roles and preserving child initiatives. Observations of parents and children in classrooms revealed interactive patterns of parents directing the child and

asking questions with no other goal than to assess children's knowledge, instead of stimulating language use. This directive interaction style resulted in less use of language by the child and less playfulness. Interviews with parents indicated that parents prioritized knowledge assessment. Parents shared their practices at home about how they structured child learning (e.g., strict schedules for schoolwork at home) and their beliefs about the importance of homework to improve child learning. These findings are in line with other studies demonstrating that many parents might prefer directive communication resulting in the inhibition of child initiatives (e.g., Pomerantz, Moorman, & Litwack, 2007). Teachers' sessions with parents about the aims and backgrounds of parent-child activities helped to stimulate parents to support child initiative. This finding that lower-educated parents can benefit from relevant knowledge about child development is in line with the literature (e.g., Rowe et al., 2016; Wasik & Sparling, 2012). Based on these findings, dividing the fifth design principle into three principles that aim to improve teachers' focus on supporting parental role development is a possible improvement. First, we should focus on exchanging role perceptions and beliefs and aligning the roles of parents and teachers (Hoover-Dempsey et al., 2005; Sheridan et al., 2011). Second, we should focus on stimulating playful interactions that prioritize the use of language by asking questions and using scaffolding (Dickinson, Darrow, Ngo, & D'Souza, 2009; Pepper & Weitzman, 2009; Wasik & Sparling, 2012). Finally, we should focus on expanding language during these playful interactions, using strategies to extend children's use of words and decontextualized language. These strategies are known to be beneficial for children's language and literacy development (Reese et al., 2010a; Rowe, 2012; Van Kleeck, 2008).

## Professional development

In our study, we developed important ways to motivate teachers to improve their relationships with lower-educated parents, acknowledging teachers' professional autonomy (Deci & Ryan, 2000). First, continuous exchanges of perspectives between practitioners and researchers stimulated teachers to change their behavior. This *reciprocity* provided teachers with options that contributed to their knowledge and practice. In turn, researchers learned about the perspectives and practices of teachers and how their learning can be developed. Teachers and researchers participated in reciprocal learning processes in workshops, classrooms, design teams, and other moments of contact (e.g., informal contacts, email).

Second, *situated learning* (Korthagen, 2010; Lave & Wenger, 1991) contributed to teachers' motivation and feelings of self-efficacy in their relationship with parents. When teachers were reluctant to implement the fourth design principle (e.g., explaining and modeling parent-child activities to parents), we used the context to motivate teachers to take small steps and experiment. For example, during the implementation of the fourth design principle, we modeled the desired teacher behavior in the classroom and evaluated opportunities and possible improvements with teachers and parents. Additionally, we encouraged teachers to

experiment with this behavior and rewarded their accomplishments (Hattie & Timperley, 2007). Continuous moments of reflection contributed to teachers' awareness of the impact of their changed behavior and their motivation to continue this behavior.

Third, the *collaborative* process of learning together (e.g., with colleagues, parents, and researchers) contributed to teachers' motivation to develop new behavior. Evaluations showed that teachers felt supported by this collaborative approach. After almost two years of research, several teachers opted for the next round of research because they wanted to sustain this collaborative learning. The benefits of these collaborative learning processes, characterized by reciprocity and in-depth learning, were also demonstrated in previous research into teachers' professional development programs (e.g., Epstein, Jung, & Sheldon, 2019; Hoover-Dempsey et al., 2002; Van Veen et al., 2012).

Teachers in our study needed more knowledge about the impact of the HLE on young children's language development and about families' HLE than expected. Teachers also required more help in supporting lower-educated parents changing their interactive behavior with their child. This is in line with previous research demonstrating the need to equip teachers with additional knowledge and abilities to support lower-educated parents (e.g., De la Rie, 2018; Lusse, 2013; Van der Pluijm, 2014). During this study, we accommodated teachers with this additional support according to their individual needs (e.g., more background information, assistance, modeling). Nevertheless, three teachers evaluated the program as less usable for their target group. Based on our findings and the recommendations of teachers and school principals, future professionalization needs some modifications. First, more theory about the importance of parental roles for child language development may contribute to the awareness of teachers. Recognizing parents as first educators of children may motivate teachers to prioritize building relationships with parents in support of young children's language development (Sheridan et al., 2019). Attention should focus on families with the least resources (i.e., low parental education level, parental literacy skills), which negatively impact child opportunities. Coaches can stimulate teachers to investigate possibilities to improve the access of families to knowledge and resources for child education at home that can contribute to more equitable opportunities for child development (Green, 2016).

Second, embedding the use of the class inventory list in a workshop with the previously mentioned theoretical perspective that positions parents as first educators of their child may motivate teachers and decrease mixed feelings about the usability of the prototype that we found in this study. Using the class inventory list can be one of the first actions for teachers to improve their understanding of the resources that are available in the home environments of their pupils. Exchanges among teachers about their parent population may further stimulate learning about their backgrounds that impact the HLE. After this start, gaining more insight

into the HLE should be part of the professionalization process. Stimulating teachers to have exchanges with parents about the HLE can further increase their insights. Gradually, teachers will be able to recognize the patterns of interaction during parent-child activities in classrooms. These observations can be used during coaching sessions to help teachers develop their skills to stimulate parental support, adapted to the specific characteristics of the HLEs of their pupils.

## A design-based research approach: advantages and limitations

We prioritized finding solutions for problems that teachers encountered when building partnerships with lower-educated parents in support of children's language development. To that aim, we employed a design-based approach. This approach combined three objectives: 1) testing the prototype on its usability for teachers and parents, 2) facilitating the collaborative learning process between stakeholders and researchers and, 3) systematically analyzing the results to modify the operationalization of the design (McKenney & Reeves, 2012). Because of this multifaceted and intensive process, this study was small scale and restricted to secure the involvement of lower-educated parents (e.g., selecting schools with mainly lower-educated parents, and the willingness of school teams to be involved in intensive collaboration). This approach had several benefits. One is the ecological validity of the design, evidenced by teachers' and parents' involvement in adapting the theoretical principles to their needs and by the suggested improvements to SFPs for stimulating parent-child interactions in the classroom. However, this approach also has limitations. The generalizability of the results is limited due to the small scale of this study, the specific conditions (e.g., urban context, selection of motivated teachers), and the absence of a control condition. Future research will have to show whether suggested improvements to the AHL principles lead to desired outcomes both on the part of teachers and of lower-educated parents.

## Suggestions for future research

Future research should investigate the impact of the design principles in a renewed AHL program (incorporating the suggested improvements of the present study) on the behavior of both teachers and parents. This research should focus on increasing the generalizability of the use of the design principles in new contexts. The main aim is to investigate to what extent it is possible to implement a program that supports teachers to adapt the design principles to their contexts. Specific attention is needed for construing and applying instruments to monitor teachers' delivery of the design principles and their enactment in parent-child interactions (De la Rie, 2018; Powell & Carey, 2012). Research should also investigate how this new teacher behavior impacts lower-educated parents' interactions with their children. Instruments to investigate the quality of parental behavior and the quantity and quality of their language

support are therefore needed (Hoff, 2013). We suggest a focus on results for families with the lowest education levels since few intervention studies are directed at this target group (see Chapter 2; Van der Pluijm et al., 2019).

## Implications for practice and policy

We have several recommendations for practitioners and policymakers. Practitioners could consider working with the principles derived from this study. Our study shows how teachers can use the principles step-by-step to improve their SFPs with lower-educated parents in support of child language development. The SFPs in our study were mostly successful and compatible with teachers' daily activities. Although it was difficult for teachers in our study to become well informed about families' HLEs (step 1), this first step contributed to their understanding of partnerships with parents (cf., Mol et al. 1992). Teachers can use this improved understanding to build reciprocal relationships and arrange adapted parent-child activities to support richer parent-child interactions. Parent-child interactions flourish when dyads are encouraged to use their home language in the case of families with immigrant backgrounds (e.g., Anderson et al., 2017; Boyce et al., 2010). Parent-educators and students can complement teachers in their practices with parents in classrooms by looking after children whose parents are absent, allowing the teacher to concentrate on modeling. However, we also found that parent-educators were less involved in the collaborative process. Closer collaboration and improved goal alignment between teachers and parent-educators could contribute to successful SFPs in support of children's language development (Wasik & Sparling, 2012).

Although teachers and principals valued our prototype, schools had limited resources to continue these SFPs as part of school policy. The need for developing a shared vision and supportive policy to sustain improvements is well-documented (e.g., Epstein & Sanders, 2006; Jeynes, 2012; Van Veen et al., 2012). National and local policymakers can play a significant role in stimulating the formation of SFPs by developing supportive policy and providing funds for schools that allow teachers to be better prepared for their important work with lower-educated parents. Such policies should also include improvements of in-service professionalization programs (cf., Epstein & Sanders, 2006) and optimization of curricula of pre-service teacher education (Noel, 2016; Thompson, Willemse, Mutton, Burn, & De Bruïne, 2018; Walker & Leg, 2018).

# 4

# How can teachers build partnerships with lower-educated parents in support of young children's oral language development? Evaluation of an adaptive program

This chapter has been submitted as:

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# ABSTRACT

The parental role in supporting young children's oral language development at home is crucial for children's language and literacy development. However, there is limited expertise in how teachers can support lower-educated parents effectively to enhance their interactions with their children and stimulate the use of language. Therefore, teachers need specific knowledge and training in how to establish partnerships with these parents and provide support adapted to the home language environment. This study describes the evaluation of a program for teachers aiming to build school-family partnerships that focus on stimulating young children's oral language development. It investigates teachers' abilities to adhere to the program principles and to adapt these to parents' needs. This study contributes to understanding how an adaptive approach creates opportunities for teachers to extend their traditional roles in classrooms and build partnerships with all parents, bridging the gap between lower-educated families and schools as the two most important domains where young children acquire language.

# INTRODUCTION

There is growing evidence that the home environment is an important domain where young children acquire language and literacy skills. The parental role in supporting young children's oral language development at home is crucial for children's language and literacy development (Aikins & Barbarin, 2008; Beals, De Temple & Dickinson, 1994; Sénéchal & LeFevre, 2002; Storch & Whitehurst, 2002). Young children's language and literacy skills are affected by the Home Language Environment (HLE). This is defined as the way parents engage their children in daily interactions (e.g., exchanges about what to cook, eat, or what had happened during the day) and activities (e.g., playing games, shared reading) (Bus, Van IJzendoorn, & Pellegrini, 1995; Leseman & De Jong, 1998; Mol & Neuman, 2014). Research has shown the diversity of these HLEs (Van Steensel, 2006), and how lower-educated parents are challenged in providing a rich HLE for their children (Curenton, Craig, & Flanigan, 2008; Gilkerson et al., 2017; Hoff, 2013; Mistry, Biesanz, Chien, Howes, & Benner, 2008; Rowe, Denmark, Harden, & Stapleton, 2016). Limited HLEs can put children at a disadvantage and can be at the core of language and literacy delays that impact children's future school performance (Gilkerson, Richards, & Warren et al., 2018; Hart & Risley, 1995).

The evidence that the home environment is critical for child development has led to two movements. First, the number of Family Literacy Programs (FLPs) has increased. These programs aim to prevent the intergenerational transfer of language and literacy problems by involving lower-educated parents with low literacy skills in activities to enhance parents' and children's language and literacy skills (Wasik & Van Horn, 2012), or focus on child outcomes with active engagement of family relationships and practices at home (Hannon, 2003). Second, there has been an increase in the number of initiatives to enhance goal-directed School-Family Partnerships (SFPs). These are collaborations between teachers and parents based on equality (Epstein, 2011) that contribute to children's language development (Bakker, Denessen, Denissen, & Oolbekkink-Marchand, 2013; Epstein, 2018; Van Voorhis, Maier, Epstein, Loyd, & Leung, 2013). These SFPs aim to align child education at school with the roles of parents at home, acknowledging the importance of both domains for child development (Bronfenbrenner, 1977).

Research shows that inviting teacher behavior (i.e., attempts to engage parents) can lead to more involvement of all parents in their child's education, regardless of their education levels (Epstein, 1992; Hoover-Dempsey, Walker, Sandler, Whetsel, Green, & Closson, 2005). However, there is little evidence that these FLPs or SFPs are effective for the language development of children of lower-educated parents (Manz, Hughes, Barnabas, Bracaliello, & Ginsburg-Block. 2010; Mol, Bus, De Jong & Smeets, 2008; St. Pierre et al., 2003; Van Steensel, McElvany, Kurvers, & Herppich, 2011; Goodall & Voorhaus, 2011; Sheridan, Knoche, Kupzyk, Edwards, & Marvin,

2011). An important reason might be that there is limited knowledge of which activities and strategies teachers can use with lower-educated parents to enhance interactions with their children (Van der Pluijm, Van Gelderen, & Kessels, 2019). Teachers often have limited information about families' backgrounds (Banks & Banks, 2004; Denessen, Bakker, & Gierveld, 2007; Epstein, 1992; Manz et al., 2010), which may lead to a lack of understanding of the HLE of their pupils (Epstein, 2011; Hutchins, Greenfeld, Epstein, Sanders, & Galindo, 2013; Scott, Brown, Jean-Baptiste, & Barbarin, 2012; Van der Pluijm, 2014). Moreover, teachers have difficulties in engaging lower-educated parents in FLP activities and in adhering to the program principles (Powell & Carey, 2012; St. Pierre et al., 2003; Teepe, 2018), such as modeling, which is a technique used to deliver the program to lower-educated parents (De la Rie, 2018). Teachers' activities to facilitate parents with suggestions to improve the HLE seem to be more tailored to the capacities of higher-educated parents (e.g., better literacy skills, prior knowledge) and less to those of lower-educated parents (Reese, Leyva, Sparks, & Grolnick, 2010; Van der Pluijm et al., 2019). A challenging aspect for program developers is to design programs that provide teachers with the knowledge and skills to use program principles adequately in their settings and to adapt these to characteristics of their parent populations (Naoom, Van Dijke, Fixsen, Blasé, & Villagomez, 2012; Powell & Carey, 2012; Van Steensel, Herppich, McElvany, & Kurvers, 2012).

The disappointing results of FLPs for families that are most in need and the call to tailor programs to families' needs both resound in the latest appeals for partnership approaches (Anderson, McTavish, & Kim, 2017; Manz et al., 2010; Van Steensel et al., 2012). Unfortunately, many teachers experience considerable difficulties when working with parents with lower education levels and different languages and cultures (Bakker et al., 2013; Jeynes, 2010; Lusse, Notten, & Engbersen, 2019; Noel, 2016; Santoro, 2009; Waddel, 2013). Examples include problems understanding parents who do not speak the majority language and different interpretations of the roles that school and parents play in child development. Teachers might view these parents less favorably, leading to few initiatives of teachers to involve parents in their children's development at school (Denessen, Bakker, Kloppenburg, & Kerkhof, 2009; Martin et al., 2006; Walker, 2019). There is a gap between the body of evidence that shows the benefits of SFPs and the poor number of practices implementing this knowledge (Desforges & Abouchaar, 2003; Epstein, Jung, & Sheldon, 2019; Epstein & Sanders, 2006; Walker, 2019). Although there is a growing number of initiatives to prepare teachers for SFPs, teachers are still insufficiently prepared during pre-service training (Denessen et al., 2009; Noel, 2016; Thompson, Willemse; Mutton, Burn, & De Bruïne, 2018; Van Schelven, Van Gelderen, & Beishuizen in preparation) or in-service professionalization (Epstein et al., 2019; Epstein & Sanders, 2006; Walker, 2019). Developers are challenged to design professionalization programs that involve teachers in

learning activities that resolve this impasse and motivate them to engage parents in goal directed partnerships (Epstein & Sanders, 2006; Hoover-Dempsey, Walker, Jones & Reed, 2002; Waddel, 2013; Walker, 2019).

Since oral language development of young children is a key factor in literacy development (Sénéchal & Lefevre, 2002; Storch & Whitehurst, 2002), and families and schools are the two most important domains for young children's acquisition of language (Bronfenbrenner, 1977; 1992; Epstein, 1987), schools should set up SFPs in support of children's oral language development (Sheridan, Knoche, & White, 2019). This is particularly important for children of lower-educated parents who are disadvantaged in their school careers as they have fewer opportunities to use and understand language (Goodall & Vorhaus, 2011; Hoff, 2013). To contribute to such SFPs, we designed the school-based At Home in Language (AHL) program. This program aims to prepare teachers to tailor their interventions to the needs and resources of lower-educated families and to enhance teacher motivation to engage parents as an important part of their work as teachers. In a review study, we detected effective elements of activities and strategies for support of lower-educated parents' oral interactions with their children (see Chapter 2; Van der Pluijm et al., 2019). We involved teachers and parents in a pilot study to examine how design principles for interventions could be adapted to teachers' and parents' needs (see Chapter 3). Based on these studies, we developed and implemented the AHL program.

## Theoretical framework for the program

Research has shown that teachers' inviting behavior is crucial for parents' decisions to become actively engaged (Anderson & Minke, 2007; Deslandes & Bertrand, 2005; Walker, Ice, Hoover-Dempsey, & Sandler, 2011). Therefore, the professional development of teachers to initiate partnerships is central to AHL. Teachers are motivated to develop their skills when their investments lead to practical solutions that they can use immediately (Hoover-Dempsey et al., 2002) and when their need for autonomy, relatedness, and competence are acknowledged (De Brabander & Martens, 2018; Deci & Ryan, 2000). Against this background, we designed a step-by-step guide that teachers can use to work with parents at school, accompanied by learning activities that support teachers to adhere to the program principles.

***Step-by-step guide***

We identified seven steps (see Figure 4.1) that guide teachers to develop SFPs to support children's oral language development in their classrooms, involving all parents and children (whole classroom approach). Each step requires teachers to explore perspectives that can be used to adapt their behavior to the needs and resources of parents in their classroom in line with differentiated classroom theory that aims to adapt child education to the specific needs of children (Tomlinson et al., 2003).

**FIGURE 4.1:** Seven steps for teachers

| Phases | Steps for teachers |
|---|---|
| Establish SFPs | 1. Assess the HLE |
| | 2. Involve parents and colleagues in intentional SFP procedures |
| | 3. Build reciprocal relationships with all parents |
| Implement intervention activities | 4. Arrange weekly parent-child activities adapted to lower-educated parents (using Steps 1 to 3) |
| Stimulate oral language | 5. Stimulate role development |
| | 6. Prioritize the use of language |
| | 7. Expand children's language |

The first three steps aim to align teachers' and parents' needs and resources (c.f. De La Rie, 2018; Meyers, Durlak, & Wandersman, 2012) for their joint interventions in SFPs (Lusse, Van Schooten, Van Schie, Notten, & Engbersen, 2019). In Step 1, teachers assess the HLE to understand families' needs and the resources they can draw on (Epstein, 1992; Hoover-Dempsey et al., 2005; Hutchins et al., 2013). Teachers map out parents' abilities (e.g., educational levels, literacy skills), learn about family practices, and look for opportunities to enhance parent-child interactions (e.g., playing games, shared reading) (Landry, Smith, Swank, & Gutentag, 2008). Teachers are encouraged to talk with parents about the HLE and observe parent-child interactions at school. Although we think it would be better if teachers could observe families at home, we did not expect teachers to conduct home visits due to a lack of time. Step 2 requires teachers to critically review their existing parent procedures and to develop individualized action plans to form SFPs in line with parental resources (Epstein & Sanders, 2016; Hoover-Dempsey et al., 2005). Teachers are encouraged to engage colleagues in creating these SFPs to establish coherence and to communicate these procedures with parents to align expectations (Epstein, 2013; Epstein & Voorhis, 2012). Step 3 aims to ensure that all parents feel invited and are recognized as partners (Hoover-Dempsey et al., 2005; Lusse, 2013; Manz et al., 2010; Sheridan et al., 2019). Teachers adopt an open attitude and invite parents to talk about the family environment. In this way, teachers can detect resources and capacities (Scott et al., 2012; Van Regenmortel, 2009). Teachers use reciprocal communication strategies to establish dialogues with parents and align teachers' and parental goals for the joint support of the child (Anderson et al., 2017; Lusse et al., 2019; Walker & Leg, 2018).

In Step 4, parents are involved in the classroom where they experience the value of interaction for their children's language development. Teachers provide enjoyable parent-child activities with repetitive interactive patterns and low thresholds, taking into account prior knowledge or specific skills (Van der Pluijm et al., 2019). Teachers can develop these activities by using Steps 1 to 3 to ensure that the activities are achievable for all parents by using easy language,

avoiding written materials, providing translations, and supported by modeling techniques (Bandura, Blanchard, & Ritter, 1969). In addition, these activities should be inviting by using reciprocal communication (Sheridan et al., 2011). To make parents feel more confident, teachers encourage them to use their preferred language with their child (see Chapter 3; Agirdag, 2014; Anderson et al., 2017; Boyce, Innocenti, Rogman, Jump Norman, & Ortiz, 2010).

The last three steps focus on explaining and visualizing how children's oral language development can be supported. Step 5 emphasizes role development, which requires knowledge about the importance of the roles of both parents and teachers. Many lower-educated parents need practical knowledge about their children's oral language development (Rowe et al., 2016; Suskind et al., 2017). Parents acquire this knowledge when they experience this role, for example, by following their children's initiatives, reacting responsively, and learning how to take turns (Landry et al., 2008; Leung, Hernandez, & Suskind, 2018). Frequent and successful experiences can contribute to parents' feelings of self-efficacy when supporting their children's development (Hoover-Dempsey et al., 2005; Wasik & Sparling, 2012). Step 6 emphasizes the need to value the process of verbal interaction instead of urging the child to produce correct answers or perfect products (Dickinson, Darrow, Ngo, & D'Souza, 2009; Pepper & Weitzman, 2004; Wasik & Sparling, 2012). Teachers can introduce strategies to encourage child initiatives, such as asking open-ended questions and scaffolding (Landry et al., 2008). Lower-educated parents benefit from a teacher's repeated examples of how to prioritize language use and opportunities to experience the use of these strategies (Wasik & Sparling, 2012). Finally, teachers can introduce strategies to expand children's use of language, such as extending the use of words (Boyce et al., 2010; Kupzyk, Banks, & Chadwell, 2016) and supporting dialogues that require the use of decontextualized speech (Reese et al., 2010; Rowe, 2012; Van Kleeck, 2008). Examples and repetitive opportunities for experiencing such strategies can stimulate lower-educated parents to use these strategies themselves (see Chapter 5).

***Professionalization process***

Teachers are encouraged to improve their work with the seven steps during a process grounded in principles that contribute to teachers' professional development (Epstein et al., 2019; Fullan, 2007; Hoover-Dempsey et al., 2002; Kessels, 1999; Van Veen, Zwart, & Meirink, 2012; Walker & Leg, 2018). This process aims to support teachers in developing an integrated frame of reference to work with parents, including knowledge, skills, and personal values and beliefs (Dee Fink, 2013). We adopted guiding principles that are embedded in three types of professionalization activities (workshops, coaching, and network sessions). These activities advance the learning process, fostering teachers' ownership of the program and should finally lead to improvements in teacher behavior using tailored versions of the program for their practice. This process

requires teachers to participate voluntarily in the program, facilitated by school principals and SFP policy (see also Chapter 3). Figure 4.2 summarizes the process approach, inspired by the model of Binkhorst, Poortman, & Van Joolingen (2017).

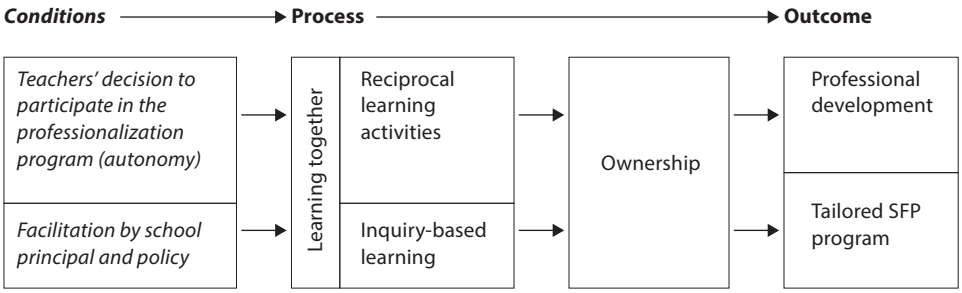


**FIGURE 4.2:** AHL Teacher professionalization process

In a nutshell, three principles are used during the professionalization activities. First, teachers are involved in a collaborative learning culture that is crucial for their professional development (Epstein et al., 2019; Fullan, 2007; Hoover-Dempsey et al., 2002; Kessels, 1999; Weizartz, 1999). During the workshops, the focus is on improving teacher awareness of the central problem and developing accurate views of their performance in coping with that problem (De Vries, Kremers, Smeets, Brug & Eijmael, 2008; Nicol & McFarlane, 2006; Rogers, 2003). These explorations result in shared questions and goals (see Chapter 3). During network sessions, coaches invite teachers to share their new ideas and solutions that contribute to these goals (Binkhorst et al., 2017; Van Veen et al., 2012). Second, each of the activities is characterized by reciprocity by exploring perspectives of teachers and input by coaches/researchers (e.g., theory, empirical findings), while maintaining equal relationships (Epstein et al., 2019). The process manager encourages this reciprocity, which is often referred to as shared leadership (Binkhorst et al., 2017). Situated learning is used, requiring teachers to design and test activities in their work context (Ericsson, 2006; Kemmis & McTaggart, 2005; Kolb, 2014; Korthagen, 2010; Lave & Wenger, 1991; Walker & Leg, 2018). These plan-act-reflect cycles start with simulations during workshops, and teachers are encouraged to continue these cycles in practice, regularly supported by on the job coaching. During the network sessions, teachers share good practices. These three guiding principles aim to foster teachers' feelings of ownership and their intrinsic motivation to develop new behavior (Deci & Ryan, 2000). Positive feedback provided by coaches enhances this sense of ownership and increases feelings of self-efficacy (Hattie & Timperley, 2007; Hoover-Dempsey et al., 2002).

### Summative evaluation

This research is a summative evaluation of the AHL design, with multiple cases (i.e., teachers) (Yin, 2018). This study examined teachers' abilities to reliably convey the content of the program as intended and evaluates how AHL contributes to sustained professional behavior of teachers to build SFPs supporting children's oral language development. This study evaluates how AHL contributes to the professional behavior of teachers and to the formation of SFPs to support children's oral language development. The main research question of this study is: *To what extent does AHL contribute to teachers' sustained use of the seven steps to improve SFPs that support children's oral language development?*

To answer this central question, we formulated three subquestions:

1. Do teachers adhere to the seven AHL steps?
2. Does teachers' adherence to the seven AHL steps improve from pretest to posttest, and is there a difference in gain for parents with different educational levels?
3. To what extent do teachers perceive that the use of the seven AHL steps contributes to their personal goals as a teacher and to the sustained use of AHL?

## METHOD

### Participants

We targeted primary schools in disadvantaged areas of Rotterdam (the Netherlands) with a high percentage of lower-educated families. Prioritizing the collaboration with lower-educated parents as a key activity for at least one year was an additional criterion for participation. We contacted teachers and school leaders that represented their school at conferences on SFPs. If schools were interested, we informed them about the objectives and conditions of our research. One of the conditions was that each school should appoint at least two preschool teachers (pupils aged 3), two kindergarten teachers (pupils aged 4 to 6), or two first grade teachers (pupils aged 6 to 7). These are important periods for children's language acquisition. Teachers were requested to join the research activities for at least one year. Seven schools agreed with our objectives and met our conditions, and were invited to participate.

The study took place from summer 2014 to summer 2015. Four schools were already involved in pilot research to develop the AHL program. Three preschool teachers, eight kindergarten teachers, and three first grade teachers were involved. All teachers were female and between 20 and 60 years of age. Eleven teachers were born in the Netherlands, two in Turkey, and one in Surinam. All teachers had attained at least a bachelor's degree.

Teachers informed parents about the aims of the research and the activities and requested their consent. This was done in writing, with teachers giving the letter to parents personally and ascertaining that parents agreed to participate in this research. In total, 254 pupils and their parents were involved in the classrooms of these 14 teachers. Of these parents, 40% had attained primary education as their highest education level, 36% had completed secondary education until the age of 15 as their highest level, and 24% had finished secondary school at 16 or older. Based on interviews with a random sample of parents (*n* =89 of the total group of 254 pupils, see Chapter 5), we established that the majority (86%) of parents had immigrant backgrounds (e.g., Moroccan, Turkish, Surinamese). Most parents were bilingual (73%). Other parents were monolingual in their minority (11%) or majority (16%) language.

## Program content

Teachers were coached to work with parents using the seven AHL steps. They received an outline of the steps, the tools to work with the steps, and instructions on how the content could be adapted to their population. This was done to establish both intervention fidelity and customization (Naoom et al., 2012; Powell & Carey, 2012). Figure 4.3 summarizes the AHL program content. Three types of professionalization activities were adopted to involve teachers collectively (four workshops of 120 minutes and six networks sessions of 90 minutes) and individually (eight coaching sessions of approximately 45 minutes). Three experienced coaches led the professionalization activities, and social work students were involved to assist them.

***Teacher participation***

Teachers were invited to participate in each of the professionalization activities. Most teachers participated. Two teachers participated only a few times due to illness. One teacher was replaced by a colleague in May and June due to maternity leave. We decided to continue our research activities with these teachers and to observe their behavior with parents and children in their classrooms. Doing so, we collected data for all 14 teachers, as much as possible.

**FIGURE 4.3:** AHL Program Content

| Step | Objective | Teacher behaviour | Tools | Professionalization activities |
|---|---|---|---|---|
| 1 | Support teachers to establish SFPs | Teachers assess the home language environment by:<br>• gathering information about parental characteristics in administration system (e.g., education levels, home language).<br>• gathering additional information about the HLE environment (e.g., observing parent-child interactions). | Class inventory list factsheet | Workshops (3):<br>• assessing the HLE<br>• planning SFP procedures<br>• preparing introductory interviews (incl. simulations) |
| 2 | | Teachers involve parents and colleagues in SFP procedures in support of child language development by:<br>• systemizing (existing) parent procedures to support children's development in an action plan (e.g., weekly parent-child activity).<br>• involving parents and colleagues to conduct SFP procedures together. | Parent procedure checklist, good practice, guidelines | Coaching (3):<br>• observing HLE in practice<br>• fine tuning SFP procedures with colleagues and parents<br>• reflecting on reciprocal communication |
| 3 | | Teachers build reciprocal relationships with all parents by:<br>• inviting parents with an open attitude to exchange views and experiences about child support at home and vice versa.<br>• aligning the roles of parents and teachers to support children's development. | Guidelines reciprocal communication | |
| 4 | Support teachers to implement intervention activities | Teachers arrange weekly parent-child activities that stimulate interaction (using Steps 1 to 3).<br>• adapting the parent-child activity to parental knowledge and skills (e.g., limited use of written materials, easy language, supporting the use of the home language).<br>• structuring the delivery of the activity (e.g., fixed set-up, explanation resp. modeling, suggestions to take home).<br>• using reciprocal communication (e.g., exchanging experiences, valuing parental views, aligning roles of parent and teacher). | Checklist parent-child activity, self evaluation checklist, good practices | Workshop (1)<br>• creating adapted parent-child activities<br>• organizing parent-child activities (incl. simulations)<br>Coaching (5):<br>• reflecting on enactment with parents and children and collaborating with colleagues |
| 5 | Support teachers to stimulate oral language | Teachers stimulate parental role development by:<br>• exchanging role perceptions to support oral language development (e.g., modeling interaction with child by turn-taking). | Guidelines, self-evaluation, good practices | Network sessions (6)<br>• exchanging experiences and barriers<br>• exploring solutions to adapt to lower-educated parents (incl. simulations)<br>• preparing activities for use in practice |
| 6 | | Teachers prioritize the use of language by:<br>• explaining and modeling strategies (e.g., asking questions, scaffolding) without too much focus on activity results. | See Step 5 | |
| 7 | | Teachers expand children's language by:<br>• explaining and modeling strategies to extend children's sentences and using decontextualized language. | Idem as for Steps 5 & 6 | |

## Procedure

Pretests were conducted in the first weeks of September 2014, just before the start of the implementation period. Teachers received questionnaires (pretest and posttest) and were requested to return these within two weeks. Two teachers were unable to do so due to a lack of time. Two students visited these teachers to fill in these questionnaires together. At the posttest, teachers were interviewed in June and July 2015 at the end of the implementation period. Teachers were informed about the aim, the duration (30 to 45 minutes), and the content of the interviews.

## Instruments

***Interviews at posttest***

The posttest interviews consisted of a brief description of the AHL program and three sets of questions related to our subquestions. An interviewer who was not involved in the program conducted the individual interviews:

1. *Teachers' reports of their adherence to the AHL program (subquestion 1)*. Teachers were asked whether they had adhered to the seven AHL steps. Examples of questions included: "One of the first steps of the AHL program is to assess the HLE. Did you achieve this?" "Please describe how you used the AHL steps." "What did you do to assess the HLE?"
2. *Teachers' perceptions of how AHL contributed to their goals and to improvements (subquestion 3)*. We used two themes. First, teachers evaluated their intrinsic motivation, their perceived autonomy, relatedness, competence, and overall satisfaction (Deci et al., 2001). An example of a question about autonomy is: "When working with parents, to what extent did you feel free to tailor the program to your needs?" Second, we evaluated their sustained use of AHL. Examples of questions included: "What effect do you feel your approach had on the parental role and the children's development" and "Do you intend to continue using AHL in the future?" (Fishman & Krajcik, 2003).

***Class inventory lists to evaluate teachers' assessment of the HLE and relationships (Steps 1 and 3) at pretest and posttest (subquestion 2)***

Teachers were asked how they had managed to adhere to Steps 1 and 3 with parents of each of the pupils in their classroom. Answers were rated on a 6-point Likert scale, ranging from 1 (disagree strongly) to 6 (agree strongly).

*Step 1 [Assess the HLE]:*

- *Insight into parental educational levels and skills.* Teachers were asked two questions and rated to what degree they gained insight in parental education level and literacy skills ($r$ = .58, at pre-test and .64, at posttest).
- *Insight into the HLE.* Teachers were asked two questions and rated to what degree they had gained insight in the interactions and activities of the HLE of each child in their group ($r$ = .38, at pretest and $r$ = .52, at posttest).

*Step 3 [Build reciprocal relationships with parents].* Teachers were asked three questions and rated if they could easily contact parents, if parents could easily contact teachers, and to what degree teachers collaborated with parents (Lusse, 2013) (average correlations of $r$ = .60, at pretest and $r$ = .64, at posttest).

***Questionnaires about teachers' execution of the school-family program (Step 2) at pretest and posttest (subquestion 2)***

Teachers were asked to evaluate their experience in Step 2 *[Teachers involve parents and colleagues in SFP procedures in support of child language development]*. We measured two constructs on a 6-point Likert scale, ranging from 1 (disagree very strongly) to 6 (agree strongly).

1. *Teachers' perception of their collaboration with colleagues when conducting parent procedures in support of child language development*. Teachers were asked to rate their collaboration with colleagues during school-family procedures. Two questions were used for measurement ($r$ = .34, at pretest and $r$ = .57 at posttest).
2. *Teacher perception of their skills to conduct parent procedures adapted to lower- educated parents.* Teachers were asked to rate their ability to adapt their school-family procedures to lower-educated parents. Two questions were used for measurement ($r$ = .77, at pretest and $r$ = .55 at posttest).

***Observations of teachers' behavior during parent-child activities at pretest and posttest (subquestion 2)***

We observed teachers' adherence to the AHL steps during Step 4-7 at pretest and posttest. The observations were conducted by the first author and two professional coaches. One of the coaches had a bachelor's degree in social work. The other had a master's degree in psychology. Both were experienced in observing social work professionals. Two assistants were trained in coding the observations. A handout with the AHL outline, observation scheme, and examples were provided. The parent-child activities lasted an average of twenty-five minutes. Observations were coded using a modified coding scheme of the instrument of Lusse (2013). First, the numbers of parents and children participating in the activities were registered. We

counted the number of parents that entered the classroom and the number of parents that participated in the parent-child activities. Next, we coded teacher behavior on the four steps of the program (Appendix A). We used a 5-point scale to indicate the frequencies of the observed behavior or the quality of the behavior ranging from 1 (none of the behavior observed) to 5 (continuous behavior observed). At the pretest and posttest, the first author conducted three of the 13 activities with one of these assistants and four with the other assistant. The first author and the assistants coded the same activities independently using the observation scheme. Intercoder agreement was calculated as a percentage of agreement for each of the pairs of coders. Percentages of at least 80% agreement at pretest and posttest were considered adequate.

## Analyses

We transcribed the 14 interviews collected at the posttest in three parts to answer research questions 1 and 3. First, we coded teachers' adherence using a matrix to sort utterances that were related to the seven steps. We distinguished teachers' adherence on four levels: no adherence, some adherence, convincing adherence, strong adherence. We classified teachers' adherence as *convincing* if we found at least one aspect of the step showing teachers' integration of that aspect in practice, and *strong* if we found two or more aspects of a specific step. We summarized all the codes in a table that shows teachers' perceptions of their adherence on three levels. Second, we coded teachers' utterances using two matrixes with categories that referred to teachers' intrinsic motivation (perceived autonomy, relatedness, and competence), their perceived improvements of parental roles and children's development, and their intention to continue using the AHL program. Again, we summarized all the codes for each of the teachers. This resulted in a second table that shows teachers' perceived goals. The interrater reliability was calculated using Cohen's Kappa. The average score was at least Kappa = .76, which can be considered as substantial agreement. Two final tables were developed with a summary of codes for each teacher.

For the questionnaires and observations, we analyzed improvements of teacher adherence to the steps of the program from pretest to posttest. We used repeated measures ANOVA to analyze progress in teachers´ insight in parental knowledge and skills and the HLE of each of the parents in their classroom (Step 1) and their self-reported ability for building reciprocal relationships with them (Step 3) based on the class inventory list. We used education levels of the parents in the classroom of each teacher as a factor to explain changes from pretest to posttest. We checked for equality of error variances and covariance matrices in these analyses. No violations of the assumptions for this analysis were found (Levene's and Box's test). We used t-tests to analyze teachers' progress on the remaining steps of the AHL program (Step 2, 4, 5, 6, 7). Finally, we calculated Cohen's *d* effect sizes for our comparisons of pretest and posttest results.

# RESULTS

Most of the teachers (*n* =14) reported that they had adhered to most of the AHL steps during parent-child activities. Table 4.1 summarizes teachers' reported adherence to the AHL principles in the posttest interviews.

**TABLE 4.1:** Teacher adherence to the seven steps of AHL (posttest self-reports)

| Teacher | Step 1: Assess the HLE | Step 2: Involve parents and colleagues in SFP procedures in support of child language | Step 3: Build reciprocal relationships with all parents | Step 4: Arrange weekly interactive parent-child activities | Step 5: Stimulate parental role development | Step 6: Prioritize the use of language | Step 7: Expand children's language |
|---|---|---|---|---|---|---|---|
| 1. | + + | ++ | ++ | ++ | ++ | ++ | +/- |
| 2. | ++ | ++ | ++ | ++ | ++ | ++ | + |
| 3. | ++ | ++ | ++ | ++ | ++ | ++ | + |
| 4. | ++ | ++ | ++ | + | + | + | +/- |
| 5. | ++ | ++ | ++ | ++ | ++ | ++ | ++ |
| 6. | ++ | ++ | ++ | ++ | ++ | ++ | + |
| 7. | ++ | ++ | ++ | ++ | ++ | ++ | + |
| 8.* | + | ++ | +/- | - | - | - | - |
| 9. | + | ++ | ++ | +/- | + | + | - |
| 10.* | + | ++ | - | - | - | + | - |
| 11. | + | ++ | + | + | + | + | - |
| 12. | + | ++ | + | + | ++ | + | - |
| 13. | ++ | ++ | ++ | ++ | ++ | ++ | ++ |
| 14. | ++ | ++ | ++ | ++ | ++ | ++ | + |

**Teachers who partially participated in the training program. - = no adherence, -/+= some adherence, += convincing adherence, ++= strong adherence*

Most teachers adhered to the steps to establish SFPs. All teachers reported that they adhered to the first two steps of the AHL program *[Assess the HLE and conduct SFP procedures in support of child language development]*. Teacher 5 reported: *"It's has become a standard way of working for me now. When I have new children in my classroom, I find out about the family background. I never did that before. I'm much more aware now, and that's why I do this."* However, several teachers emphasized that it was not easy to gain insight in the home environment of parents and that

they wished they had more facilities to do this properly (e.g., time, home visits). All teachers reported they had involved parents and colleagues in SFP procedures (e.g., a weekly parent-child activity). Four teachers emphasized the importance of this organizational aspect. Teacher 4 reported: "*I really want to do something and not do just anything. You should be aware of what you are doing and your intentions.*" We found differences between a group of 12 teachers who participated in the professionalization activities and two teachers who partially participated in these activities on adherence to Step 3 [*Build reciprocal relationships with parents*]. The group of 12 teachers described the progress they made. Teacher 7 said: "*They feel welcome in my classroom, they know they're acknowledged and that I'll listen to them and that I value them.*" This teacher expressed her leading vision that integrates the three steps of the first phase: "*I hope that there's less distance between school and home. And more continuity. They (parents) don't have to do what we do at school. Home is home, and school is school. But I hope they'll be inspired.*" Teacher 6 said: *"I tell them that we're all human. I also make mistakes. But you don't have to be afraid. We learn from each other as adults and we learn from our children. Children learn from us. I learnt a lot from parents and parents learnt from me."* The two teachers who only participated partly in the professionalization activities experienced more problems with building reciprocal relationships. Teacher 8 said: "*You cannot reach them all, and I think that's a shame. It would be so nice if more parents were to come here.*" The experiences of these two teachers also reflected how they were unable to participate fully due to personal circumstances. Teacher 10 explained: "*Some things are too much for me now. One of these is building relationships.*"

Teachers' adherence to the phase of the intervention activity *[Step 4: Arrange weekly parent-child activities that stimulate interaction]* and stimulate oral language *[Step 5: Stimulate parental role development, Step 6: Prioritize the use of language and Step 7: Expand children's language]* showed more variety. Nine of the 12 teachers who participated in the professionalization activities reported that they used each of the steps of the intervention activity and oral language support. Their reports showed how they adapted activities to involve even the lowest educated parents, enabled parents to experience their role in talking to their children, and stimulating parents to prioritize and expand language. Teacher 5 expressed an integrated vision of her role: "*Many parents use commands when they talk to their child. Or they don't say a word. They ask for homework and test. When I observe this, I go back to what parents do have. I introduce familiar activities, for example, paying in the store. I used coins and I played with parent and child pretending to pay for something. And then I saw fathers drawing money and price cards for the child to play with. And many dialogues about buying and paying…"* However, these nine teachers used varied strategies to support parents in expanding the language of their children. Seven of these teachers explained how they supported parents to increase the number of words used during dialogues. Two teachers illustrated how they supported parents to increase the number of words and to use decontextualized language. Preschool teacher 13 explained: "*For example, when we have a picture of a baby elephant that wears mommy's shoes, I ask: 'Do you ever wear*

*mommy's shoes when you're at home? This is an example; we talk about these things together.*" Three teachers of the group of 12 teachers that participated in the professionalization activities followed most of the steps, but not those to expand language. Some of their reflections showed how they needed more time to develop their roles in the previous steps. Teacher 11 said: "*I think we're helping parents to become familiar with their role. And I think we should do that. Sometimes I use modeling. It's pretty difficult, showing parents how to have dialogues with their children. And for the parents, it's all really new.*" Teacher 12 explained how difficult it was to have dialogues with children: "*I do model sometimes (to show how to prioritize language). But toddlers often hold back in the dialogue, and then there is no interaction.*"

The two teachers who only partially participated in the professionalization activities did not follow the steps to support oral language during parent-child activities. One of these teachers had regular parent meetings without the children. This is not in line with the underpinning principle of AHL to involve parents and children during oral language support. Teacher 8 did not follow this step of involving parent and child together and explained: *"Parents don't have to play a game in my presence. I think that's patronizing, in a certain way. And that's not intentional, but parents could experience it that way. And I really don't want that.*" Teacher 10 conducted parent-child activities and supported parents to prioritize oral language, but without following the previous steps of the program. She reported: "*We organized language activities, so parents could see how we work at school and how we stimulate language development at school.*"

We calculated pretest and posttest means for the class inventory list scores that teachers ($n$ = 13) gave for the parents (i.e., mother) of each pupil ($n$ = 187) in their classroom. Teacher 8 did not complete her class inventory list due to illness. The data for parents of her classroom could not be included ($n$ = 21). To allow for an analysis of teachers' progress by the factor 'parental education level', the means of teachers' ratings for parents for each of the three education levels were split, resulting in three observations per teacher. Table 4.2 shows results of the repeated measures ANOVA (using educational level as a factor) for teachers' progress with parents in their classroom on AHL Step 1 *[Assess the HLE]* and Step 3 *[Build reciprocal relationships]* based upon mean scores per teacher. According to Table 4.2, teachers significantly improved their insight in parental knowledge and literacy skills, one of the aspects of Step 1 *[Assess the HLE]* ($F(1, 33) = 4.259$, $p = .047$, $d = .33$). There were no overall significant improvements in insight in the HLE, the other aspect of Step 1 *[Assess the HLE]*, and Step 3 *[Build reciprocal relationships with parents],* although the latter effect approached significance ($F(1, 32) = 2.986$, $p = .094$, $d = .19$).

**TABLE 4.2:** Means, standard deviations and effect sizes for Steps 1 and 3 in the pretest and posttest from the class inventory lists

| | Pretest | | Posttest | | | | |
|---|---|---|---|---|---|---|---|
| | **Mean** | **SD** | **Mean** | **SD** | ***F(DF)*** | ***p*** | ***d*** |
| Step 1: Gain insight into HLE | | | | | | | |
| • Insight in parental knowledge and skills | 4.26 | .96 | 4.57 | .91 | 4.259(33) | .05 | .33 |
| • Insight in home language environment | 3.87 | 1.01 | 3.95 | 1.07 | 1.078(32) | .31 | .08 |
| Step 3: Build reciprocal relationships | 4.77 | .71 | 4.90 | .63 | 2.986(32) | .09 | .19 |

*Measured on a 6-point scale: 1=disagree strongly, 2=disagree, 3=disagree a little bit, 4=agree a little bit, 5=agree, 6= agree strongly.*

We found no significant interaction effects of education level on change of the three constructs by within-subjects tests. We did find significant between-subjects effects of educational level on Insight in the HLE ($F$ (2, 32) = 15.629, $p$ = < .000, $d$ = .91), and on Build reciprocal relationships ($F$(2, 32) = 7.562, $p$ = .002, $d$ = .61). Figures 4.4 and 4.5 show that the teachers' ratings on these variables are generally lower at pretest for parents at Level 1 compared to ratings of parents with education Level 2 and 3. At posttest, ratings become more similar for the three education levels on the variable quality of reciprocal relationships (Level 1: $M$ = 4.50 at post-test, $M$ = 4.26 at pre-test. Level 2: $M$ = 5.18 at post-test, $M$ = 5.17 at pre-test and Level 3: $M$ = 5.08 at post-test, $M$ = 4.94 at pre-test). However, the ratings for both Reciprocal relationships and Insight in the HLE remain substantially lower at posttest for parents at Level 1, compared to the levels 2 and 3. These findings indicate that teachers indeed have less knowledge about the HLE and less access to parents with the lowest education levels compared to the groups of parents with higher levels of education.

The questionnaire related to Step 2 *[Teachers involve parents and colleagues in SFP procedures in support of child language development]* includes questions to rate teachers' ($n$ = 14) abilities to conduct the SFP procedures at pretest and posttest. Teachers reported significantly higher ratings of their abilities to plan their SFP procedures in support of child language development at posttest ($M$ = 4.89. $SD$ =.63) compared to pretest ($M$ = 3.86, $SD$ = 1.38), $t$(13) = -2.93, $p$ = .01, $d$ = .96. In addition, teachers' ratings for their collaboration with colleagues showed significant progress at posttest ($M$ = 4.21, $SD$ = 1.28), compared to pretest ($M$ = 3.18, $SD$ = 1.07), $t$(13) = -2.99, $p$ =.01, $d$ = .87.

We observed teacher behavior ($n$ =13, teacher 3 was absent for maternity leave) during their enactment at pretest and posttest of the AHL steps on two parts: Implement intervention activities *[Step 4]* and Stimulate oral language *[Steps 5 to 7]*. Additionally, we observed the number of parents present at these parent-child activities at school. T-tests revealed significant improvements of teacher behavior on each of the four steps of the AHL. The effect sizes of $d$ = 1.04 to 1.62 are large to very large effects (Cohen, 1994). Table 4.3 presents the results.

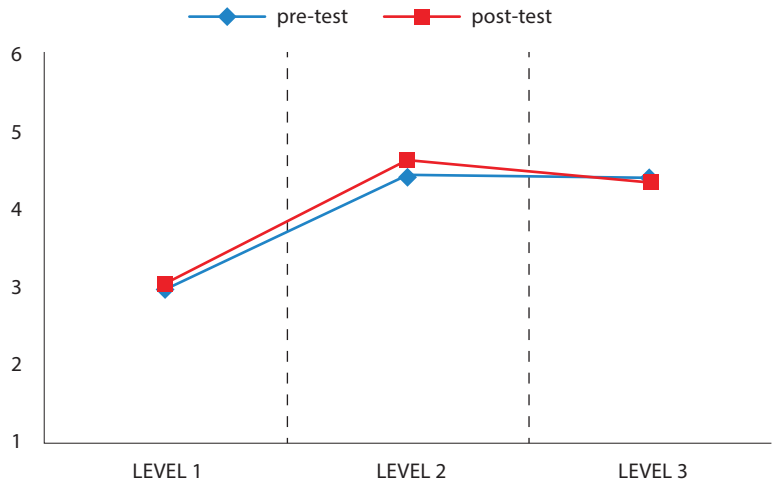


**FIGURE 4.4:** Effect of parental education level on teachers' (*n* =13, 39 cases) ratings of their insight in the HLE

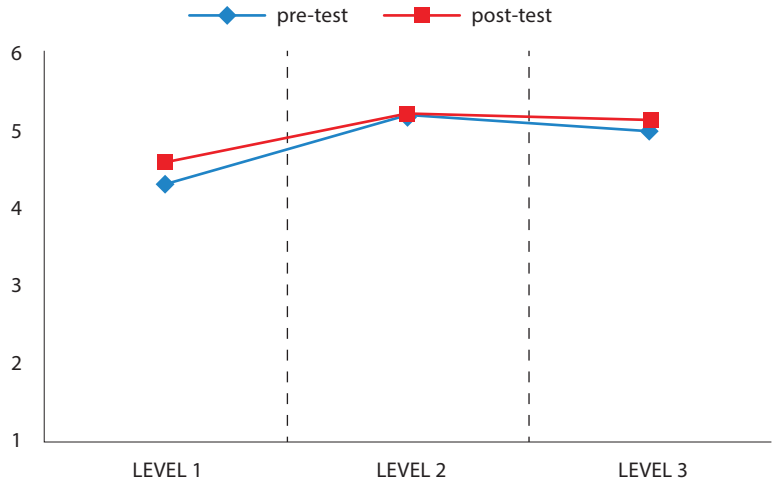


**FIGURE 4.5:** Effect of parental education level on teachers' (*n* =13, 39 cases) ratings of their reciprocal relationships with parents

**TABLE 4.3:** T-tests for differences in pretest and posttest observations of AHL behavior ($n$ =13)

| | Pretest | | Posttest | | | | |
|---|---|---|---|---|---|---|---|
| | **M** | **SD** | **M** | **SD** | ***t*** | ***p*** | ***d*** |
| *Step 4:* Arrange parent-child activities that stimulate interaction (using Steps 1 to 3) | | | | | | | |
| 1. adapting support to lower-educated parents | 3.02 | .69 | 4.14*** | .96 | -4.98 | .000 | 1.34 |
| 2. structuring the delivery of the activity intentionally | 2.31 | .75 | 3.54*** | 1.05 | -4.38 | .001 | 1.35 |
| 3. using reciprocal communication | 3.04 | .97 | 4.33** | .70 | -3.63 | .003 | 1.53 |
| *Oral language support* | | | | | | | |
| *Step 5*: Stimulate parental role development | 1.15 | .43 | 1.96** | 1.01 | -3.23 | .007 | 1.04 |
| *Step 6*: Prioritize the use of language | 2.00 | .61 | 3.52*** | 1.18 | -4.89 | .000 | 1.62 |
| *Step 7*: Expand children's language | 1.00 | .00 | 2.77** | 1.83 | -3.48 | .005 | 1.62 |

*Measured on a 5-point scale ranging from 1 (not observed) to 5 (observed with great frequency). *$p$ = <0.05, ** $p$ = <0.01, *** $p$ = <0.001*

Table 4.3 shows that the highest means are for implementing intervention activities [*Step 4: Arrange parent-child activities that stimulate interaction]*. Teachers organized easier activities (i.e., fewer literacy skills needed) and those that were more related to everyday experiences (e.g., What do you do when it rains? What do you buy when you go shopping for groceries?). Teachers gave more background information about the parent-child activities, used more modeling, and evaluated more often at the end of the activity. The intervention was more targeted to stimulate interaction (talk or play activity, using a central question to guide parents). We observed that teachers used more reciprocal communication, for example, by asking questions about parents' experiences at home. The strongest development was found for Oral language support *[Steps 5 to 7].* At the posttest, teachers showed new behavior to stimulate parental role development *[Step 5]* and to expand language *[Step 7]* compared to the pretest, in which we observed no or minimal behavior on these steps. Teachers had more interaction with parents about their roles and how children's initiatives can contribute to dialogues. Teachers used modeling strategies more often, such as asking open questions and scaffolding. We also observed more modeling to support parents to expand their vocabulary and to use decontextualized language. However, our results revealed differences between teachers in several aspects of their parent-directed behavior, which is illustrated by the higher standard deviations at posttest compared to pretest, except for reciprocal communication. This can be partly explained by different degrees of progress of teachers who participated partially in the professionalization activities compared to those who fully participated in these activities. Teachers who participated partially showed very little progress in implementing intervention activities *[Step 4]* and supporting oral language *[Steps 5 to 7].*

On average, teachers succeeded in involving a higher number of parents during the parent-child activities at posttest ($M$ = 10.8, $SD$ = 3.14), compared to pretest ($M$ = 8.00, $SD$ = 4.74). This difference was significant $t(12) = -3.24$, $p = .007$, $d = .70$. The percentage of parents in all classrooms was 69% at posttest, compared to 47% at pretest. Parent involvement in the activities was lower (13% at pretest and 15% at posttest) in the classrooms of the two teachers who only partially participated compared to that in the classrooms of the eleven teachers who fully participated (54% at pretest and 79% at posttest).

To determine how the use of AHL steps contributed to teachers' personal goals and sustainable improvements, we asked teachers how the program had affected their motivation and satisfaction as a teacher, the parental role, children's development, and their intentions to continue using AHL. Table 4.4 presents the results.

**TABLE 4.4:** Teachers' perceived impact of AHL

| | Perceived personal goals | | | Perceived improvement | | Teachers' feelings of satisfaction | Intention to continue using AHL |
|---|---|---|---|---|---|---|---|
| Teacher | Autonomy | Relatedness | Competence | Parental role | Child development | | |
| 1 | + | + | + | +/- | + | +/- | + |
| 2 | + | +/- | + | + | + | + | + |
| 3 | + | +/- | + | +/- | + | +/- | + |
| 4 | + | + | +/- | + | + | +/- | + |
| 5 | + | + | + | + | + | + | + |
| 6 | + | + | + | + | + | + | + |
| 7 | + | + | + | + | + | + | + |
| 8* | + | + | + | + | + | + | + |
| 9 | +/- | + | + | + | + | +/- | + |
| 10* | + | - | - | - | + | - | + |
| 11 | + | +/- | + | + | + | +/- | + |
| 12 | + | + | + | + | + | +/- | + |
| 13 | + | + | + | + | + | | + |
| 14 | + | + | + | +/- | | + | + |

*+= positive impact, -= limited impact, +/- mixed impact, no sign=no information*
**Teachers who only partially participated in the professionalization program*

All teachers ($n$ =14) reported they could fulfill their roles with substantial autonomy. Teachers emphasized that the program had given them the necessary theoretical background and tools without reducing their freedom to develop a personal approach. Teacher 13 reported: *"A great feeling of freedom because you can tailor the theoretical guidelines to your own needs."* Teacher 4

explained: "*The network sessions, that's where you find the tools*." Some teachers reported they felt free because they were explicitly encouraged to find their own approach, but could also ask for support. Teacher (2) said: "*I liked the fact that you could go your own way, but if you needed help, you got support, tips or suggestions.*" Teacher 9 felt that her organization was not supportive enough: "*It is just that our organization is limiting sometimes, that's the only thing*."

Most teachers reported that they felt more related to parents and colleagues. Teacher (2) explained her relatedness as follows: "*I have a good feeling about the way parents approach me now. They don't call me 'ma'am' but Irene (pseudonym), my first name. You know, these are the details that tell you that they think you're okay*." Teachers reported feeling more competent in their role towards parents. They described how they were more open to learning and to systematically improving their practice. Teacher 13 reported: "*I tried to let go of my old structures and to find out if I could improve things.*" Teacher 2 explained the tension to provide the differentiation that is needed: "*The difficulty is to adapt to the level of the parent and contribute something meaningful. That's the tension I feel in my work. Now, I can manage this better.*" Teacher 1 explained that she felt more competent in finding answers*: "Like now, I'm wondering how I can help this parent, but I'll figure it out, I'll try something.*" Most teachers reported they were challenged to experiment during the network sessions. Teacher (7) reported: "*I experiment a lot. What I learned during the recent network session is that you can use parent-child activities that are spelled out, or you can use more openness and stimulate parent and child to think about the content themselves*." Approximately half of the teachers felt more competent when they discovered that their work with parents was valued by others. These teachers reported that parents and colleagues in the school praised their improvements, which they experienced as a confirmation that they were doing the right thing.

Some teachers also mentioned limitations. These teachers experienced a lack of relatedness to their colleagues. Teacher 3 reported: "*I hope I did well, but I think I was the only one who did it (worked with the AHL principles). We can improve. We also want to reach parents in other grades. If these colleagues don't continue this, I wonder if I could have done something different to involve my colleagues and create more enthusiasm to continue.*" These teachers do not have doubts about their competence to work with parents, but experience boundaries (such as energy, time, and involvement of colleagues). Teacher 4 explained: "*The lack of possibilities you have at school. I see possibilities as a teacher, but it is not easy for everyone.*" Teacher 10, who only partially participated in the professionalization program, did not experience relatedness and competence. She had problems with parents who did not speak Dutch and with the fact that she was unable to change parents' behavior: "*It bothers me that I have to tell parents to talk in Dutch. And when I turn around, I hear them talking in different languages. I ask them to do something, and they don't do what I ask. They don't listen. It's really difficult*."

All teachers reported that they perceived improvements for parents or children. Most teachers agreed that children appreciated the presence and the one-to-one contact with their parents. Teacher 9 reported: "*They feel special if their parent comes into the classroom and plays with them. They just love sharing things from school and home*." Many teachers emphasized that these moments of contact were precious because they had the impression that these stimulating interactions rarely occurred at home. Teacher 1 explained: "*Children tell me that they did something at home with their parents, but I wonder whether they really used language during these moments*." Several teachers reported that children were more open to contact, were proud, and used more vocabulary. Many teachers agreed that parents became more confident, used teachers' examples of how to interact with the child, asked more questions, were more aware of what their child was learning, and used more difficult words. Some teachers reported that parents experienced eye-openers ("Oh, that's why playing is important") and used these experiences home. Teacher 11 said: "*I see that parents know more about the simple things they can do at home and that they enjoy doing them in the classroom and at home*."

Next, we asked the teachers about how satisfied they were after using AHL. Twelve teachers were satisfied. Most teachers reported that their new role with parents was more satisfying than before. Teacher 5 explained: "*Yes, satisfaction and insight. It's intensive, but you get something in return. I feel satisfied when there are so many parents in the classroom that you have managed to create a low threshold for parents. I am grateful for these new insights.*" One of the teachers who participated less in the professionalization activities was not satisfied. Some teachers said that they were less enthusiastic when improvements were slower than they had expected. Teacher 9 recalled: "*Sometimes it's difficult to be satisfied with the small steps you make.*" For some teachers, it was difficult to accept that some parents were unable to help their child and use language. Teacher 1 reported: "*If you have a very limited vocabulary in Dutch and in your native language, then it is hard to really understand*." Teacher 12: "*It's sometimes frustrating if it doesn't work. Sometimes it just doesn't work*."

Finally, all teachers reported that they would continue their work with parents after the research period. They all agreed that the program provided the necessary tools and that it was compatible with their usual program. Some reported wanting to continue with AHL because it facilitated their activities with the children. Teacher 5 explained: "*Now it's easier to talk with parents about their children's development during the school report meetings.*" Teacher 4: *"That parents work with us this way gives me a warm feeling. And I can do my work with the children much more easily. They know more, they are more open, they talk more. Everything is coming along more smoothly.*" Ten teachers suggested improvements to the program, such as providing more time to work with parents or changing school policy to involve parents more. The most important reason for teachers to continue with AHL was its effectivity. Teacher 14 explained: "*Yes, we'll continue this. If you experience that it works, then you want to continue.*" Teacher 10,

who reported no satisfaction and participated less in the professionalization activities, told the researcher: "*Yes, I'll continue. I hope I'll have more opportunities in the new school year. Not just to do this better, but other things too. It didn't work so well this year due to (personal) circumstances*." Teacher 1 explained: "*Yes, this must go on, that is my opinion, with more school policy (to involve parents). And I really don't understand why this didn't happen in our school before.*" Some teachers had already involved their colleagues and were continuing their approach with parents. When asked whether she would continue to work with AHL, Teacher 3 replied: *"Absolutely. And I really see that my colleagues want to do the same."*

# DISCUSSION

The aim of this study is to investigate whether the AHL program contributes to teachers' professional development to build SFPs with lower-educated parents and improve young children's oral language development. Regarding our first research question (i.e., Do teachers adhere to the seven AHL steps?), nine of the 14 teachers reported that they had followed all seven steps. Three teachers reported they had adhered to six steps, but were unable to implement Step 7 *[Expand children's language]*. Two teachers, who participated only partially in the professionalization activities due to personal circumstances, reported that they had adhered to three steps (1, 2, and 6).

With respect to our second research question (Does teachers' adherence improve from pretest to posttest, and is there a difference in gain for parents with different educational levels?). Our analyses show a significant improvement in teachers' adherence to six of the seven steps. However, we found no improvements in teachers' insight in the HLE, one of the two aspects of Step 1 and no significant interaction for education level on change in teachers' insight in parental skills and the HLE, and their ability to build reciprocal relationships with the parents in their classrooms. However, we did find significant lower overall rates of teachers' self-reported insight in the HLE for parents at education level 1 (primary education as highest level), in contrast to parents at levels 2 and 3 (secondary education until the age of 15 and higher). We found the same results for Step 3 [*Build reciprocal relationships*]. Furthermore, teachers succeeded in involving more parents in parent-child activities when comparing posttest to pretest. We found the least improvement for the two teachers who did not fully participate in the activities.

We now present our findings related to our third research question (To what extent do teachers perceive that the use of the seven AHL steps contributes to their personal goals as a teacher and to the sustained use of AHL?). The results indicate that all teachers were intrinsically motivated to work with parents while following the seven steps of the program. They reported the program contributed to their goals and gave them the freedom to tailor their work to the needs

of the parents in their classroom. Most teachers perceived a feeling of being related to parents and colleagues and felt competent to work with parents as a result of the AHL program. Most teachers experienced more parental involvement (e.g., more confidence, more communication, and more involvement at school) and more support for children (more fun, pride, openness, and larger vocabulary). All teachers said that they wanted to continue using the seven steps of AHL. These intentions indicate that teachers felt a sense of ownership after implementing the program that may contribute to sustaining this new behavior.

Each phase of the program (Establish SFPs, Implement intervention activities, and Stimulate oral language) has notable findings. First, teachers established improved SFPs. They enhanced their recognition of parental knowledge and skills substantially *[Step 1: Assess the HLE],* which is an important condition for building partnerships that are tailored to the needs and capacities of parents (Manz et al., 2010). However, interviews and class inventory lists showed that teachers had difficulties gaining insight into the interactions and activities in the HLE. Some teachers suggested that spending time with families, preferably at home, is needed to help them to attain this insight and connect their role as a teacher to the HLE. The importance of home visits is underlined by previous research (Blok, Fukkink, Gebhardt, & Leseman, 2005). Furthermore, teachers managed to improve their SFP procedures and the involvement of colleagues and parents *[Step 2: Involve parents and colleagues in school-family procedures in support of child language development]*. We believe that this organizational step strongly contributed to teachers' progress and increased parental involvement. Goal-directed SFP procedures shape teachers' and parents' mindsets and can change routines (Epstein & Sanders, 2006; Lusse et al., 2019). The results of interviews and observations during parent-child activities also showed improvements in teachers' reciprocal relationships with parents *[Step 3: Build reciprocal relationships]*. Additionally, class inventory lists showed some improvement in relationships between teachers and parents, only approaching significance. These are important findings given previous research that shows that teachers encounter difficulties building relationships with parents, particularly when parents have diverse backgrounds (Bakker et al., 2013; Walker & Leg, 2019). However, our findings also show that teachers perceive their relationships with parents at Level 1 (i.e., maximally primary education) as poorer compared to parents at Level 2 and 3 (i.e., minimally lower secondary education). Our interviews indicate that teachers felt pressure and a lack of time for exchanging experiences with parents. These findings underline the necessity to continue devoting attention to building reciprocal relationships with lower-educated parents. Facilitating teachers to spend more time for conferencing with parents at school and by conducting home visits could create more opportunities for teachers for meaningful exchanges without pressure. Providing time and calmness are necessary conditions for teachers to establish the needed trust and understanding with lower-educated parents and align their supportive roles in children's development (Hannon, Nutbrown, & Morgan, 2019; Manz et al., 2010).

In the second phase of the program (Implement intervention activities), we found that teachers were successful in developing parent-child activities adapted to the needs of lower-educated parents. Teachers designed activities that were easy to perform and stimulated interaction between parent and child. Teachers carefully considered parental skills and knowledge based on the information they attained at Step 1 *[Assess the HLE]*. They explained the steps and modeled how the activity should be carried out. Several teachers mentioned that modeling was the most effective delivery mode to provide explanations to parents with little prior knowledge and literacy skills. This use of modeling contrasts with previous findings in FLPs. De la Rie (2018) and Teepe (2018) found that teachers used less modeling in language activities than the program prescribed and concluded that teachers should be trained to use appropriate delivery modes to adapt to lower-educated parents. Our program seems to succeed in providing such training. It also stresses the importance of additional competence building for teachers to support them when engaging lower-educated parents and their children in interactive activities.

In the third phase of the program (Stimulate oral language development), we found the most development, evidenced by the large effect sizes of observed teacher behavior. First, several teachers considered parental role support *[Step 5]* as the most relevant step for teachers. However, during our observations, we found lower scores compared to the other two steps to support oral language. We observed less explicit explanations of why and how parents should follow their children's initiative and how turn-taking can stimulate children's use of language. As a result, many lower-educated parents dominated the interaction with their children during activities, inhibiting turn-taking. It is well-documented that lower-educated parents often show a directive form of communication with their children (Dodge, Pettit, & Bates, 1994; Hart & Risley, 1995; Hoff, 2003; Mistry et al., 2008). Aligning the communication styles of parents and teachers is crucial for progress towards children's oral language development (Wasik & Sparling, 2012). Our findings show a strong development of prioritizing language *[Step 6]* and expanding language *[Step 7]*. However, observations and interviews showed that teachers varied in their adherence to these steps, particularly in their use of scaffolding and decontextualized questions. Additional video coaching would be useful to support teachers who need to improve these strategies (see Chapter 3).

Finally, we discuss the AHL professionalization activities. These activities were grounded in principles that have proved to contribute to teachers' sustained motivation to optimize their role and feelings of ownership (De Brabander & Martens, 2018; Epstein et al., 2019; Hoover-Dempsey et al., 2002; Van Veen et al., 2012). In teachers' considerations of their future use of AHL activities, these principles resound. We believe that the extent of freedom teachers experienced during the implementation, complemented by the meaningful improvements of their work as a teacher, explains their intentions to continue AHL after the implementation period. However, during the interviews, some teachers shared frustrations about involving their colleagues. This

finding is in line with our observations in the schools. We observed that teachers' active role towards parents is often a personal choice, which is insufficiently supported by school policy (see also Chapter 3; Epstein et al., 2019). This situation where innovative teacher behavior is not embedded in school policy might undermine sustainable changes in professional behavior (Van Veen et al., 2012).

Overall, the AHL program resulted in improved SFPs for young children's oral language development and in increased motivations of teachers to engage parents. These findings are complementary to our recent findings (see Chapter 5.) that evaluated how AHL contributed to parental oral language support. The studies together show promising directions to further contribute to SFPs directed at the parents and children that are most in need of this support.

## Limitations and suggestions for future research

In this study, we prioritized gaining in-depth understanding of how the AHL program influences teachers' behavior and their feelings of ownership. The program is based on seven design principles that were developed in the previous design and literature research (see Chapter 3; Van der Pluijm et al., 2019). The present study is the first step to investigate whether the seven design principles of the AHL program can be used by other teachers who work with high numbers of lower-educated parents. This approach has limitations due to the small sample of selected teachers that participated in this study and the absence of a control condition. Therefore, a recommendation for future research is to investigate whether the AHL principles can be generalized by experimental research that includes a control group. We recommend a phased research design that creates control groups by using a switching replications design (Trochim, Donally, & Aurora, 2014). In other words, all teachers in organizations will participate in the program. By phasing implementation, we can compare the results of groups with and without the program one after the other. This type of design will create opportunities to implement the program step-by-step, and form groups of teachers according to their motivation and possibilities at that moment. The first experiment groups may need more motivation and feelings of self-efficacy to become involved, because of the content that is relatively unfamiliar at that stage. The good examples of the first group can then show the benefits of participating in the experiment and motivate teachers who were initially more hesitant to become actively involved. If more evidence is found for the effectiveness of the design principles in the next phase of the experimental research, researchers can consider a random assignment of teachers to research conditions.

## Implications for policy and practice

In this study, teachers managed to build SFPs in support of child language development. Teachers adapted their interventions to the needs of lower-educated parents, using a step-

by-step approach that includes all parents regardless of their backgrounds. Recent research underlines the importance of tailoring SFPs to the needs of lower-educated parents (Boonk, Gijselaers, Ritzen, & Brand-Gruwel, 2018; De La Rie, 2018; Manz et al., 2010; Van Steensel et al., 2012).

Especially schools with large numbers of lower-educated parents could increase their efforts to develop SFPs in support of child language development. However, the right conditions that acknowledge the professional autonomy of teachers must be in place. Consequently, we recommend inviting teachers as co-researchers in a process that is closely related to their practice and based on collective learning (cf., Epstein et al., 2019; Van Veen et al., 2012). This active engagement of teachers in joint research activities requires limited numbers of participants to allow building trust and relationships between group members and process leaders. Process leaders should be carefully selected. Process leaders should preferably be experts in the field of parental involvement and language education, which is needed to adapt to the specific barriers that teachers can experience in practice. Additionally, process leaders need to be well-trained for professionalizing teachers based on inquiry. This expertise is crucial to stimulate teachers to find solutions by continued cycles of testing and reflecting that are needed to develop new customized behavior (cf., Walker, 2019).

Teachers should create opportunities to support high-quality verbal parent-child interactions. Introducing the use of decontextualized language could further improve children's oral language and literacy development (Rowe, 2012; Snow, 1991; Van Kleeck, 2008; Weizman & Snow, 2001). Teachers need substantial and specific capabilities to fulfill a role in child language learning, both in the classroom and together with diverse groups of parents (Michel & Kuiken, 2014). Dedicated training to work with parents and collaborative support of child language development are prerequisites. Better preparation of teachers for this role together with parents can be rewarding and contribute to teacher satisfaction about their work in diverse contexts.

In conclusion, policymakers could stimulate schools to develop adaptive SFPs in support of child language development. They can facilitate schools to establish a school policy and employ professionalization programs that provide intensive forms of reflective learning and community networks that build upon teachers' professionalism (Hoover-Dempsey et al., 2002). In addition, pre-service teacher education should include more substantial knowledge and practical training to facilitate candidates building SFPs. This policy can encourage schools and pre-service education to prioritize investigating children's HLEs and stimulate candidates and teachers to build reciprocal relationships with parents. Conducting introductory interviews (Lusse et al., 2019), preferably in the home environment of pupils, can contribute to this aim. All these investments can contribute to positive feelings of teachers towards parental involvement.

This is important given the crucial role teachers play towards young children and families to promote equity (cf., Epstein et al., 2019; Pushor, 2014; Willemse, Thompson, VanderLinde, & Mutton, 2018).

## Appendix A: Coding scheme AHL teacher behavior (Steps 4 to7)

Revised model of Lusse, 2013

### *Phase 2: Implement intervention activities*

**STEP 4:** Teachers arrange weekly parent-child activities that stimulate interaction (using Steps 1 to 3).

| Behavior | Definition |
|---|---|
| Adapting the activity to parental knowledge and skills | Rating the quality of the activity. This is established by observing how often the teacher uses interactive activities, easy language, avoids the use of written materials, uses themes that are familiar to parents, and supports the use of the home language. Frequency of teacher behavior to encourage parents who are less skilled. |
| Structuring the activity | Rating the quality of the delivery. This is established by observing how often the teacher encourages interaction: e.g., fixed set-up from introduction to evaluation, verbal explanation and modeling, suggestions to take home. |
| Using reciprocal communication | Frequency of teacher behavior to exchange experiences with parents, value parental views, and align roles of parent and teacher. |

### *Phase 3: Stimulate language support*

**STEP 5:** Teachers stimulate parental role development

| Behavior | Definition |
|---|---|
| Explaining parents' and teachers' roles | Frequency of teacher behavior to explain parents' and teachers' roles to support children's oral language development. |
| | Frequency of teacher behavior to explain and model strategies to follow the child perspective (encourage child initiative, verbal, and non-verbal sensitive responsive communication). |
| | Frequency of teacher behavior to explain and model how parents can use turn-taking to interact with the child. |

**STEP 6:** Teachers support parents to prioritize the use of language

| Behavior | Definition |
|---|---|
| Stimulating parents to prioritize language | Frequency of teacher behavior to explain how parents can develop verbal communication with the child and focus less on the results of the activity. Frequency of teacher behavior to explain and model strategies to stimulate the use of language by naming and asking challenging (open-ended) questions Frequency of teacher behavior to explain and model the use of scaffolding to prevent parents from taking over the activity. |

**STEP 7:** Teachers support parents to expand their children's language

| Behavior | Definition |
|---|---|
| Stimulating parents to expand their children's language | Frequency of teacher behavior to explain how parents can expand their children's oral language.<br>Frequency of teacher behavior to explain and model strategies to extend children's sentences.<br>Frequency of teacher behavior to explain and model the use of questions about children's experiences and opinions and to use decontextualized speech. |

# 5

# At Home in Language: How to support lower-educated parents in stimulating their young children's oral language development?

This chapter has been submitted as:

Van der Pluijm, M. S., Van Gelderen, A. J. S., & Kessels, J. W. M. (submitted). At Home in Language: How to support lower-educated parents in stimulating their young children's oral language development?

# ABSTRACT

Despite the well-documented need for effective interventions to enhance young children's oral language development tailored to the characteristics of lower-educated parents, there is little research that addresses this specific target group. We conducted two multiple case studies that review the results of the school-based program At Home in Language. This program establishes school-family partnerships, defined as intentional collaborations between teachers and parents, to stimulate lower-educated parents to contribute to the oral language development of their young children (3-8 years). The first study investigated parental perceptions of these school-family partnerships and the quantity of home language activities conducted by parents and children. The results showed an increase in the frequency of home language activities reported by the lowest educated parents. The second study examined the quality of parent-child interaction during classroom activities. The results showed improvements in the quality and the quantity of these interactions, in particular for dyads that participated in classrooms with a high quality of delivery by teachers. Practical implications are discussed of how school-family partnerships with lower-educated parents can be implemented so that these parents can contribute to their young children's oral language development.

# INTRODUCTION

Oral language development of young children deserves attention, as it is a key factor in language and literacy development (Aikins & Barbarin, 2008; Beals, De Temple, & Dickinson, 1994; Sénéchal & Lefevre, 2002; Storch & Whitehurst, 2002). Young children's vocabulary and syntactic knowledge originate from oral language used at home, influencing their skills in reading and writing (Shanahan, 2006). The richness and diversity of interactions and activities that parents provide at home, often defined as the Home Language Environment (HLE), have a strong impact on the language and literacy development of young children (Bus, Van IJzendoorn, & Pellegrini, 1995; Niklas & Schneider, 2013; Sénéchal & LeFevre, 2014; Van Steensel, 2006). Most differences between children's language skills can be explained by parents' low educational attainments (e.g., Golinkoff, Hoff, Rowe, Tamis-Le Monda, & Hirsh-Pasek, 2019; Hoff, 2013; Leseman & Van den Boom, 1999; Rowe et al., 2016; Van Kleeck, 2008), defined as a maximum of primary education (very low) or lower secondary education (low) (OECD, 2015, p. 15).

Many of these lower-educated families are challenged to provide a rich HLE because of less knowledge, language, and literacy skills (Hoff, Laursen, & Tardif, 2002; Rowe, Denmark, Harden, & Stapleton, 2016; Van Tuijl, Leseman, & Rispens, 2001). Such family environments can be at the root of children's language and literacy delays (Gilkerson, Richards, & Warren et al., 2018; Hart & Risley, 1995). Two main factors impact the language and literacy development of children in the home situation: the *quality* of the parent-child interaction during daily family routines and the *quantity* of language parents provide at home (Hoff, 2013; Leseman & De Jong, 1998; Van Steensel, 2006). In lower-educated families, the quality of parent-child interaction is lower compared to higher-educated families in several respects. Lower-educated parents tend to use less positive and sensitive communication styles (Dodge, Pettit, & Bates, 1994; Hart & Risley, 1995; Leung, Hernandez, & Suskind, 2018; Mistry, Biesanz, Chien, Howes, & Benner, 2008). Parents may also use less decontextualized language that stimulates the child to use oral language that refers to situations and ideas that are not present in the immediate environment (Curenton, Craig, & Flanigan, 2008; De Temple & Beals, 1991; Rowe, 2012; Snow, 1991; Van Kleeck, 2008; Van Kleeck, Gillam, Hamilton, & McGrath, 1997). In contrast, higher-educated parents use decontextualized language more often and are more capable of fostering their child's initiative by using responsive communication strategies, such as following the child's perspective and scaffolding. In lower-educated families, the quantity of verbal interaction is also lower compared to higher-educated families in several respects. Lower-educated parents tend to talk less to their children (Fekonja-Pekla, Marjanovic, & Kranjc, 2010; Gilkerson et al., 2017; Hart & Risley, 1995; Hoff, 2003; Van Kleeck, Lange, & Schwarz, 2011) and engage their children less frequently in language and literacy activities (Gonzalez et al., 2017; Suizzo & Stapleton, 2007) or in school-related dialogues (Kutner, Greenberg, Yin, Boyle, Hsu, & Dunleavy,

2007; O'Donnell & Mulligan, 2008). However, these classifications should be interpreted with caution, as research also shows large variations in quantity and quality of HLEs within groups of lower-educated families (Philips & Lonigan, 2009; Van Steensel, 2006)

Despite these findings, there is little knowledge of how lower-educated parents can be supported effectively to promote their children's oral language development at home (Van der Pluijm, Van Gelderen, & Kessels, 2019). For decades, educators, researchers, and policymakers have been encouraged to develop programs that acknowledge the home and school environment as the two most important domains where young children acquire language (Bronfenbrenner, 1977; 1992). Numerous initiatives have been launched to enhance children's language development together with parents. For example, Epstein (2011) introduced goal-directed School-Family Partnerships (SFPs), defined as collaborations between teachers and parents to coordinate child support, based on equality (Bakker, Denessen, Denissen, & Oolbekkink-Marchand, 2013; Epstein, 2018; Van Voorhis, Maier, Epstein, Loyd, & Leung, 2013). Meta-studies have shown that overall, SFPs have a positive effect on children's academic achievement, particularly those that stimulate parental involvement at home and regardless of parental backgrounds (Castro et al., 2015; Hill & Tyson, 2009; Jeynes, 2007; 2016; Wilder, 2014). However, there is little evidence that SFPs that support young children's oral language development are effective for children of lower-educated parents (Boonk, Gijselaers, Ritzen, & Brand-Gruwel, 2018; Goodall & Voorhaus, 2011; Sheridan, Knoche, Kupzyk, Edwards, & Marvin, 2011; Van der Pluijm et al., 2019). Family Literacy programs (FLPs) have been developed to prevent the intergenerational transfer of language and literacy problems. These programs aim to contribute to enriching the home literacy environment (Wasik & Van Horn, 2012) by involving both parents and children in program activities (Hannon, 2003). Unfortunately, meta-studies show that these programs are less effective for low SES parents often with low education levels that need this support most (Manz, Hughes, Barnabas, Bracaliello, & Ginsburg-Block, 2010; Mol, Bus, De Jong, & Smeets, 2008; Van Steensel, Herppich, McElvany, & Kurvers, 2012). However, program activities (e.g., shared reading) can be difficult for parents with low educational levels and literacy skills. These parents are often less familiar with the specific type of communication that requires them to support child initiative (cf., Mol et al., 2008; Reese et al., 2010; Van Steensel, Herppich, McElvany, & Kurvers, 2012). Recent findings show convincing effects of interventions that apply focused activities and strategies to enhance child language development, carefully adapted to the skills and resources of lower-educated parents (Boyce et al., 2010; Reese et al., 2010; Landry et al., 2008; Van der Pluijm et al., 2019; Van Steensel, Fikrat-Wevers, Bramer, & Arends, 2019).

Another problem that complicates finding customized interventions for lower-educated parents is that much intervention research does not provide detailed insight into the backgrounds of parents, allowing interventionists to learn about what works for these parents. Parental education level is often one of the indicators of parental socioeconomic status (SES),

together with occupation and income indicators. Poverty and unemployment are prevalent problems that might lead to stress and that need to be accounted for by intervention research (Linver, Brooks-Gun, & Kohen, 2002; Roberts, Jurgens, & Burchinal, 2005). However, reports of parental education levels are often lacking (Haring Biel et al., 2020; Van der Pluijm et al., 2019). Besides, researchers tend to define 'lower-education' as high school level and less, categories that do not admit interpretation of effects differentiated for the lowest educated (i.e., maximum of primary education), lower educated (i.e., lower secondary education) or middle educated (i.e., higher secondary education) parents (Van der Pluijm et al., 2019), whereas parents at the lowest end of education are likely to face the most substantial barriers providing a rich HLE for their children. Interventions and research should take into account these parents' lack of schooling that may be inhibiting their roles in the HLE. Implementation of these interventions is complex due to the interaction of various characteristics that require the professional abilities of teachers to use specific delivery modes (Powell & Carey, 2012; De la Rie, Van Steensel, & Van Gelderen, 2016). Many lower educated parents (compared to higher-educated parents) differ in their knowledge and beliefs about activities that trigger language development (Aarts, Demir-Vegter, Kurvers, & Henrichs, 2016; Rowe et al., 2016; Scheele, 2010). These beliefs may lead to different role perceptions of parenting, compared to what schools expect from parents (Hoover-Dempsey et al., 2005). In particular, the lowest educated parents may have had the most negative experiences in their educational careers and weak beliefs of self-efficacy for supporting their child's development that may negatively affect their parental role (Fitzgerald, Spiegel, & Cunningham, 1991; Neuman, Hagedorn, Celano, & Daly, 1995; Walker, Wilkins, Dallaire, Sandler, & Hoover-Dempsey, 2005). One more limitation that intervention research should consider is parental literacy. These skills may be very low, or parents may be illiterate (Boyce, Innocenti, Rogman, Jump Norman, & Ortiz, 2010; Malin, Cabrera & Rowe, 2014; Reder, Vanek, & Spruck-Wrigley, 2011; Reese, Leyva, Sparks, & Grolnick, 2010). Despite the relevance of parental literacy skills for parental support of their children's language development (Bynner & Parsons, 2006; Haden, Reese, & Fivush 1996; Neuman, 1996; Sénéchal, 1997), literacy levels are scarcely reported (Manz et al., 2010; Van der Pluijm et al., 2019). Interventionists should specifically account for the parents with a migrant background, who may have considerably lower education levels compared to parents born in the host country (Allemano, 2013; Anderson, McTavish, & Kim, 2017; Beacco, Lyttle, & Hedges, 2014; Wasik & Van Horn, 2012). These parents may also have difficulty speaking and understanding the majority language that may complicate their interactions with their children and their participation in interventions (Anderson et al., 2017; Scheele, 2010). In summary, increased attention of intervention research for the specific characteristics of lower-educated parents is urgently needed as this information enables researchers and practitioners to implement ecologically valid interventions that contribute to bridging language gaps of children.

## The At Home in Language program

Building upon the existing body of knowledge on School-Family Partnerships (SFPs) and Family Literacy Programs (FLPs) that has been found to be effective for supporting lower-educated parents, we designed the At Home in Language (AHL) program. This program aims to address the need for ecologically valid approaches to support lower-educated parents to stimulate their young children's language development. For this aim, we coached teachers to develop their abilities to build goal-directed partnerships with parents connecting the school and home environments (Bronfenbrenner, 1977; 1992).

We developed a series of seven steps that guide teachers to build SFPs to support children's oral language development in their classrooms involving all parents and children (whole classroom approach). Figure 5.1 describes the steps. Each step requires teachers to explore perspectives to adapt their behavior to the needs and resources of parents in their classroom (see Chapters 3 and 4).

**FIGURE 5.1:** Seven steps for teachers to engage parents in AHL

| Phase | Steps for teachers |
|---|---|
| Establish School-Family Partnerships (SFPs) in support of child language development | 1. Assess the HLE |
| | 2. Involve parents and colleagues in Family-School Partnership procedures in support of child language development |
| | 3. Build reciprocal relationships with all parents |
| Implement intervention activities | 4. Arrange weekly parent-child activities adapted to capacities of (lower-educated) parents (using Step 1 to 3) |
| Stimulate oral language support | 5. Stimulate role development |
| | 6. Prioritize the use of language |
| | 7. Expand children's language |

The first three principles aim to align teachers' and parents' needs and resources as partners for their joint interventions, which is considered as an important condition for establishing implementation quality (De la Rie, 2018; Meyers, Durlak, & Wandersman, 2012). In Step 1, teachers assess the HLE to understand families' needs and the resources they can draw on (Hoover-Dempsey et al., 2005; Hutchins et al., 2013). Teachers map out parents' abilities (e.g., educational levels, literacy skills, language proficiency), learn about family practices, and look for opportunities to enhance parent-child interactions (e.g., playing games, shared reading) (Landry, Smith, Swank, & Gutentag, 2008). Step 2 requires teachers to critically review their existing parent procedures and make individualized action plans to develop goal-directed SFPs in line with parental resources (Epstein & Sanders, 2006; Hoover-Dempsey et al., 2005).

Step 3 aims to ensure that all parents feel invited and are recognized as partners (Manz et al., 2010; Sheridan, Knoche, & White, 2019). Teachers adopt an open attitude and invite parents to share information about their family environment. This way, teachers can detect resources and capacities to build upon (Scott, Brown, Jean-Baptiste, & Barbarin, 2012; Van Regenmortel, 2009). Teachers use reciprocal communication strategies to establish dialogues with parents and align teachers' and parental goals to jointly support the child (Anderson et al., 2017; Lusse, Van Schooten, Van Schie, Notten, & Engbersen, 2019b).

In Step 4, parents become involved in parent-child activities in the classroom to experience the value of interaction for their children's language development. For this aim, teachers use easy talk and play activities (i.e., requiring no specific knowledge or skills), applying both sensitive communication (e.g., encouraging) and oral language strategies (e.g., asking open questions) to establish interaction. Teachers use various methods of delivery of these activities and strategies adapted to the skills and experiences of parents, such as modeling (Bandura, Blanchard, & Ritter, 1969) and building upon familiar themes (e.g., talking about family, going to the grocery store) (Van der Pluijm et al., 2019). Encouraging parents to use their preferred language with their child at home is recommended as it can help children and parents to feel confident (Agirdag, 2014; Anderson et al., 2017; Boyce et al., 2010; Cummins, 2000) and enhance child language learning in both the minority and majority language (Cummins, 1979; Dijkstra, Kuiken, Jorna, & Klinkenberg, 2016; Hammer et al., 2014). Steps 5 to 7 aim to encourage parents to intentionally stimulate their children's oral language development. Step 5 emphasizes parental role development. Many lower-educated parents have little knowledge about strategies that enhance their child's oral language development (Rowe et al., 2016; Suskind et al., 2017). Parents acquire this knowledge when they act out their role in supporting their child, for example, by following their children's initiatives and by learning how to take turns (Landry, Smith, Swank, & Gutentag, 2008; Leung, Hernandez, & Suskind, 2018). Frequent and successful experiences can contribute to feelings of self-efficacy when parents support their children's development (Hoover-Dempsey et al., 2005; Wasik & Sparling, 2012). Step 6 emphasizes the need to value children's efforts to use language instead of directing the child to produce the right answer or the perfect product (Dickinson, Darrow, Ngo, & D'Souza, 2009; Pepper & Weitzman, 2004; Wasik & Sparling, 2012). Parents are introduced to strategies to encourage child initiatives, such as asking open-ended questions and scaffolding (Landry et al., 2008). Finally, Step 7 introduces parents to strategies for expanding children's use of language (Van der Pluijm et al., 2019), such as extending the use of words (Boyce et al., 2010; Kupzyk, Banks, & Chadwell, 2016) and asking questions that require the use of decontextualized speech (Reese et al., 2010; Rowe, 2012; Van Kleeck, 2008). Continuous provision of examples and opportunities for using such strategies and experiencing the benefits for children can inspire lower-educated parents to use these strategies themselves (see Chapter 3).

## The present study

This research is a summative evaluation of the AHL design, with multiple cases (Yin, 2018). AHL was developed as a result of two preparatory studies. First, we conducted a review of previous studies directed at strategies and activities suited for the target group of lower-educated parents supporting their children's oral language development (Van der Pluijm et al., 2019). Second, we carried out a design study to customize design principles derived from the literature to teachers' and parents' needs in the context of the classroom (Van der Pluijm et al., in preparation). Based on the results of the design study we adjusted the design principles. The present study consists of two parts and investigates the results of the customized AHL program on lower-educated parents' perceptions of the SFP and their HLE (study 1), and their enactment during the interaction with their child (study 2). This study aims to contribute to the needed knowledge of how lower-educated can be supported to stimulate their children's language development, adapted to the abilities and resources of families.

This summative evaluation reviews the overall impact of AHL on parental perceptions and behavior in classrooms (i.e., cases) where the program was implemented. Study 1 investigates parent perceptions of their partnerships with teachers, their self-efficacy during language promotion at home, and their reports of the quantity of language activities conducted at home. This study is based on interviews with parents in fourteen classrooms at seven primary schools (preschool, kindergarten, and grade 1). Study 2 investigates parent-child interactions during their activities provided in eight classrooms at four schools applying the AHL steps. For both studies, we formed two groups of lower-educated parents: one including the lowest educated parents (no education to at most primary education), and one including other lower-educated parents (secondary education up to 15 years of age). Teachers play a decisive role in the transfer of program principles to parents (De la Rie et al., 2016; Powell & Carey, 2012). For this reason, we examined teachers' abilities to reliably convey the content of the program as intended in a separate study (see Chapter 4). In the presented research, we control for the quality of teacher delivery that was established by this previous research. The research questions are:

Study 1:

1. Does the AHL program improve parents' appreciation of the program, parental self-efficacy, and the frequency of language activities conducted at home?
2. Are there differences in the above-mentioned outcomes that can be attributed to differences in the quality of delivery in the classrooms?
3. Are there differences in the above-mentioned outcomes for the lowest educated parents compared to low, middle, and higher-educated parents?

Study 2:

4. Does the AHL program lead to improvements from pretest to posttest of the following parent-child interaction characteristics of lower-educated parents and their children?
    a. Quality of the interaction (child involvement and parental responsive behavior)
    b. Quantity of speech (number of words of child and parent, amount of turn-taking)
    c. Quality of speech (amount of contextualized, decontextualized, relational, and procedural speech of parents and children)
5. Are there differences in improvement of the above parent-child interaction characteristics that can be attributed to differences in the quality of delivery by teachers in the classrooms?

# STUDY 1
# METHOD

## Participants

The study took place at seven primary schools from summer 2014 to summer 2015. We selected primary schools in disadvantaged areas with a high percentage of lower-educated families in the city of Rotterdam (Netherlands). Prioritizing the collaboration with lower-educated parents as a key activity for at least one year was an additional criterion for participation. We contacted teachers and school leaders that represented their school at conferences on SFPs. If schools were interested, we informed them about the objectives and conditions of our research. One of the requirements was that each school should appoint at least two preschool (pupils aged 3), two kindergarten (pupils aged 4 to 6) or two first grade (pupils aged 6 to 7) teachers. Teachers were requested to join the research activities for at least one year. Seven schools agreed with these requirements and were invited to participate.

Four of the participating schools had participated in pilot research for the development of the AHL intervention (see Chapter 3). Four teachers in these schools had previous experience with AHL, and four teachers did not. The six teachers of the three new schools had no experience with AHL. In total, three preschool teachers, eight kindergarten teachers, and three grade 1 teachers were involved. The teachers were all dedicated to working with parents and were prepared to invest time. Most parents of children in these teachers' classrooms were lower-educated: 40% had attained primary school as their highest level (i.e., very low), 36% had completed secondary education until the age of 15 as their highest level (i.e., low), and 24% had finished secondary school at 16 or older).

**TABLE 5.1:** Demographic information of parent sample at pretest and posttest (*n* =71)

| | **Total sample** | **Total %** |
|---|---|---|
| Total | 71 | 100 |
| Gender | | |
| Male | 8 | 11.2 |
| Female | 63 | 88.7 |
| Migration background | 60 | 84.5 |
| Home language | | |
| Dutch | 6 | 8.4 |
| No Dutch | 9 | 12.6 |
| Dutch and other language | 56 | 78.8 |
| Parental education level | | |
| Very low: Primary school at most | 19 | 26.7 |
| Low: Secondary education (aged 12 to 15) | 16 | 22.5 |
| Middle: Secondary education (aged 16 to18) | 28 | 39.4 |
| High: Senior secondary vocational education/university | 8 | 11.2 |

Teachers informed parents about the aims of the research and the activities and requested their consent. This was done in writing, with teachers giving the letter to parents personally and ascertaining that parents agreed to participate in this research. All parents consented. At the start of the school year in September, we started the selection of parents for interviews, using a blind selection procedure. At each of the seven participating schools, for each of the fourteen groups, we randomly selected seven parents (98 in total). During the first round, we interviewed 89 parents (95%). During the second round, the same 89 were approached. We finally interviewed 71 parents at the pretest and posttest (80% of the initial sample). Table 5.1 shows background information about the parent sample that participated in both pretest and posttest interviews. The 19 parents who declined to collaborate in the second round reported they were unable to participate due to personal circumstances (e.g., childbirth, illness, or work).

## Program

Program implementation followed three phases that integrate the seven program steps. In the first phase, teachers establish SFPs in support of child language development *[i.e., Step 1: Assess the HLE, Step 2: Involve parents in SFP procedures in support of child language development, and Step 3: Build reciprocal relationships].* Teachers and parents expand their knowledge about the context of children's language development, acknowledging the complementary roles of the home and the school. Parents are invited to school procedures (e.g., introductory conferences), are engaged by informal contact with the teacher, and stimulated to be actively involved in

exchanges about their children's language development. Additionally, the aim is to develop feelings of trust as a basis for parents' relationships with teachers (Lusse, 2013; Manz et al., 2010).

In the second phase, teachers implement intervention activities *[i.e., Step 4: Arrange weekly parent-child activities adapted to capacities of (lower-educated) parents]*. We arranged opportunities for parent-child dialogues during weekly activities (20 to 25 minutes) on a fixed day in the week. Parents join these parent-child activities, leading to a routine. Examples are talk and play activities that stimulate talking about the home environment (e.g. about family members, who they are and what they enjoy doing together), or require the use of senses (e.g. identifying fruits on the table, touching them, removing one, and then guessing which fruit was removed). Teachers provide parents with a guiding (open) question (e.g., *"Who am I?"* or *"Which fruit is gone?"*).

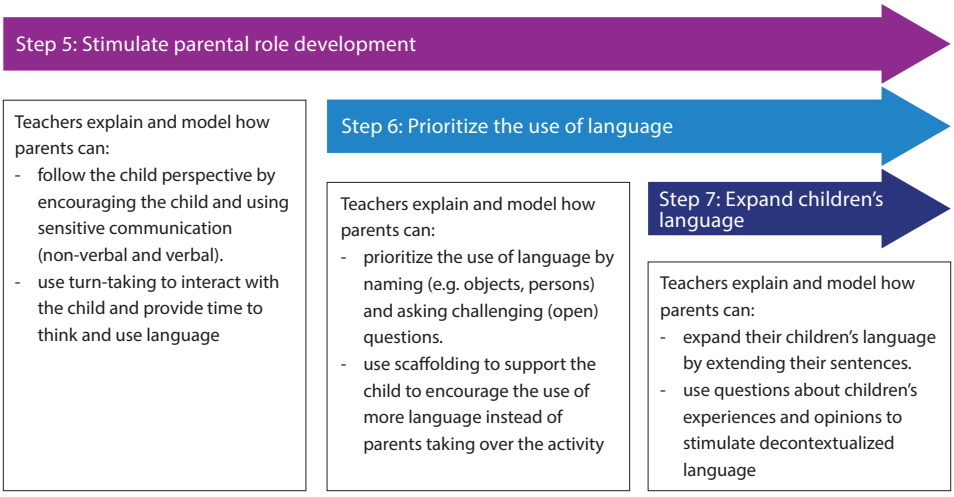


**FIGURE 5.2:** AHL oral language and responsive communication strategies

Teachers intensify oral language support in the third phase *[Steps 5 to 7 i.e., Stimulate role development, Prioritize the use of language, and Expand language]* by introducing language strategies (see Figure 5.2 for the strategies). First, teachers invite parents to exchange beliefs about oral language development and emphasize the importance of parental roles. Parents are informed about the need to sensitively encourage their child to talk freely without intervening based on beliefs about what is right or wrong and prioritize the use of language (Wasik & Sparling, 2012). Teachers show parents how to expand language (Boyce et al., 2010). They are

encouraged to use more words ("*Yes, this is a sweater, it's a black sweater with a hoodie, and it has white letters on the front.*"), and to express opinions or evaluate experiences ("*What sweaters do you like wearing?", "Which's your favorite?", or "What did you like most this morning?*") using decontextualized speech (Reese et al., 2010). Each step builds on the previous step by repeating the content and adding a new dimension (Wasik & Sparling, 2012).

***Teacher professionalization***

The professional development of teachers is central to the AHL program (see Chapter 4). Teachers were stimulated to develop their abilities by using situated learning activities that required them to develop solutions (Ericsson, 2006; Kemmis & McTaggart, 2005; Kolb, 2014; Lave & Wenger, 1991; Walker & Legg, 2018) and that acknowledge their feelings of autonomy, competence, and relatedness (De Brabander & Martens, 2018; Deci & Ryan, 2000). Teachers received tools to work with the seven program steps. These tools could be used for adaptation to their classrooms (Naoom et al., 2012; Powell & Carey, 2012). Figure 4.3 in Chapter 4 summarizes the program content, tools, and professionalization activities. The professionalization activities involved teachers collectively (four workshops and six networks sessions) and individually (eight coaching sessions). Three experienced coaches, assisted by seven pedagogy students, were responsible for the professionalization activities.

***Teacher delivery***

Teachers were coached to deliver the intervention during weekly interactive parent-child activities. We examined teachers' abilities to reliably convey the content of the program as intended in a separate study (see Chapter 4). The target was to organize 35 parent-child activities in a school year. Observations to establish insight in the quantity of delivery showed that all teachers arranged at least 35 parent-child activities (in some cases even 40), lasting between 20 and 25 minutes. We observed the quality of the delivery of AHL at the start and the end of the year. Most teachers showed adherence to all steps of the program. However, in three cases, teachers were not available for a longer period (due to burnout, maternity leave, and a broken arm), which influenced the quality of the delivery of the program during the parent-child activities. One teacher was able to continue her work, and the other two teachers were replaced. In these three cases, relationships between parents and teachers were more distant, and program delivery was unsatisfactory. Nevertheless, we decided to continue the activities with these new teachers and to follow the parents and children in their classrooms. We decided to compare the results for these three teachers (i.e., low-quality delivery) with the 11 others (i.e., satisfactory quality of delivery).

## Instruments and measures

We developed a questionnaire for parents for individual interviews. We used translators to accommodate parents with low Dutch language proficiency. The questionnaires consisted of the following:

*Demographics*: education levels (1= no education, 2=a language course, 3= primary school, 4=secondary education 12-15 years, 5=secondary education 16-18 years, 6=senior secondary vocational education, 7=university), migration background (defined by the country of birth of mother), home language (the language used at home with their child) and gender.

*Parent use of parent-child activities*: (0= never, 1=sometimes, 2=often).

*Parent perceptions of the SFP (open questions)*. We asked parents the following four questions:

- What did you like about the relationship with the teacher?
- How can you further improve your relationship with the teacher?
- What did you like about how the teacher helped you to support your child in developing oral language?
- How can collaboration with the teacher be improved?

*Parent perceptions of the SFP (scales)*. We used the Parent Involvement Project scales (Hoover-Dempsey et al., 2005) and derived three constructs on a six-point Likert scale, ranging from 1 (disagree strongly) to 6 (agree strongly).

1) Parent perceptions of the SFP in general. We used the items of two of the original PIP scales: Parent perception of invitations to be involved in school (e.g., "I feel welcome at this school") and Parent perception of their knowledge and skills to communicate with school ("I know how to communicate effectively with my child's teacher"). Cronbach's alphas for the construct (19 items) are α=.84 at pretest and α=.84 at posttest.

2) Parent perceptions of a SFP to stimulate children's oral language development. We adjusted the above scales of the Parent Involvement Project (Hoover-Dempsey et al., 2005) and created a new scale: Parent perception of invitations to be involved in oral language support (e.g., "My child's teacher gives me suggestions to support my child's oral language development." Cronbach's alphas for the construct (four items) are α=.68 at pretest and α= .73 at posttest.

3) Parent perceptions of their self-efficacy to promote language development at home. We adjusted two scales of Hoover-Dempsey et al. (2005). These are: Parent perceptions of their knowledge and skills to support language development at home (e.g., "I know how to

communicate effectively with my child"), and parent perceptions of their self-efficacy to support oral language (e.g., " I feel successful in supporting my child's language development"). Cronbach's alphas for the construct (five items) are α=.73 at pretest and α=.75 at posttest.

4) Parents reported a number of language activities at home (HLE): We measured this construct on a six-point Likert scale, ranging from 1 (never) to 6 (every day). The scale Parent report of home-based involvement activities was used from the Parent Involvement Project (e.g., "I talk with my child about the school day" and "I read to my child"). We extended the scale with additional talk activities (e.g., "I carry out language activities with my child" or "I watch television with my child" (Scheele, 2010). Cronbach's alphas of the construct (13 items) are α=.63 at pretest and α=.72 at posttest.

## Procedure

Pretests and postttests were conducted from October to December 2014 and from May to July 2015, respectively. In October and May, the researchers used the same procedure to recruit parents for the interviews, collaborating closely with the teachers. Teachers informed parents about the aim, the duration (30-45 minutes), and the content of the interviews. Parents could request a translator to be present. The teacher planned a date and time for the interview and informed the researcher. The interviews were conducted by a junior researcher and seven pedagogy students, who were all trained by the first author. All the students mastered one or more of the languages (Turkish, Berber, Arabic, Farsi, Urdu, and Polish) that were spoken by most of the parents and translated the questions for parents if necessary. We were not able to find translators (e.g., Bulgarian dialect, Thai) for some parents.

## Analyses

We compared parent participation in the AHL activities at pretest and posttest. Additionally, we used repeated-measures ANOVA to analyze the development of the four constructs from pre- to post-test. Next, we used quality of delivery by teachers as a factor to explain the development from pretest to posttest (comparison of parents with teachers with a high score versus parents with teachers with a lower delivery score). Finally, we used parental education levels as a factor to explain development in the repeated measures. We checked for equality of error variances in these analyses (Levene's test). We merged answers to the open questions and used these to interpret the results.

# RESULTS OF STUDY 1

Parent participation was higher at posttest ($M$ = 1.75, $SD$ = .47), than at pretest ($M$ = 1.17, $SD$ =.58). At posttest, 98.6% of the parents indicated they were involved in parent-child activities, compared to 88.6% at pretest. Table 5.2 shows the descriptive and test results for pre- and posttest scores for parents' perceptions of SFPs in general and of SFPs to support oral language development, their feelings of self-efficacy, and the HLE. The mean scores for the SFP in general ($M$ = 5.11) and self-efficacy ($M$ = 5.37) were remarkably high at pretest. Although the means of SFPs at the posttest were slightly higher than at the pretest, there is no significant difference in parents' perceptions in all four constructs. We found no effects for quality of delivery by teachers (i.e., comparison of three teachers with a low-quality delivery with the 11 others with a satisfactory quality of delivery).

**TABLE 5.2:** Descriptives and effects repeated measures parent perceptions ($n$ =71)

| | Pretest | | Posttest | | | |
|---|---|---|---|---|---|---|
| | **Mean** | **SD** | **Mean** | **SD** | ***F(df)*** | ***p*** |
| SFPs | 5.11 | .46 | 5.20 | .51 | 2.17(70) | .15 |
| Goal-directed SFPs | 4.57 | .83 | 4.73 | .97 | 1.72(70) | .19 |
| Self-efficacy | 5.37 | .52 | 5.42 | .61 | .28(70) | .60 |
| HLE | 4.16 | .48 | 4.16 | .56 | .00(70) | .95 |

*Measured on a 6-point Likert scale, ranging from 1 (disagree strongly) to 6 (agree strongly) and for the HLE ranging from 1 (never) to 6 (every day).*

Table 5.3 shows the effects of education level as a factor of the previous analyses of parent perceptions. We distinguished four education levels: very low (primary education and lower), low (secondary education; aged 12 to 15), middle (secondary education: aged 16 to 18), and high (senior secondary vocational education and university).

We found a significant effect of educational level on change of the HLE ($F$1, 66) =3.110, $p$ = .03). The partial eta squared is 0.12, which is defined as a medium effect size (Cohen, 1988). Post hoc analyses show that there is a significant difference between the very low-educated group ($M$ = 4.59 at pretest; $M$ = 4.97 at posttest) and the other groups in terms of HLE change: low-educated group ($M$ = 4.80 at pretest; $M$ = 4.67 at posttest), middle-educated group ($M$ = 5.02 at pretest; $M$ = 4.92 at posttest ), and high-educated group ($M$ = 5.18 at pretest; $M$ = 5.03 at posttest ). Figure 5.4 presents the results. Home language activities in the lowest educated group increased but decreased slightly in the other groups.

**TABLE 5.3:** Effects of education level on change in parent perceptions (*n* =71)

| | F(DF) | p | $\eta_p^2$ |
|---|---|---|---|
| SFPs | 0.65(67) | 0.59 | .03 |
| Goal-directed SFPs | 1.08(67) | 0.36 | .05 |
| Self-efficacy | 0.34(67) | 0.79 | .02 |
| HLE | 3.11(66) | 0.03* | .12 |

** p = <0.05, ** p = <0.01, *** p = <0.001*

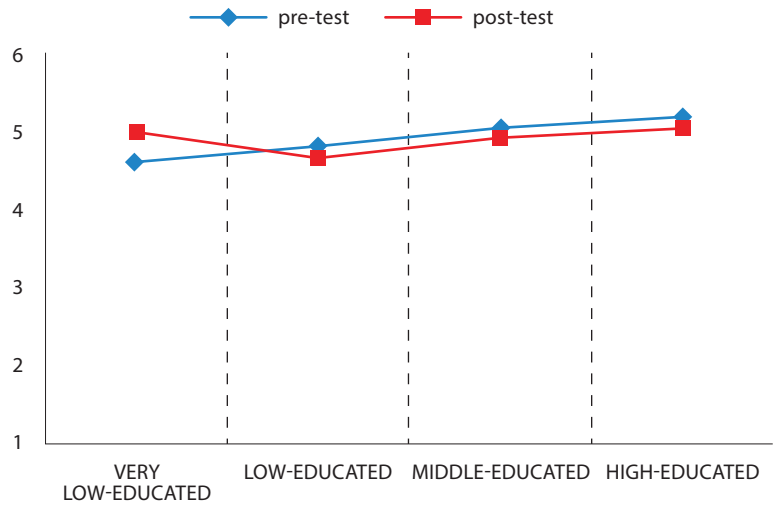


**FIGURE 5.4:** Effect of parental educational level on change in HLE

The open answers in the interviews (*n* = 66) indicate positive perceptions of parents of the SFPs in support of child language development. The results at the posttest show an increased number of positive reactions of parents with SFPs compared to the pretest, regardless of their educational levels. The most remarkable is that the lowest educated parents provide more personal details compared to higher-educated parents who seem to reflect more generally. An example of a very low educated parent perception of her relationship with the teacher is: "The t*eacher is open and connects to my level. She also has a nice voice."* An example of a higher-educated parent perception is: *"Teachers are nice and give good information."* Two examples of perceptions of the lowest educated parents' of SFPs to support oral language development are: "*They involve parents during activities, I mean together with the children."* And*:* "*We play memory in the class. They give me tips for activities at home. A few weeks later, they ask if it worked."*

Two examples of perceptions of higher-educated parents are: "*Coordinating together what to do at home, playing games, reading"* and "*kids learn a lot from their parents during parent-child activities*."

# STUDY 2
# METHOD

## Participants

Four of the seven schools from Study 1 consented to participate in this study. In total, eight classrooms were involved with children from four to seven years old (five kindergarten and three grade 1). We selected parents with a very low (primary school and lower) and low education level (secondary education aged 12-15). We randomly selected four dyads in each of the eight classrooms. Twenty-eight parents participated in the pretest; four parents were not able to participate in time due to personal circumstances. Nineteen of the 28 parents participated in the posttest. Four parents of one group refused to participate after an incident at school. Three parents were not able to participate because of personal circumstances (e.g., illness). Two observations of parents were excluded as these video observations could not be used for analysis. In one video, we could not find a translator for a rare Bulgarian dialect, and in the other video, the second parent interfered with the interaction. Table 5.4 shows background information of the nineteen parents for whom we have complete data. All parents are migrants from Turkey, Morocco, and Pakistan.

**TABLE 5.4:** Demographic information of parents in Study 2

| **Total** | **n =19** |
|---|---|
| Gender | |
| Male | 2 |
| Female | 17 |
| Migration background | 19 |
| Home language | |
| Dutch and other language | 4 |
| Other language | 15 |
| Parental education level | |
| Very low: Primary school at most | 12 |
| Low: Secondary education (aged 12 to 15) | 7 |

## Procedure

In both rounds of data collection, the teacher invited the parents, explained the aim of the research, and gave them a brief written explanation. In return, their children were promised a toy or game. Parents indicated whether they preferred an observation at home or at school. All parents chose the school option. Parents were asked whether they wanted a translator to be present who could introduce the tasks. Five pedagogy graduates were available as translators for one or more of the native languages of the parents.

At each of the four schools, we used a quiet room (i.e., without sources of interruptions). The researcher gave a brief explanation of the aims of the research i.e., to observe two activities (see below) and examine parent-child interactions. Parents were encouraged to talk with their child as they would at home, including using their native language. The researcher asked parents for their consent to record the dialogue on video. All parents consented, but four requested not to video the parent's face. Parents were informed that the researcher would not interact with the dyad during the activity to prevent influencing the interaction between the child and parent.

## Teacher delivery

We observed the quantity and quality of the delivery of AHL, as explained in Study 1 (more information can be found in Chapter 4). However, in this study, there were two cases of teachers who were not available for a longer period (maternity leave, and a broken arm) instead of three cases, which influenced the quality of the delivery of the program during the parent-child activities. Of the $n$ =19, we observed four dyads in the two classrooms with a teacher who had a lower quality of delivery, and fifteen dyads in six classrooms of the six teachers who showed a higher quality of delivery.

## Activities for parent-child interaction

For our observations, the dyads were asked to take part in two talk and play activities in the classrooms. These activities were developed during a pilot study and were based on a previous literature review on effective activities and strategies that can be used for lower-educates parents (see Chapter 2; Van der Pluijm et al., 2019).

The first activity was aimed at lowering the threshold for parents to become involved in parent-child activities in the classroom. During this activity, the parent and child were encouraged to talk about other family members. They received pencils and drawing paper with a picture of an empty couch. Then they were asked to discuss what they liked doing together, and to draw themselves (and other family members) on their couch. Parents were encouraged to sensitively encourage the child to talk and draw if they liked, prioritizing the use of language instead of creating the product. During this activity in classrooms, teachers were encouraged to join the

dyads, listening to their conversation, and exchanging backgrounds. During our observations, we did not join this conversation of dyads and made sure that the parent-child conversations were not influenced by others.

The second activity was designed for use in classrooms where parents were familiar with parent-child activities. This activity focused on stimulating rich interaction between parent and child by taking turns, eliciting language, and having fun. Parents were encouraged to challenge their child to think and talk, instead of directing the child to give correct answers. The dyads with the younger children (aged 4-6) played hide and seek (What's gone) with wooden fruit. Different kinds of fruit (e.g., apple, lemon, orange) were put on the table and covered. We showed how a piece of fruit was removed and explained that they were going to play the game together. They were going to guess which fruit the mother (or father) or the child had removed and continue turn-taking. Dyads with the older children (aged 7-8) played Rory Story. Rory's Story cubes, a set of nine six-sided dice, each with a different image on them (e.g., glasses, the sun, a bicycle), are meant to inspire storytelling and creative play. Parent and child take turns to make a story based on the image. Again, we explained how child and parent were invited to play together by throwing dice in turns and thinking of associations based on the images that appeared.

***Coding of the interactions***

We used the first ten minutes of each of the two activities (average Activity 1: 12 minutes and 16 seconds, Activity 2: 13 minutes and 57 seconds) for our analyses. Videos were transcribed and coded by using transcriptions and video recordings. Videos were translated to Dutch (from Turkish, Arabic, Berber, and Urdu) by the students that were involved and checked by lecturers who master these languages. We developed a coding scheme based on three dimensions: the quality of the interaction, the quantity of the language, and the quality of the language:

*Quality of the interaction*: We used a coding scheme based on the scales of Erikson, Sroufe, & Egeland (1985) and Landry et al. (2008) that measure child involvement and aspects of parental responsive behavior. We used four constructs (see Appendix A): 1) child involvement, 2) parental support of autonomy, 3) parental emotional responsive behavior, and 4) parental cognitive responsive behavior. We used a 5-point scale to measure frequencies of observed behavior (1= none, 2 = sometimes, 3 = several times, 4= most of the time, 5= continuously).

*Quantity of language*: We counted the total number of words used by both children and parents (Boyce et al., 2010) and the total number of turn-taking (Jiménez et al., 2006).

*Quality of language*: We used an adapted version (see Appendix B) of the coding scheme of De la Rie (2018) based on levels of abstraction of Blank et al. (1978), Van Kleeck et al. (1997), and communicative functions of speech by Joyner (2014). We compressed the coding scheme

to four main categories to define the quality of language used by children and parents by coding their number of utterances in four categories: 1) language about content that is visible within the context, 2) decontextualized talk about content that is not visible in the context, 3) interactive talk, such as encouragements and praising and 4) other types of talk, such as procedural talk about how to do the activity and talk that is not related to the activity.

***Intercoder agreement***

The first author and two researchers coded the data. Both researchers, who were not involved in the research, were trained in coding in two sessions by the first author. A handout with examples was provided. After these sessions, the researcher and the assistants coded two scripts. Codes were compared until there was full agreement. Next, five transcripts, randomly selected from each of the two activities and the pretest and posttest, were coded by two researchers. Intercoder agreement was calculated as a percentage of agreement for each of the pairs of coders. The percentages were 80% for the quality of the interaction and 79.5% for the quality of language. These were considered to be adequate.

### Analyses

First, we used repeated-measures ANOVA to analyze change from pretest to posttest in each of the variables (quality of interaction, quantity of language, and quality of language). Second, we used quality of delivery as a factor in the repeated measures analyses (comparison of parents with teachers who showed a higher quality of delivery versus those who showed a low quality of delivery). In some cases, the assumption of equality of error variances was violated, according to Levene's test. In those cases, we used a nonparametric test (Mann-Whitney test).

## RESULTS STUDY 2

Table 5.5 shows means and standard deviations at pretest and posttest for each of the variables measured during the drawing and play activities. The observed behavior varies to a great extent (e.g., children who did not talk at all to children who talked a lot and more than their parent). The table also shows whether the differences between pre- and posttest are significant in the repeated measures analyses.

**TABLE 5.5:** Means and standard deviations of parent-child interaction measures (*n* =19)

| | Pretest | | Posttest | |
|---|---|---|---|---|
| | **Mean** | **SD** | **Mean** | **SD** |
| **Quality of interaction (a)** | | | | |
| Activity 1 | | | | |
| Child involvement | 3.82 | .78 | 4.39** | .37 |
| Autonomy | 2.32 | 1.25 | 2.95** | 1.03 |
| Emotional support | 2.82 | 1.08 | 3.12* | 1.02 |
| Cognitive support | 1.93 | .75 | 2.18 | .90 |
| Activity 2 | | | | |
| Child involvement | 3.95 | .80 | 4.39** | .51 |
| Autonomy | 2.42 | 1.36 | 2.84* | 1.02 |
| Emotional support | 3.11 | 1.14 | 3.42* | 1.01 |
| Cognitive support | 2.34 | .88 | 2.70 | .91 |
| **Quantity of language (b)** | | | | |
| Activity 1 | | | | |
| Number of words child | 68.00 | 86.66 | 78.26 | 90.48 |
| Number of words parent | 191.05 | 179.83 | 201.16 | 143.72 |
| Turn-taking | 30.00 | 35.04 | 35.47 | 29.13 |
| Activity 2 | | | | |
| Number of words child | 87.32 | 123.89 | 116.00 | 137.94 |
| Number of words parents | 250.58 | 184.33 | 262.79 | 187.29 |
| Turn-taking | 36.47 | 38.32 | 46.32 | 37.76 |
| **Quality of language (c)** | | | | |
| Activity 1 | | | | |
| Contextualized language | 17.21 | 15.62 | 18.21 | 20.05 |
| Decontextualized language | 2.42 | 5.07 | 3.21 | 5.08 |
| Interactive language | 3.68 | 3.28 | 3.26 | 3.14 |
| Other language | 44.05 | 38.01 | 49.79 | 32.70 |
| Activity 2 | | | | |
| Contextualized language | 38.84 | 34.02 | 38.21 | 26.23 |
| Decontextualized language | 10.00 | 14.79 | 14.95 | 17.74 |
| Interactive language | 6.37 | 7.17 | 9.79 | 9.18 |
| Other language | 33.11 | 26.42 | 34.95 | 22.62 |

*a) measured on a 5-point scale: 1=none, 2=sometimes, 3= often, 4= very often, 5=continuously*

*b) number of counted words*

*c) total number of counted utterances of both child and parent*

** p = <0.05, ** p = <0.01, *** p = <0.001*

We found significant changes on three of the four constructs of the dimension *quality of interaction* for both activities: child involvement (Activity 1: $F(1, 18 = 13.37$, $p = .002$, Activity 2: $F(1, 18) = 7.03$, $p = .01$), autonomy (Activity 1: $F(1, 18) = 8.308$, $p = .01$, Activity 2: $F(1, 18) = 4.80$, $p = .04$) and emotional support (Activity 1: $F(1, 18) = 4.57$, $p = .04$, Activity 2: $F(1, 18) = 5.20$, $p = .03$). The partial eta squared effect sizes vary between .42 and .28 for child involvement, .32 for autonomy (i.e., strong effect sizes) and between .20 and .22 for emotional support (i.e., medium effect size) (Cohen, 1988). We found no significant differences between pretest and posttest for the other variables in Table 5, although posttest means are higher than pretest means in a large majority of the cases.

Table 5.6 shows the results of the factorial repeated measures Anova testing effects of the quality of teacher delivery on changes between pretest and posttest scores for Activity 2. We found significant effects of quality of delivery on change of each of the three constructs (quality of the interaction, quantity of the interaction, and quality of language) for Activity 2 at the posttest. We did not find significant effects for Activity 1. We report results of the Mann-Whitney test when the assumptions of equality of error-variances were not met.

**TABLE 5.6:** Effects of quality of delivery on change of parent-child interaction in Activity 2

| | ***F*** | ***(DF)*** | ***p*** | $\eta_p^2$ | ***U*** | ***Z*** | ***p*** | ***r*** |
|---|---|---|---|---|---|---|---|---|
| **Quality of interaction** | | | | | | | | |
| Child involvement | .32 | (17) | .60 | .02 | | | | |
| Autonomy | .20 | (17) | .66 | .01 | | | | |
| Emotional support | 1.42 | (17) | .25 | .08 | | | | |
| Cognitive support | 15.86*** | (17) | .001 | .48 | | | | |
| **Quantity of interaction** | | | | | | | | |
| Number of words child | 10.55** | (17) | .005 | .38 | | | | |
| Number of words parent | | | | | 4.00** | -2.60 | .006 | .60 |
| Turn-taking | | | | | 4.00** | -2.60 | .006 | .60 |
| **Quality of language** | | | | | | | | |
| Contextualized language | .26 | (17) | .61 | .02 | | | | |
| Decontextualized language | 4.88* | (17) | .04 | .22 | | | | |
| Interactive language | 0.09 | (17) | .77 | .00 | | | | |
| Other language | | | | | 5.50** | -2.45 | .01 | .61 |

** p = <0.05, ** p = <0.01, *** p = <0.001. $\eta_p^2$ = partial eta squared, r= Rosenthal (1991)*

Table 5.6 shows significant changes in cognitive support (quality of the interaction), all three aspects of the quantity of the interaction, and decontextualized language, and other language (quality of language). Inspection of the means shows that parents in the high delivery group increased more in these aspects compared to those in the low delivery group. Parents in the higher delivery group increased their cognitive support (*M* pretest: 2.15, *M* posttest: 2.78), while the low delivery group showed a decrease (*M* pretest: 3.06, *M* posttest: 2.37). Children increased their number of words in the higher delivery group (*M* pretest: 68.73, *M* posttest: 128.73), whereas the low delivery group showed a decrease (*M* pretest: 157.00, *M* posttest: 68.25). The amount of decontextualized language in the high delivery group increased (*M* pretest: 7.67, *M* posttest: 16.20) but decreased for the low delivery group (*M* pretest: 18.75, *M* posttest: 10.25). The partial eta squared effect sizes range from .22 (amount of decontextualized language), .38 (number of words) to .48 (cognitive support), which can be defined as medium and strong effect sizes (Cohen, 1988). The medians of the Mann-Whitney tests at pretest and posttest show that parents in the high delivery group improved more (*Mdn* = 11.73) compared to those in the low delivery group (*Mdn* = 3.50**)** in the number of words used by parents, in the amount of turn-taking (*Mdn* = 11.73 and *Mdn* = 3.50, respectively) and in other language (*Mdn* = 11.63 and *Mdn* = 3.88, respectively). This growth of *r* .60 and .61 represents a large effect size (Field, 2009). The high delivery group improved on these dimensions during Activity 2, whereas the low delivery group did not.

# DISCUSSION

The two studies investigated whether the AHL program contributes to lower-educated parents supporting oral language development of young children. The results of our first study show that the intervention contributed to the high participation of all parents in the classroom. At the posttest, almost all parents (98%) reported that they had participated frequently in weekly parent-child activities. The results show that the parents already had positive perceptions of SFPs directed at language development support from the start of the program. In addition, their self-efficacy beliefs, and self-reported HLE were also quite high from the start. In general, these perceptions did not change significantly. However, parents with the lowest education levels had higher ratings of the HLE at the posttest compared to the pretest. Additionally, parents' open answers at the posttest indicate a positive development of the SFPs to support oral language development. Several parents with the lowest education levels recalled activities and teachers' suggestions at school and at home to support oral language development. No differences in effects were found when we compared the quality of delivery in classrooms.

The results of our second study show a significant development of child involvement, parental autonomy, and emotional support (i.e., three aspects of the quality of interaction) in both

parent-child activities from pretest to posttest. In addition, our comparison of dyads in the high delivery group ($n$ = 15) and those in the lower delivery group ($n$ = 4), shows an increase in the development of dyads in favor of the high delivery group on one aspect of the quality of interaction (i.e., cognitive support), on all aspects of the quantity of interaction (i.e., number of used words by child and parent, turn-taking), and on two aspects of the quality of language (i.e., decontextualized and other type of language). This effect was only found for Activity 2 and not for Activity 1.

The results of our studies show that AHL contributes to SFPs in support of oral language development and to the number of home language activities conducted by the lowest educated parents. Our first study shows three notable findings. First, high numbers of both lower-educated parents and higher-educated parents participated in a whole classroom approach. High levels of parent participation (75% -100%) were also found in our design study and during our observations in classrooms (see Chapters 3 and 4). Our findings contrast with the results of recent studies of a Dutch family literacy program by De la Rie (2018) and Teepe (2018). These studies suffered from low participation of lower-educated parents during program activities and high attrition of parents at the posttest. The difference with the present study can be explained by the differences in teacher professionalization and child involvement during activities. AHL teachers were coached intensively on assessing the HLE and adapting their activities to lower-educated parents' abilities. These adapted parent-child activities taking place in the classroom probably motivated lower-educated parents to continue participating more than the fixed program activities evaluated by De la Rie (2018) and Teepe (2018) (e.g., explaining literacy activities to parents without children present, a fixed program for all parents). Another explanation for high parent participation in our study might be that many children invited their parents spontaneously and enjoyed their parents' presence. Some teachers encouraged the children to invite their parents to join the activities. These child invitations might have played an important role in parents' decisions to participate in our program (e.g., Hoover-Dempsey et al., 2005).

Second, parent ratings of their perceptions of the SFP in general and in support of oral language development, parental self-efficacy, and the HLE were remarkably high at the pretest and hardly allowed growth at the posttest. This might explain why we found no overall significant increases, nor differences in effects for quality of delivery in classrooms. We did find a move forward on the home language activities of the group of parents with the lowest education levels, which is the third finding we discuss. Only the lowest educated parents reported significantly lower ratings at pretest compared to lower- and higher-educated parents and improved their ratings at the posttest. An increase in home language activities is promising as the frequency of home language activities contributes to children's language development (e.g., Leseman & de Jong, 1998; Sénéchal & LeFevre, 2014).

The results of our second study confirm our expectations that teachers can play an important role in improving the quality of parent-child interactions in classroom contexts. We discuss three notable findings. First, we found a significant improvement of parent-child interactions in two activities with lower-educated parents. Children showed more involvement, and parents stimulated more autonomy and showed more emotional responsive behavior at the posttest. This is a valuable result as these aspects of parent-child interactions increase dyads' joint attention, which is assumed to be beneficial for oral language development (Hoff, 2003; Tomasello & Farrar, 1986).

Second, we found a difference between parent-child interactions in Activity 2 for dyads receiving a higher quality of delivery compared to those receiving a lower quality. Significant differences were found in aspects of interaction that are known to impact children's language and literacy development: cognitive support (e.g., Landry et al., 2008), quantity of language (e.g., Hart & Risley, 1995), and quality of language (e.g., Curenton et al., 2008; Snow, 1991). Recent research emphasizes how the quality of delivery impacts the effectiveness of interventions (Powell & Carey, 2012; De la Rie et al., 2016). However, it is surprising that dyads receiving a lower quality of delivery performed worse in their interaction with children in Activity 2 in the posttest compared to the pretest. A possible explanation is that parents in the low delivery group were less motivated in the posttest sessions, because of a lack of attention to the activity in the intermediate period in the classroom. Researchers also observed that it was difficult to engage parents in this group in posttest activities.

Third, we only found this difference for Activity 2 and not for Activity 1. How can we explain this difference? A possible explanation is that Activity 1 is less sensitive to instruction and coaching directed at turn-taking and having fun together than Activity 2. After all, many lower-educated parents might not be used to these forms of play that use scaffolding and turn-taking (see also Chapter 3). Therefore, possibly teachers' explaining and modeling new strategies during Activity 2 and stimulating dyads to carry these out repeatedly is a more suitable condition for development in interacting in the Activity 2 than it is in Activity 1. Nevertheless, Activity 1 did result in improvements in aspects of interaction, such as child involvement and emotional support, even when teacher guidance was less intensive.

Given the limited knowledge about the effectiveness of interventions that address SFPs that support the oral language development of children of lower-educated parents, our results are promising. Two ingredients of the AHL intervention seem to be important. First, *parent-child activities* might be a crucial mode of delivery to motivate parents to be actively involved during activities (Jacobs, 2004; Van der Pluijm et al., 2019). We observed how these shared experiences connect teachers, parents, and children and fostered shared beliefs and practices. Second, many steps have been taken to ensure the effective delivery of the AHL program, emphasizing the

need to adapt activities to the social environment of families and the specific characteristics of lower-educated parents. We trained teachers to explain the activities step by step and to illustrate their explanations by modeling and by avoiding metalinguistic jargon. This tailoring of activities to the specific needs of lower-educated parents is assumed to be effective for our target groups of parents (e.g., Hannon et al., 2019; Manz et al., 2010; Reese et al., 2010). The combination of involving parent and child and adapting parent-child activities to the specific beliefs and skills of the target group might have contributed to the above-mentioned results for lower-educated families.

The two studies presented in this paper are complementary and could improve our knowledge of school-based interventions dedicated to involving lower-educated parents in the oral language development of their young children. Study 1 focused on parent perceptions of the program in a heterogeneous sample. In contrast, Study 2 focused on parental behavior in adapted parent-child activities in a homogeneous sample of lower-educated parents. We found no changes in parent perceptions in general. However, we did find improvements in the behavior of lower-educated parents.

## Limitations and suggestions for future research

The findings of this research contribute to efforts of family literacy researchers to understand and support lower-educated families. The main limitation of this research is that it is based on two relatively small-scale studies, focused on respectively seven and four schools in the city of Rotterdam. More extensive and experimental research is needed to investigate how interventions can be implemented effectively to contribute to SFPs in which teachers and low-educated parents collaborate in supporting the oral language development of young children. Future research could focus on experimentally testing interventions for the lowest educated groups of parents. We recommend a phased research design that creates control groups by using a switching replications design (Trochim, Donally, & Aurora, 2014). In other words, all teachers and parents participate in the intervention, but the phase of implementation creates the opportunity to compare the results of groups with and without intervention one after the other. Additionally, future research could investigate whether interventions for the lowest educated parents affect children's oral language development. We recommend using several instruments that measure both the quantity and quality of oral language development, including vocabulary. A review by Van der Pluijm et al. (2019, see Chapter 2) shows that combinations of measures for oral language development are rarely used in family literacy research. It is also of interest to measure children's oral language development in the language that migrant children speak at home. Multiple instruments enable us to reveal relevant aspects of children's oral language development (e.g., Landry et al., 2008). Another issue is that parental literacy skills seem to be underexposed in family literacy research, despite the impact of these skills on language and literacy promotion (cf., Manz et al., 2010). Adequate definitions and

instruments to determine the multifaceted problem of parental literacy skills related to child education (e.g., reading skills, familiarity with books, vocabulary, metalinguistic language) are lacking. Finally, more research is needed to identify which parent-child activities are effective in stimulating the lowest educated parents to interact with their child. Recent research reveals several effective activities, such as using prompting boards to elicit abstract talk (De la Rie, Van Steensel, Van Gelderen, & Severiens, 2020), talking about past events (Reese et al., 2010) or storytelling (Fekonja Pekla et al., 2010). Further research is required to enable researchers and practitioners to continue tailoring effective activities for the lowest educated target group.

## Implications for policy and practice

Our research contributes to the knowledge of how SFPs can support teachers to collaborate with lower-educated parents. We have several recommendations for policymakers and school practice. Policymakers should stimulate teacher educators to strengthen curricula with knowledge about SFPs, especially those targeting lower-educated parents. Additionally, teachers should be coached to provide family literacy support and increase their awareness of how the HLE impacts young children's opportunities to acquire language skills. However, this requires the provision of adequate working conditions for teachers, such as time and opportunities for collaboration. Teachers should be facilitated to accomplish their important role in the education of children from lower-educated families. Schools can improve their relationships with lower-educated parents, among which are many parents, who have little language proficiency in the majority language, lack knowledge of Western school systems and teachers' expectations. Teachers can use activities, such as introductory interviews, to establish positive relationships with these parents at the start of the school year. This is an effective way of inviting parents to share their views and build reciprocal relationships (Lusse et al., 2019). Such actions can prevent a growing gap between teachers and parents (cf., Epstein, Jung, & Sheldon, 2019; Walker, 2019). In return, this effort makes teachers better understand parents and their children. Schools with high numbers of lower-educated parents can improve SFPs by providing parent-child activities as described in the above studies. Our research shows how parent-child activities can be tailored to the target group. Such activities can enrich lower-educated parents' dialogues with their child and contribute to the quality of the parent-child interaction and the quantity of language activities at home.

## Appendix A: coding scheme of quality parent-child interaction based on Erickson, Sroufe, & Egeland (1985), Landry et al. (2008), and Wasik & Sparling (2012).

*Child involvement (Erickson et al., 1985; Landry et al., 2008)*

| Behavior | Definition |
|---|---|
| Task-oriented behavior | Frequency of observed child behavior focused on accomplishing the task. |
| Social engagement | Frequency of observed behavior expressing positive engagement of the child (use of affect, gestures, verbal, and nonverbal communication demonstrating interest). |
| Cooperation | Frequency of child's responses to requests of the parent and following these requests during the task with behavior or words. |
| Understanding | Frequency of observed child behavior that expresses understanding of the task. |
| Initiative | Frequency of observed child initiatives during the activity, without suggestions of the parent. |

*Parental support of autonomy (Erickson; 1985; Landry et al., 2008)*

| Behavior | Definition |
|---|---|
| Stimulating child autonomy | Frequency of attempts by the parent to create opportunities for the child to take initiative. |

*Parental emotional responsive behavior (Landry et al., 2008)*

| Behavior | Definition |
|---|---|
| Contingent responsive behavior | Frequency of observed responsive behavior of the parent to child cues, adapted to the child's needs. |
| Warm sensitive behavior | Frequency of observed sensitivity of the parent to child cues, accepting the child's perspective and needs, expressing physical affection, enthusiasm, and positive tone of voice |
| Positive affective behavior | Frequency of smiling, laughing, and positive facial expressions of the parent to the child. |

*Cognitive responsive behavior (Landry et al., 2008; Wasik & Sparling, 2012)*

| Behavior | Definition |
|---|---|
| Maintaining | Frequency of interactive behavior of the parent, that is initiated related to the behavior or focus of the child or as a response to the child's request for a reaction. |
| Scaffolding | Frequency of behavior of the parent to enrich the child's knowledge and skills by asking questions, explaining conceptual links, and using verbal prompts to provide learning opportunities for the child and further extend knowledge and skills. The parent creates situations for child initiatives and avoids taking over the activity. |
| Supportive verbal encouragement | Frequency of parental positive appraisals, reinforcements, and encouragements of child behavior and expressions. |

## Appendix B: coding scheme of quality of language based on De la Rie (2018), Van Kleeck et al. (1997), and Joyner (2014)

| Type of language | Definition | Example |
|---|---|---|
| Content-related language here and now | The use of questions and comments by child and parent that are related to information or objects that are visible during the task. This can be labeling, noticing, or describing. | What is this? An apple.<br>What do we have here?<br>An orange and a lemon.<br>How many fruits are there?<br>This lemon is yellow. |
| Content-related language not here and now (decontextualized) | The use of questions and comments by child and parent that are related to information or objects that are not present during the task. This can be defining, expressing opinions, or predicting. | What does it look like?<br>What you are hiding?<br>What's your favorite food?<br>What fruits do you think I bought this morning? |
| Interactive language | The use of language by child and parent to encourage or give feedback. | Can you guess what this is?<br>Very good! |
| Other language | The use of language by child and parent about the process of the task, not related to the task or coders could not categorize this language. | What shall we do first?<br>It's my turn!<br>I think we should hide the fruits first.<br>I'm hungry! |

# 6

# Summary and general discussion: Reflecting on At Home in Language

# INTRODUCTION

Already in early childhood, children differ significantly in their language acquisition, as can be seen in variations of vocabulary sizes (e.g., Ariaga, Fenson, Cronan, & Pethick, 1998; Hoff, 2006; Kuiken et al., 2005). These language delays affect children's school performance and may cause literacy gaps during elementary school (Gilkerson et al., 2018; Walker, Greenwood, Hart, & Carta, 1994). Comprehensive support of children at schools and at home, acknowledging families' homes as the most influential environment for child development, is considered a promising strategy to closing young children's language and literacy gaps (Crosnoe et al., 2010). Meta-studies have shown effects on child language and literacy outcomes of Family Literacy Programs (FLPs) targeting the home environment by (e.g., Van Steensel, Fikrat-Wevers, Bramer, & Arends, 2019), dual programs that target children and parents both at school and at home (e.g., Blok, Fukkink, Gebhardt, & Leseman, 2005), and School-Family Partnership (SFP) programs that connect home and school by (e.g., Wilder, 2014). No effects have been reported for the single focus of the Dutch school approach Early Childhood Education and Care (ECEC) that targets child development at schools and has no integrated parent component (Fukkink, Jillink, & Oostdam, 2017). In addition, fewer effects have been found for low-SES (e.g., low education) groups of parents in programs targeting the home environment and improving partnerships between schools and families, leading to an appeal for tailoring programs to the needs of diverse groups of parents (e.g., Manz, Hughes, Barnabas, Bracalielo, & Ginsburg-Block, 2010; Van Steensel, Herppich, McElvany, & Kurvers, 2012).

Little attention has been given to how programs can be tailored to the specific needs of lower-educated parents. Parental education is the most important explanation for young children's language development (Golinkoff et al., 2019; Hoff, 2013; Mesman, 2010; Rowe, Denmark, Harden, & Stapleton, 2016) and is a guiding factor for governmental funding of schools in the Netherlands (Roeleveld, Driessen, Ledoux, Cuppen, & Meijer, 2011). Parental education levels are defined as low when they have a maximum of primary education (very low) or lower secondary education (low), which is in line with the definition of the OECD (2015, p. 15).

Additionally, it is unclear how teachers can acquire the required skills to work with lower-educated parents. Previous studies have shown that teachers are insufficiently prepared to work with parents in disadvantaged contexts and low education levels (e.g., Bakker, Denessen, Dennissen, & Oolbekkink-Marchand, 2013; Lusse, Notten, & Engbersen, 2019).

This thesis addresses the need for ecologically valid approaches for teachers to support lower-educated parents and stimulate young children's language development by connecting the school and home environments. To contribute to this aim, we need to improve our understanding of existing SFP and FLP programs and their effects. We also need to investigate

how teachers can develop skills to support parents, to strengthen links between school and home, and acquire the abilities to reliably convey the content of the program as intended. Therefore, we need to design an approach that improves teacher guidance in their work with children and parents in preschool, kindergarten and grades 1-2. Our main research question is: *What approach can teachers of young children use to build partnerships with lower-educated parents in support of their young children's language development*?

Acknowledging the needs of both lower-educated parents and practitioners, we applied a design-based research (DBR) approach in close collaboration with the stakeholders involved (Kessels, 1999; McKenney & Reeves, 2012). We conducted four studies to answer the main research question. The first study reviewed extant research into activities and strategies that are successful in supporting lower-educated parents to promote their young children's oral language development and the modes of delivery that are effective for the target population. We reviewed 28 studies directed at the effects of interventions for lower-educated parents on the oral language development of their young children (aged 3 to 8). In the second study, we designed a prototype of the At Home in Language (AHL) program containing a series of principles (partly derived from the review) to establish partnerships between school and lower-educated parents and to encourage rich parent-child interactions. In collaboration with teachers, principals, and parents we investigated what modifications of the prototype were needed to overcome the challenges when applying the design principles. Based on the results of the second study, we adjusted the prototype. In the third study, we implemented the adjusted AHL program in classrooms. We conducted a summative evaluation of the program directed at teachers' abilities to adhere to the program principles and to adapt these to parents' needs. In the fourth study, we conducted a summative evaluation to review the impact of AHL on lower-educated parents. We investigated the development of parental perceptions of their SFPs and their home language activities in a heterogeneous sample of ($n$ = 71) parents (lower and higher educated) in 14 classrooms of seven schools. In a sample of only lower-educated parents ($n$ = 19), we investigated the development of parent-child interactions during specifically designed parent-child activities in eight classrooms at four schools. In both cases we controlled for the quality of delivery of the program by teachers.

## MAIN FINDINGS

In the first study (Chapter 2), we conducted a systematic literature review to identify which activities and strategies are successful in supporting lower-educated parents to promote their young children's oral language development. Complementarily, we established which modes of delivery by teachers are effective for the target population. The central research questions

were: 1) *What are effective activities and strategies that can be used by lower-educated parents to promote their children's oral language development,* and 2) *What are effective modes of delivery of these activities and strategies?*

Our analyses revealed that talk and play activities that include oral language and responsive communication strategies, are the most effective for lower-educated parents, especially when these activities do not require specific skills (i.e., literacy skills, knowledge of the majority language). Activities that include the use of books and emphasize print and code awareness strategies are less effective for lower-educated parents. The delivery of activities and strategies seems more effective when they are adapted to routines that occur in the families' daily lives, and when parents and children are involved in coaching sessions. Relatively few studies focus on the effects on lower-educated parents, with more studies reporting results for heterogeneous groups of parents (lower and higher educated). We conclude that more research is needed to investigate the specific effects of activities and strategies performed by lower-educated families. Future research should refine the definitions that describe parental education levels (i.e., primary education and lower secondary education as their highest attained level). This would contribute to our knowledge of the effects of interventions on children's language development when parents have different levels of education. Finally, future research should include other relevant characteristics of parents (e.g., literacy skills) to get a more precise indication of their needs in supporting their children's language development.

**FIGURE 6.1:** AHL prototype based on five design principles

| Design Principle/Step | Intended teacher behavior | Tool |
|---|---|---|
| 1. Assess the Home Language Environment (HLE) of children | Teachers gather information about parental backgrounds and their interactions with their child. | Class inventory list |
| 2. Establish a school policy that includes SFP procedures in support of child language development | Teachers systemize their SFP procedures (informal contact, introductory conferences, etc.). | SFP procedures guidelines |
| 3. Establish reciprocal relationships with parents | Teachers show inviting behavior to involve parents during informal and formal procedures (e.g., introductory conferences with parents). | Reciprocal communication guidelines |
| 4. Arrange regular interactive parent-child activities | Teachers conduct weekly parent-child activities that stimulate interaction adapted to the parents' needs. | Parent-child activity checklist |
| 5. Stimulate language strategies to support the parent-child interaction | Teachers explain and model how parents can stimulate and expand the child's use of oral language. | Oral language strategy guidelines |

In the second study (Chapter 3), we examined the first prototype of the AHL program, by iteratively testing and making consecutive formative evaluations. This prototype comprised a series of five principles (later called Steps) and tools to build SFPs in support of child language development (see Figure 6.1).

We investigated how the prototype could be modified to overcome the challenges experienced by participants in the classrooms of ten teachers in five schools. The main research question was: *What modifications of the prototype are needed to contribute to sustainable SFPs directed at lower-educated parents and their young children's oral language development?* The results show that seven of the ten teachers implemented each of the five design principles of the prototype in their classroom. However, many of these teachers experienced problems gaining insight in the HLE of parents and their children *[design principle 1]*. They found that embedding the principles in school policy raised barriers due to a lack of the required conditions *[design principle 2]*. Teachers needed more individualized coaching to build reciprocal relationships *[design principle 3],* implement parent-child activities *[design principle 4]*, and to encourage parents to use language strategies *[design principle 5]*. In particular, explaining and modeling activities to parents were new to teachers. They needed support from colleagues and coaches to take the step toward applying these techniques. They also needed encouragement to stimulate bilingual parents and children to use their home language, which appeared necessary as many of these dyads hesitated to interact without this support. Our findings also showed that the realization of design principle 5 could be improved by reinforcing parental roles and preserving child initiatives. Directive interaction styles by parents resulted in less use of language by the child and less playfulness. Seven teachers found the prototype usable in the context of their work, and three teachers decided to stop after implementing design principle 3. They felt that the two last design principles, which focused on arranging parent-child activities in classrooms and on stimulating the use of language by parents and children in these activities, were not very relevant to their situation. Their classrooms had few parents who had attained education levels at or below primary school, or they thought that these principles were not applicable to their work as a grade 2 teacher. Furthermore, our findings show that parents gradually increased their participation in parent-child activities, showed more interactive behavior with their child and were positive about their participation in the program and its relevance for their role as parents at home. Finally, the school teams saw opportunities for continuing to work with the prototype. Nevertheless, we also observed practical problems such as insufficient preparation of teachers for working with parents during pre-service teacher education and a lack of the necessary time due to a shortage of teachers. After evaluating with teachers, parents, and principals, we decided to refine the principles (e.g., deemphasize the need to develop school policy). We developed additional design principles to strengthen teacher behavior directed at parental role development and prioritizing language use during parent-child activities. Teachers' positive evaluations of the step-by-step personalized coaching led to the decision

to incorporate this type of coaching to develop teachers' skills in assessing the HLE, reciprocal relationships, and explaining and modeling targeted language use to parents and children in parent-child activities.

Before we conducted the third and fourth study (Chapters 4 and 5), we adjusted the prototype to the needs of teachers and parents. We created a program with seven theoretical steps (i.e., design principles) to establish SFPs with lower-educated parents in support of child language development (see Figure 6.2). In Step 1, teachers assess the HLE to understand families' needs and the resources they can draw on. In Step 2, they develop individualized action plans to form goal-directed SFPs in line with parental resources. In Step 3, teachers establish reciprocal relationships with parents, and in Step 4, they arrange adapted parent-child activities. The last three steps focus on explaining and visualizing how children's oral language development can be supported. Step 5 emphasizes parental role development, Step 6 prioritizes the use of language, and Step 7 focuses on expanding children's language.

The third study (Chapter 4) evaluated the impact of the optimized AHL program on teachers' perceptions and behavior. We investigated teacher adherence ($n$ =14) to the AHL program steps and adaptation to parents' needs. The main research question of this study was: *To what extent does AHL contribute to teachers' sustained use of the seven steps to improve SFPs that support children's oral language development?* At the posttest, 12 of the 14 teachers reported that they were able to focus on the implementation of the program and participated in professionalization activities. Nine of these 12 teachers reported that they had followed the seven program steps. Three teachers implemented six steps but had problems implementing Step 7. The remaining two teachers only implemented three steps due to personal circumstances that limited their efforts. Class inventory lists and questionnaires showed significant improvements in teacher adherence to the first two AHL steps from pretest to posttest. The improvement of Step 3 approached significance. Observations showed that teachers significantly improved adherence to AHL Step 4 to Step 7. Teachers also succeeded in involving more parents in parent-child activities from pretest to posttest. The two teachers who did not fully participate in the program activities showed the least improvement. Finally, the results show that all teachers were intrinsically motivated to work with parents while following the AHL program. They reported that the program had contributed to their goals as a teacher, had allowed them to tailor their work to their situation and that they wanted to continue using the AHL program. However, teachers showed less progress in gaining insight into the HLE, one of the aspects of Step 1 *[Assess the HLE]* and Step 3 *[Build reciprocal relationships]*. Additionally, teachers' self-reports for assessing the HLE and building reciprocal relationships showed significantly lower rates for parents at Level 1 (primary education at most) compared to parents at Levels 2 and 3 (at least lower secondary education or more). Our interviews indicated that teachers acknowledged the importance of these steps but experienced a lack of resources for gaining in-depth knowledge

of the HLE and spending time to build relationships with the lowest educated parents. Therefore, we argued that providing time and calmness are necessary conditions for teachers to establish understanding and trust with lower-educated parents in support of children's language development.

The fourth study (Chapter 5) evaluated the impact of the AHL program on parents' perceptions and behavior. We conducted two multiple case studies. Study 1 investigated parents' perceptions of their partnerships with teachers, their self-efficacy during language promotion at home, and the quantity of language and literacy activities conducted at home. This study was based on interviews with parents, with education levels ranging from very low to high, at seven primary schools (preschool, kindergarten, and grade 1). The research questions were: *1) Does the AHL program improve SFPs with lower-educated parents focused on children's oral language development, parental self-efficacy, and the frequency of language activities parents conducted at home*? And: *2) Are there differences that can be attributed to the quality of delivery by teachers and the education levels of parents?* The results of Study 1 show that the intervention contributed to participation of all parents, regardless of their level of education. At the posttest, their reported participation in parent-child activities was 98%. No overall significant increases were found for parents' perceptions of the SFPs in support of children's language development, nor differences in effects for quality of teacher delivery in classrooms. We did find an increase in the home language activities of the group of parents with the lowest education levels. Only the lowest educated parents reported significantly lower ratings at pretest compared to lower- and higher-educated parents and improved their ratings at the posttest.

Study 2 investigates parent-child interactions during specifically designed parent-child activities provided at four schools applying the AHL steps. In this study, we selected parents with the two lowest levels of education (primary education or lower secondary education until the age of 15 as their highest attained level). The research questions were: *Does the AHL program lead to increases in the parent-child interaction from pretest to posttest?* And: *Are there differences that can be attributed to the quality of delivery by teachers?* The results of Study 2 show a significant increase in three aspects of quality of interaction (i.e., child involvement, parental autonomy, and emotional support) in the two parent-child activities from pretest to posttest. In addition, dyads in the high delivery group ($n$ = 15) showed an increase in the development on one aspect of the quality of interaction (i.e., cognitive support), on all aspects of the quantity of interaction (i.e., number of used words by child and parent, turn-taking), and on two aspects of the quality of language (i.e., decontextualized and other type of language), compared to those in the low delivery group ($n$ = 4). This effect was only found for the second activity, which had a more joyful nature compared to the first activity.

Finally, we will answer the main question of this thesis: *What approach can teachers of young children use to build partnerships with lower-educated parents in support of their young children's language development*? Based on the results of the four studies, we conclude that the seven steps of the AHL program contribute to successful partnerships between teachers and lower-educated parents that stimulate children's language development. From the perspective of teachers, our findings show that teachers can be coached to work successfully with the AHL program and that they perceive working with the program as a valuable extension of their role as teachers. From the perspective of lower-educated parents, the results show that these parents increased their involvement in parent-child activities at school, their verbal interaction with their children during these activities, and the number of activities in the HLE. The results also give rise to further discussion and improvement of the design. In the remainder of this chapter, we will discuss the lessons that we learned and how research, practice, and policy can build upon these findings.

# GENERAL DISCUSSION

In this research and professionalization project, we designed the AHL program with seven steps for teachers (see Figure 6.2). Against the background of the main findings, we now discuss several theoretical and methodological topics.

**FIGURE 6.2:** AHL, seven steps for teachers

| Phases | Steps for teachers |
|---|---|
| Establish SFPs | 1. Assess the HLE |
| | 2. Involve parents and colleagues in SFP procedures in support of child language development |
| | 3. Build reciprocal relationships with all parents |
| Implement intervention activities | 4. Arrange weekly parent-child activities adapted to lower-educated parents (using Steps 1 to 3) |
| Stimulate language development | 5. Stimulate role development |
| | 6. Prioritize the use of language |
| | 7. Expand children's language |

## Designing an adaptive approach

The research project offers evidence that teachers who use the seven theoretical steps that characterize the AHL program can build SFPs with lower-educated parents in support of young children's language development. Based on our design study (Chapter 3), we conclude that

parents were positive about being more involved in their children's language development. Our study of teachers' professional development (Chapter 4) shows evidence that teachers were sufficiently prepared to work with the AHL program and perceived it as a valuable extension of their role as teachers. Based on our study of parental perceptions and behavior (Chapter 5), we conclude that AHL had a positive impact on parental ratings of the HLE and their interactive behavior. How do we explain these findings compared to other research?

One explanation might be that the steps of AHL are built on a body of evidence from SFPs and FLPs for lower-educated parents. This knowledge was integrated during a design process with teachers and parents to strengthen the link between school and the home environment and to stimulate parental support at home, in line with the bioecological model of Bronfenbrenner (1977; 1992). First, we drew on the literature on how teachers' initiatives to build SFPs lead to engaging parents from diverse backgrounds (e.g., Epstein, 1992; Hoover-Dempsey & Sandler, 1995; 1997, Hoover-Dempsey et al., 2005; Lusse, Van Schooten, Van Schie, Notten, & Engbersen, 2019; Sheridan, Knoche, Kupzyk, Edwards, & Marvin, 2011). We derived theoretical notions and practical guidelines such as the need to be well informed about parental knowledge and beliefs (e.g., Epstein, 1992; Hoover-Dempsey et al., 2005), to apply a child-centered approach (e.g., Epstein, 1992; Sheridan et al., 2011), to stimulate teacher behavior that invites parents (e.g., Epstein, 1992; Hoover-Dempsey et al., 2005), to align SFP procedures in schools, and to use reciprocal communication with parents (e.g., Lusse et al., 2019; Sheridan et al., 2011). Our program focused on supporting child language development through these SFPs and closely resembles programs such as Getting Ready (e.g., Sheridan et al., 2011; Sheridan, Knoche, & White, 2019).

However, we found that more extensive knowledge was needed to involve lower-educated parents in our SFPs in support of child language development. To this aim, we identified usable knowledge through FLPs in support of lower-educated parents (e.g., Boyce et al., 2010; Landry et al., 2008; Reese et al., 2010), summarized in our review study (Chapter 2). We learned more about the benefits of understanding parental beliefs, strengths, and abilities and tailoring interventions to the specific needs of parents. We decided to integrate this perspective and emphasize learning about family backgrounds as the basis for our program, acknowledging the pivotal roles parents play in child language development. This adaptive approach has become the common thread of AHL at schools and could be a key factor for improving partnerships. Increased understanding of the HLE provided teachers with new and successful ways of engaging parents in child language learning and parent-child activities in classrooms. Our findings are in line with other studies that show the benefits of teachers' improved understanding of the home environment (e.g., Banks & Banks, 2004; Delgado-Gaitan, 2006; Moll, Amanti, Neff, & Gonzalez, 1992; Stepanek & Raphael, 2010).

The teacher professionalization activities, which reflected a similar adaptive approach, may have stimulated changes in teacher behavior. Our professionalization strategy was based on the theory about the professional development of teachers (e.g., Ericson, 2006; Hattie & Timperley, 2007; Hoover-Dempsey, Walker, Jones, & Reed, 2002; Kemmis & McTaggart, 2005; Kessels, 1993; Kolb, 2014; Korthagen, 2010; Van Veen, Zwart, & Meirink; 2012; Walker & Dodger, 2012). We experienced how our partnerships with teachers based on autonomy (e.g., Deci & Ryan, 2000), collaborative learning (e.g., Epstein & Sanders, 2006; Hoover-Dempsey & Sandler, 2002), reciprocity between perspectives of stakeholders, and joint inquiry (e.g., Van Veen et al., 2012) fostered a change of behavior in teachers (see Chapters 3 and 4). Teachers reported that they were inspired by examples that were shared during network sessions with the research community of teachers and researchers and were stimulated to face new challenges. In addition, we believe that coaches were meaningful role models, illustrating the adaptive approach (e.g., an open attitude, investigating perspectives and abilities) inspiring teachers to be role models for parents, who in turn can be models for their children (cf., Wasik & Sparling, 2012). Our professionalization strategy respecting teachers' basic psychological needs of autonomy, relation, and competency may have contributed to the intrinsic motivation of teachers to develop their abilities to work with parents. This interpretation corroborates findings of recent studies examining how motivational processes built upon psychological need satisfaction contribute to the professional development of teachers (De Brabander & Martens, 2018; Klaeijssen, Vermeulen, & Martens, 2018).

This adaptive approach created a safe environment for professional development by situated learning (Lave & Wenger, 1991), such as simulations during network sessions and experiments in practice. Teachers were challenged to develop their behavior by acting and reflecting (e.g., Walker & Dodger, 2012; Walker & Leg, 2018). Coaches reinforced teachers' attempts to find new solutions and experiment with new behavior (Hattie & Timperley, 2007). This process stimulated teachers to adhere to the program principles and increased satisfaction of their roles as teachers. Teachers found ways to customize the AHL program to their classroom. This change of teacher behavior is an important finding in the light of research that shows how teachers might struggle with applying strategies to engage lower-educated parents' in children's language development (e.g., De la Rie, 2018; Teepe, 2018).

The adaptive approach also has disadvantages. The seven theoretical steps of AHL required teachers to explore how to implement these steps in their context and within their abilities. However, before participating in this research, many teachers had used scripted (ECEC) methods and were not familiar with the flexible nature of our professionalization program. Some teachers expected coaches to provide them with a new scripted method and the assurance that it would work (cf., Epstein, Jung, & Sheldon, 2019; Hoover-Dempsey et al., 2002). This clash of expectations was challenging for the coaches. Teachers needed more coaching for this new

investigating role, which appeared more time consuming than planned. Some teachers were not able to cope, particularly those that felt overwhelmed by personal circumstances (see Chapter 4). Nonetheless, this research shows that it is rewarding to participate in this intensive journey. Other studies that chose an open-ended approach to guide teacher behavior offer similar observations (e.g., Bradley & Reinking, 2011; Juuti & Lavoonen, 2006; Stokhof, 2018).

## Lower-educated parents in a whole classroom approach

In this thesis, we designed an integrated program with lower-educated parents in support of their children's language development, using a whole classroom approach (i.e., including all pupils and their parents). Weekly parent-child activities in the classroom are at the center of the program. Teachers arranged activities, explained these to the parents, provided background information about why the activities stimulated children's language development, and modeled how the activity could be carried out. Our results show increasing parent participation from pretest to posttest, resulting in approximately two-thirds of the parents being present during the weekly parent-child activities (Chapter 4) and 98% of the parents taking part in these activities at least once a month (Chapter 5). This high rate of parent participation contrasts with previous studies that evaluate whole classroom approaches of FLPs. They show low participation of specifically lower-educated parents and high attrition in combination with insufficient use of tailored delivery modes by teachers (De la Rie, 2018; Teepe, 2018). The high numbers of parent participation found in our studies can be attributed to the fact that teachers in the AHL program were intensively coached to gain insight in lower-educated parents' backgrounds and abilities, and aligned their activities to their needs. Meyers, Durlak, and Wandersman (2012) have shown the effectiveness of aligning teachers' interventions and parents' needs. Based on their synthesis of implementation frameworks, they position this fit between the intervention, the interventionist, and the specific target group, as an important condition for successful implementation (see also: De la Rie, 2018). The use of reciprocal communication during parent-child activities might also have contributed to the observed high participation. This is in line with a recent study of Hannon, Nutbrown, and Morgan (2019) that shows how strong reciprocity between teachers and lower-educated parents foster high numbers of participation in their program.

An additional explanation for the high rate of parent involvement in our studies may be the involvement of children in the AHL activities in the classroom. This contrasts with the parent group meetings in the previous mentioned studies in which the children were not involved. Parent participation with their child might lower the threshold, particularly for lower-educated parents. After all, the focus is clearly on engaging children and parents in activities that foster child initiatives and deemphasizes personal limitations that parents may experience. Furthermore, several parents told us that they wanted to participate because their children had explicitly invited them. These invitations were apparently an important reason for parents

to join the activities (see Chapter 3). This is in line with the theoretical model of Hoover-Dempsey et al. (2005) that predicts that parents are more motivated to be involved in their children's development when their child invites them explicitly. The authors found that parental involvement was high, irrespective of parents' background.

However, several teachers who participated in AHL reported difficulties with this whole classroom approach and with providing tailored support to lower-educated parents' needs. The high number of parents that participated resulted in full classrooms. We observed up to 49 people in a kindergarten classroom (one teacher, 24 children, 24 parents). This was exhausting for teachers and often difficult for them to differentiate their support to the specific needs of lower-educated parents (see Chapter 4). This problem occurred less in preschool classrooms with smaller groups (max. 14 children). These groups have two teachers who could coordinate their attention to child-parent dyads effectively. Teachers of classrooms beyond preschool generally work alone and have more children in their groups.

By observing parents and children during the weekly parent-child activities, teachers gained a better understanding of the needs of lower-educated parents. Some teachers reported that there was too little time to be involved in activities and modeling language strategies. They would have liked to give more individual support to these lower-educated parents. This situation was even more complicated when children participated without a parent. In this situation, teachers tended to prioritize supporting the child without the parent. During our research, students or a parent-educator helped teachers to support these children. This assistance allowed teachers to focus on providing support tailored to the needs of individual parents.

No structural solutions have been found for situations with kindergarten, grade 1, and grade 2 teachers with large numbers of children in the classroom, and no assistants. This situation might undermine teachers to continue applying a tailored approach towards lower-educated parents during parent-child activities in classrooms.

## Construing activities for fruitful parent-child interactions

Our systematic observations of parent-child interactions (Chapter 5) show that interactive behavior improved from pretest to posttest. Three aspects of quality of interaction (i.e., child involvement, parental support of autonomy, and quality of emotional responsive behavior), improved in both the talk and play activities (i.e., Activity 1: a family activity, Activity 2: playing with fruit/cubes). This is an encouraging finding, considering that child initiative and parental responsiveness are important for language development (Hoff, 2006; 2013; Mol & Neuman, 2014). In addition, we found that in classrooms with a better quality of intervention delivery by teachers, cognitive support (e.g., scaffolding), all aspects of quantity (number of words used by parent, child, and number of turn-taking), and two aspects of quality of language (use of

decontextualized language and other language) improved in Activity 2 but not in Activity 1. This finding implies that better delivery by teachers leads to gains in important aspects of parent-child interaction in Activity 2, but not in Activity 1 even with a good delivery quality.

We first explain the positive effects that we found for both activities. Interestingly, we found gains in several aspects of the quality of interaction irrespective of the quality of delivery of teachers in classrooms. Both activities were designed to stimulate the joint attention of dyads and to require minimum teacher preparation. However, the activities were designed for phased implementation. Activity 1 was aimed at lowering the threshold for parents to become involved in parent-child activities in the classroom. During this activity, parent and child were encouraged to talk about other family members. In classrooms, this would enable teachers to join the dyads, listen to their conversation, and exchange backgrounds. Activity 2 was designed for use in classrooms when parents were familiar with parent-child activities. This activity was aimed at stimulating rich interaction between parent and child. The dyads played hide and seek (What's gone?) with wooden fruit or with Rory's Story cubes, taking turns, eliciting language, and having fun. Our results showed that both activities improve child initiative (i.e., increasing child involvement) and emotional support by parents (e.g., parental encouragement and support of autonomy) with little effort from teachers. An explanation for this finding that both our talk and play activities led to more interaction is that even in the condition of minimal coaching the context in classrooms may have triggered parental interactive behavior. After all, all teachers provided guidance, involving parents in weekly parent-child activities to talk together. Experience in these activities may have led to the gains found for child involvement, autonomy, and encouragement. In addition, parent behavior may have been influenced by examples of other parents in the classroom. The literature on adult learning shows how parents in children's classrooms can be role models for each other and how these models can impact parent behavior (Fantuzzo, Stevenson, Kabir, & Perry, 2007; Prins & Van Horn, 2012). Dyads seem to have benefited from this type of learning that requires limited teacher coaching. Our analysis shows that this was the case for aspects of the quality of interaction, which may be relatively easy to learn by being repeatedly involved in both of our parent-child activities.

A remaining question is why quality of delivery affected parental cognitive responsive behavior, quantity, and quality of language in Activity 2 but not in Activity 1. As discussed in Chapter 5, the different nature of these activities might have played a role. Activity 1 may be less sensitive to instruction and coaching directed at turn-taking and having fun compared to Activity 2. Activity 2 becomes more joyful when parents encourage their child to think and talk, instead of directing the child to give correct answers. For example, parents can pretend not to know the right answer when it is their turn, encouraging children to help them by giving more details and using more words (i.e., scaffolding). Lower-educated parents may not be familiar with these kinds of strategies (See also Chapter 3). For this reason, explanations and modeling

activities stimulating parents to prioritize the use of language may be important ingredients for achieving gains in cognitive support, quantity, and quality of language. Therefore, Activity 2 may be more suitable for developing this type of behavior than Activity 1.

In conclusion, our findings show that both activities contributed to a better quality of interaction. Activity 2 contributed to improved parental cognitive support, quantity, and quality of language but was dependent on good teacher guidance (e.g., emphasizing the importance of the interaction process instead of child achievement). Activity 2 provided opportunities for parents to develop this behavior by the challenging nature of the activity. Activity 1 can be adapted to make it more suitable for more language support, for example, by asking both parent and child to think of a family member and taking turns to guess who it is (like the game: Who am I?).

The two talk and play activities are examples of the types of activities that we encourage teachers to use based on our review (Chapter 2). They are fun, easy for parents to do (i.e., requiring no literacy skills), require turn-taking, and are closely related to parental knowledge. Other examples include talking about the taste of different types of food, about a self-made family book with their own photographs, or about grocery shopping. Teachers were given guidelines to design their own parent-child activities. Some teachers started using easy play activities that were available in their classroom (e.g., Memory, Who am I?) or self-made versions to ensure that all dyads had a game to play. These activities were also useful and feasible for explaining and modeling interaction strategies. Clearly, teachers needed to stimulate parents to prioritize the quality of verbal interaction instead of giving the correct answers. However, occasionally teachers reverted to shared reading activities, encouraging dyads to use books from their collection in the classroom. In such cases, some parents were too directive (i.e., reading the book and ordering the child to listen). We observed this behavior, especially when interaction was related to schoolwork (e.g., a worksheet), with parents emphasizing that children provide the correct answers. Perhaps some teachers preferred these activities because they believe that parental attention for shared reading and schoolwork is beneficial for child language development and thus for parent-child activities with lower-educated parents. This is a reasonable assumption, considering that teachers are generally encouraged to involve parents to contribute to the school curriculum (Sheridan et al., 2019). Changing the focus of teachers to one that acknowledges parental sensitive behavior during fun interactions requires them to change their customary role. This transformation requires embeddedness in school vision and policy and team support. However, this process of change in school vision on parental involvement has not yet been accomplished. Sufficient supportive school policy was lacking in the schools that participated (see Chapters 3 and 4). Literature underlines the need for embedding innovations in school policy to stimulate the sustained use of innovations in practice (e.g., Epstein & Sanders, 2006; Van Veen et al., 2012).

## Design-based research (DBR)

Our DBR approach combined three objectives: 1) facilitating the collaboration between researchers and stakeholders, 2) testing the intervention on its practicality for teachers and parents, and 3) systematically analyzing the results of changes in operationalization of the design (McKenney & Reeves, 2012). The scale of the design studies did not allow for reaching substantial numbers of lower-educated parents (e.g., selecting schools with mainly lower-educated parents, willingness of school teams to be involved in intensive collaboration).

Nevertheless, this approach had several benefits. It has contributed to the ecological validity of the design, evidenced by teachers' adherence to the theoretical principles, their positive evaluations of the AHL program (Chapter 4), and the improvements in parent-child interactions measured for the target group of parents (Chapter 5). The DBR also provided the opportunities to establish a sense of trust and partnerships between researchers and stakeholders (e.g., teachers, children, parents). It is important to acknowledge that these highly diverse and vulnerable parent populations (e.g., low education levels, low incomes, immigrant backgrounds, low Dutch language proficiency) can only be reached through frequent personal contact. Therefore, researchers often participated in school activities, taking part in dialogues, and building relationships with teachers, principals, and parents. This approach is well established in other types of research (e.g., ethnographic or action research) aiming at developing the position of an insider in research contexts (Emerson, 1987; Herr & Anderson, 2015). This immersion in educational contexts goes beyond designing and testing interventions (Anderson & Shattuck, 2012; Kessels, 1999; The Design-Based Research Collective, 2003). It is important for addressing the critical needs of the target group of parents and for fostering teachers' sense of ownership of the program.

A disadvantage of such a multifaceted approach is that it can be time-consuming and that there may be a lack of conditions (e.g., trust and communication) to balance the different objectives (Francot, Broekhuizen, & Leseman, 2019). In our research, establishing the personal approach to engage stakeholders required more time and effort than we expected. With respect to the first *[facilitating collaboration]* and second objective *[testing the design on its practicality for users]*, building the relationships on the basis of trust required intensive involvement of researchers in schools long before the formal research activities started. This time-consuming part of the process was not budgeted. This also accounted for the time that was needed for continuous tailoring of testing in classrooms. Most research grants do not allow for such efforts and costs (cf., McKenney & Reeves). This implied that designing and testing of AHL was highly dependent on the efforts of all participants (i.e., teachers, parents, researchers) who were, fortunately, all intrinsically motivated to collaborate. However, there was a lack of intrinsic motivation for the structured data collection (e.g., filling in questionnaires and in-depth observations, before and after implementation) that was needed for realizing the third objective *[systematically*

*analyzing the results of the design]*. Researchers planned strict procedures within a limited period and requested time, allowing no customization. Teachers and parents perceived this part as the least inspiring and sometimes over-demanding. For them, this part of the research did not visibly contribute to relationships or better practices, leading to less intrinsic motivation for investing time to participate in data collection activities. During the last round of interviews, teachers reported that the data collection for the research was a burden. Interestingly, when the interviewer asked whether teachers would participate again in a same type of research (i.e., including the three objectives of DBR), most teachers responded positively because of the surplus value for improving their work.

One more disadvantage of the DBR approach is that the focus on the needs of stakeholders minimizes the opportunities to investigate the generalizability of the design. The small scale of this research, the prevalent conditions (e.g., urban context, selection of teachers who were motivated), and the absence of a control condition limit the generalizability of the results. Therefore, this thesis is an exploration. Experimental research may provide further insight into the generalizability of the design principles (Edelson, 2006; Yin, 2003). Such experimental research should allow the program to be adapted to the specific needs of diverse contexts and populations (i.e., rural areas, and families and teachers from different backgrounds) (e.g., Plomp, 2009; Reeves, 2006). Doing so, researchers can build on latest approaches of program fidelity, acknowledging the complexity of balancing between program fidelity and program adaptation (e.g., Durlak & DuPre, 2008; Powell & Carey, 2012). In this manner, DBR and experimental research may work complementarily in their objectives to find effective solutions, allowing for program adaptations according to the needs of the specific contexts (Cordray & Pion, 2006).

# LIMITATIONS AND SUGGESTIONS FOR FURTHER RESEARCH

The studies conducted for this thesis have limitations that lead to suggestions for further research. We discuss three limitations and suggestions for future research.

## Child language and literacy development

One of the limitations of this thesis is that we did not study child language outcomes. We only reviewed interventions on their effect on children's oral language development (Chapter 2) and measured teachers' impressions about child language development and child participation (Chapter 4). For future studies on the use of AHL with lower-educated parents, we recommend that measures for children's oral language development are administered in pretests and posttests to assess effects.

To establish effects on children's oral language development, it might be helpful to use different tests. Specific tests that have proven to be successful for obtaining insight in young children's language development include narrative tasks (e.g., Reese, 2010), curriculum-related vocabulary tasks (Teepe, 2018) adapted to each age group (preschool, kindergarten, grades 1 and 2), language production tests (e.g., number of words used), or structured teacher ratings of child language development (Sheridan et al., 2011). Testing children's phonemic awareness and their skills to identify and manipulate phonemes in spoken words would be useful. Phonemic awareness is an important predictor of child literacy development (Sénéchal & LeFevre, 2002) and can be stimulated during the language activities in the AHL program. Additionally, researchers can consider the use of standardized language tests (e.g., productive vocabulary, receptive vocabulary). For bilingual children, these tests should be conducted in both the minority and majority language, acknowledging children's potential that might be less visible when testing only the majority language (Blom, 2019; Van Tuijl et al., 2001).

## Extending AHL to the home environment

One more limitation of this thesis is that the AHL program activities were only conducted in classrooms and not at home. The reason to choose for this school-based approach was the feasibility for teachers. The AHL program is designed to facilitate connections (i.e., partnerships) between the home and school environment in support of children's language development. Parent-child activities are arranged in classrooms to encourage parent-child interactions, stimulating the transfer to the home environment. Although many teachers had positive experiences with occasional home visits, they were unable to systematically conduct home visits during this research. We never pushed teachers to make home visits. We inspired them to investigate how they could involve the home environment in the classroom (e.g., assessing the HLE, arranging parent-child activities connected to the home environment) and showed the impact of these actions. Our findings showed increased parent-child interactions in classrooms and parent ratings of the number of home language activities at posttest compared to pretest.

However, no significant improvement was found in teachers' insight into the HLE. Some teachers wondered how they could gain this insight in the HLE, which they considered important for improving their work with parents (Chapter 4). This finding raises the question whether stronger connections with the home environment is an option for teachers. Given the evidence of the effectiveness of FLPs in home environments (Manz et al., 2010; Van Steensel et al., 2019), future research can investigate how the AHL design principles can be applied in the home environment of lower-educated parents. We have some recommendations for researchers who are considering such investigations.

First, the conditions for teachers to conduct home visits should be explored. These conditions will differ in and between countries, cities, and schools. Therefore, a tailored approach to these

different contexts will be necessary, as customization to the specific conditions of the home environment of parents with different backgrounds. DBR can be a suitable method to find a feasible version of home support for both teachers and parents in several contexts by iterative testing in close collaboration with stakeholders.

Second, researchers should investigate how existing instruments for assessing the home environment (e.g., the HOME) can be used and whether new instruments need to be developed so that teachers can better assess the HLE, enabling them to further adapt their support to the abilities and routines of families. Activities should be scheduled to the routines at home and designed to the abilities of parents. Our review (Chapter 2) shows the effectiveness of these types of flexible activities, such as talking about the past when walking to school or having playful dialogues during bathing (Boyce et al., 2010; Landry et al., 2008; Reese et al., 2010). A recent paper by Van Steensel et al. (2019) shows considerably higher effect sizes for these flexible activities targeting the language development of children, compared to scripted programs targeting a variety of aims.

This brings us to our final recommendation. Future research could investigate whether applying the AHL design principles in the home environment of lower-educated families contributes to children's language development. An important question is whether the additional delivery at home has an added value compared to the delivery of the program at schools only.

## Experimental research with involvement of lower-educated parents

The studies in Chapters 3-5 took place in a small number of schools with highly diverse populations in Rotterdam. These studies focused on finding solutions prioritizing collaborative methods in school practices and establishing ecologically valid design principles that were tested by summative evaluations in case study research (e.g., McKenney & Reeves, 2012). We did not use an experimental design, comparing the intervention group to a (equivalent) control group. Therefore, we cannot conclude that the AHL approach is effective (Bryman, 2012). Future research is needed to investigate the generalizability of the AHL design principles and their effects on the oral language development of young children. We have four recommendations for researchers that want to contribute to the quality of future research, assuring that lower-educated parents are involved in ecologically valid research.

First, we recommend specifically focusing on the specific group of very low educated parents. In our review study (Chapter 2), we only found a few studies that targeted this group of lower-educated parents. This finding is in line with the latest research showing a paucity of language interventions that target low-SES families (e.g., Greenwood et al., 2020; Heidlage et al., 2020). In addition, definitions of lower-education that are used in research (attained level of high school or less) differ from the international definition of the OECD that categorizes low education levels

as: *'Low levels of education attained refers to individuals not having attained ISCED level 3 (graded at levels 0-2), that is, not achieving beyond lower secondary education.'* (OECD, 2015, p. 15). We recommend using this narrower OECD definition of low education level and adding a category defined as attained primary school or less, as is common in Dutch policy (Roeleveld et al., 2011). A more precise definition would allow us to target specific groups of parents more accurately and acquire more refined knowledge about the effects of interventions for these target groups (Heidlage et al., 2020). The results of one of our two multiple-case studies presented in Chapter 5, show that the group of very low educated parents (primary education as highest attained level) performed fewer language activities at home at pretest, but had significantly increased these activities at posttest, in contrast to parents with a higher education (lower secondary education and higher). Future research could examine if parents in these two categories show different interactive behavior at posttest and develop differently at posttest. This requires researchers to involve enough parents from both groups of lower-education and prevent attrition. This brings us to the second recommendation.

To involve substantial numbers of lower-educated parents, researchers should create a safe setting to prevent attrition during the process. Although we tried to create adequate conditions to engage lower-educated parents, our measures suffered from attrition of particularly the lowest educated parents at the posttest. An explanation for this might be that parents experienced stress during their involvement. Some parents felt uncomfortable when they were selected for observations. Teachers then explained the purpose of our research, making parents feel comfortable, and reassuring them. However, disagreement between teachers and parents also occurred occasionally, undermining feelings of trust in the aims of teachers and researchers. We recommend future researchers to create a safe environment with all participants long before the research activities begin. An optimal situation would be that some schools choose to become involved in research on a structural basis. These research locations could inform parents from the first introduction about the research that will take place at the school and the need for parental consent for research that is required when choosing this school. These research locations can normalize research and provide the opportunity to develop a general selection procedure, implying that all parents and children are involved in the research activities. This procedure prevents researchers from having to openly select a limited number of parents, who may become insecure about why they were selected, or might avoid contact with researchers. Creating a fixed number of research locations would also provide the conditions to use a randomized controlled trial with the possibilities for blind selection of participants to form an experiment and control group. A switching replications design could be employed, with all teachers and parents participating in the intervention, but creating the opportunity to compare the results of the groups with and without intervention (Trochim, Donally, & Aurora, 2014).

Third, as discussed in this thesis (e.g., Chapter 2), knowledge of parental education levels is an important criterion for teachers to understand the HLE. Other factors of parental socioeconomic status, such as immigrant status, home language, or income can also affect the HLE. We recommend that data is collected to improve our understanding of how these variables affect the HLE. Parental literacy (Sénéchal, 2012) is underexposed in the literature (Manz et al., 2010; Reese et al., 2010; Van Steensel et al., 2019). In our research, we reduced the need for parental literacy skills during our talk and play activities and coached teachers to view parental literacy skills as one of the indicators in their HLE assessments (see Study 3, Chapter 4, class inventory lists). Teachers were also coached to observe signals of illiteracy during their contacts with parents (e.g., problems with reading child reports, parents who told the teacher about reading problems). Future research could develop instruments to assess parental literacy skills in the context of parent-child activities (e.g., problems with shared reading).

A fourth recommendation is to use suitable methods for collecting data, since the target group of parents may have low proficiency in the majority language, literacy problems, and limited knowledge of child language development (Rowe et al., 2016). In our research activities, we anticipated these characteristics (e.g., involving translators, easy language). We noticed that parents had more difficulties answering questions than we expected (e.g., in answering on rating scales, understanding the concept of language development) (Francot et al., 2019). We also noticed that parents can easily become tired, lose concentration, and sometimes seem embarrassed when they do not understand the question or are unfamiliar with the content. Parents felt most open for dialogues during group interviews that evaluate their experiences in the classroom, where they could listen to other parents and receive help from other parents in understanding the content. Therefore, we preferred to use group interviews. Based on our experiences, we recommend researchers to carefully consider the content of instruments and the language that is used, to pilot instruments in advance with members of the target groups, and to avoid parents from becoming overcharged. If additional questionnaires are necessary, then we recommend collecting these by using interviews (if necessary with a translator), a brief set of questions, preferably close to parents' experience (e.g., showing pictures or examples), and limited use of detailed rankings. Moreover, researchers should plan enough time to create a safe environment that allows for explanations and translations.

## PRACTICAL IMPLICATIONS

The aim of this research is to contribute to both scientific knowledge and the improvement of practice by designing a solution for practitioners in the field of education. Reducing child language gaps is an urgent problem that requires research-based interventions that contain clues for scaling up (Greenwood et al., 2020; Hoff, 2013). We have reported results and

implications for researchers. Based on the studies presented in this thesis and two follow-up studies (Van der Pluijm, 2019; 2020), we will now discuss practical implications for teachers, coaches, and policymakers that can be helpful for improving the implementation of AHL and scaling up.

## Enhanced implementation of the seven steps of AHL

The results of our research revealed leads for teachers to improve their work with AHL. First, we concluded that teachers could improve their adaptive approach by learning more about parent-child interactions at home and establishing enhanced reciprocal relationships with lower-educated parents (see Chapter 4). Second, we found that teachers can enrich parent-child interactions by implementing talk and play activities with a specific nature (see Chapter 5). We have recommendations for teachers to improve their work on these two aspects by following the AHL steps.

***Improving the adaptive approach***

The first four steps of AHL can be used to improve the link between the roles of teachers and parents. Teachers can enhance their adaptive approach towards families by conducting additional home visits as a structural part of their work. First, meeting parents and children in their home environment allows more insight into the HLE *[Step 1: Assess the HLE]*. Some teachers who participated in our studies reported the added value of meeting parents and children in their home environment and seeing how and with whom they live. Home visits allow teachers to become familiar with the specific patterns that characterize the quality of the parent-child interaction (e.g., the involvement of the child during the visit, parental sensitive responsiveness). It can also provide the opportunity to learn more about the family activities that promote child language, what they enjoy doing together and the materials that are available at home (e.g., play material, books for children) (Manz et al., 2010).

We recommend that home visits be integrated in SFP procedures *[Step 2: Involve parents and colleagues in SFP procedures in support of child language development]* that teachers establish at the start of the school year. Planning these home visits can become one of the subjects for alignment with parents, making sure that these visits are achievable for families and teachers, and respecting the restrictions that may occur (e.g., work schedules). Timely alignment with colleagues may help to create opportunities in school schedules to realize these visits, for example, by timely reserving time slots for home visits.

Conducting home visits can also contribute to building relationships *[Step 3: Build reciprocal relationships with parents]* between teachers and parents and between teachers and children (Stetson, Stetson, Sinclair, & Nix, 2012). Teachers are recommended to prepare questions that

stimulate parents and children to talk freely and feel appreciated, ensuring reciprocity and preventing the feeling of inspection (Lusse et al., 2019). According to personal preferences, teachers can share some information about their home environment.

An important advantage of home visits is the opportunity for teachers to be introduced to the home languages and cultures of families and the resources in their environment. This knowledge can inspire teachers when developing parent-child activities *[Step 4: Arrange weekly parent-child activities adapted to lower-educated parents]*. Our findings showed that activities that include aspects of the family environment contribute to parent engagement in the program and to interaction (Chapter 5). Teachers can integrate elements of the home environment in their parent-child activities that stimulate language and literacy development. They can invite parents and children to present their home languages, acknowledging a family's heritage, often referred to as 'translanguaging' (Creese & Blackledge, 2015; Garcia, 2009). In our studies, most dyads that participated in the parent-child activities were bilingual, and schools were hesitant in stimulating parents and children to use their home language during these activities. This absence of explicit encouragement to talk the home language can decrease the quality of parent-child interactions. Therefore, teachers in our research were coached to encourage the use of the home language, leading to more interaction (Chapter 3). According to several studies, this is also beneficial for both first and second language acquisition (Cummins, 1981; Dijkstra, Kuiken, Jorna, & Klinkenberg, 2016; Hammer et al., 2014). Examples of activities that can further encourage the use of translanguaging are exchanging stories or songs from different cultures and talking about what words mean in different languages.

One more element that teachers can integrate in their activities is the use of print that is available at home. Teachers can invite children and parents to bring written texts from home related to their daily customs (e.g., advertisement flyers of the local supermarket, a post card they received, a recipe). Teachers can stimulate talking by using this printed material (i.e., in the home or majority language), by giving dyads experiences to build upon and deemphasizing the need for parental literacy skills (Hart & Risley, 1999; Roggman, Boyce, & Innocenti, 2008). Parent-child activities can be designed with these familiar materials, such as using advertisement flyers to decide what groceries to buy or creating books that illustrate family routines in the home environment (Boyce et al., 2010). Lower-educated parents are likely to be familiar with the content of these activities, and this can positively affect child language and literacy development (Jacobson, Degener, & Purcell-Gates, 2003).

***Enhancing parent-child interactions***

Teachers can further enrich parent-child interactions by implementing specific talk and play activities of a joyful nature and repeated opportunities for parents to become familiar with

using stimulating strategies. The three final Steps of AHL can be used to provide parents with the required knowledge and experience that can increase the quality of the parent-child interaction and the quantity and quality of language that dyads use.

Teachers are advised to provide explanations of the importance of the informal nature of parental roles at home and the benefits of warm sensitive behavior for child language development *[Step 5: Stimulate parental role development*]. Teachers who participated in our studies facilitated the exchange of beliefs and practices by organizing additional sessions for parents without children to illustrate how children develop language. Particularly lower-educated parents may lack this knowledge that can help to stimulate child language development within their possibilities at home (Rowe et al., 2016). It is important that these sessions remain related to parental experiences, for example, by looking back on examples of successful parental support that increased child language use during parent-child activities in the classroom. Using video or photos to illustrate this support is highly recommended to provide visible clues for parents for applying strategies that stimulate children to use language.

Teachers are advised to use Step 6 *[Prioritize the use of language]* and emphasize a process-oriented approach towards children and consequently model this type of behavior that engages children actively. This process-oriented approach fosters enjoyable interactions, while a performance-oriented approach hampers parental responsive behavior and decreases child initiatives (Pomerantz, Moorman, & Litwack, 2007). Teachers are recommended to arrange parent-child activities that stimulate the process-oriented approach during specific types of parent-child activities. Examples are forms of role-play that are closely related to parental knowledge (e.g., playing doctor, ordering in a restaurant, or buying groceries) or using the senses (e.g., blindly tasting different sources or feeling different objects). Our studies (Chapter 5) showed that repeated explanations and modeling of strategies by teachers can improve parental responsive behavior (e.g., scaffolding) and the quantity and quality of language.

One final recommendation for teachers in this stage, is to select parent-child activities that facilitate the use of language that is not related to the immediate context (i.e., decontextualized speech), by using Step 7 *[Expand children's language]*. Empirical research shows that this type of language fosters the development of strong language and literacy skills (Curenton, Craig, & Flanigan, 2008; Rowe, 2012; Van Kleeck, 2008). Talking during prompting boards can contribute to the quality of speech in dialogues in lower-educated families, as shown by the recent research of De la Rie, Van Steensel, Van Gelderen, & Severiens (2020). Additionally, activities that use prompting boards can deemphasize the need for parents to lead the activity and to increase child initiatives. However, during recent explorations (Van der Pluijm, 2019), we found that parents with low literacy skills can also be involved in shared reading activities without decreasing child involvement. In this case, teachers need to deemphasize the importance of

literacy skills by selecting easy books (i.e., many pictures, limited texts and pages) that build on the same familiar themes used during the previously mentioned play activities, and assuring that parents possess the needed prior knowledge. Additionally, teachers are advised to continue modeling questions for parents to stimulate active child involvement as during play.

## Engaging teachers based on professional autonomy

Based on our research, we experienced that fostering teachers' ownership and granting professional autonomy contributes to the development of teacher behavior and increased satisfaction of their work with parents. However, we also found that teachers require more knowledge about working with parents. How can we accommodate teachers with existing knowledge that might be of help to improve SFPs with lower-educated parents in support of child language development, respecting their professional autonomy? Our recommendation is to help teachers to thoroughly reflect on the pros and cons of improving their work with parents in support of child language development. This reflection is needed for teachers to make a well-balanced decision (Janssen, Kreijns, Bastiaens, Stijnen, & Vermeulen, 2012). We also recommend coaches to align expectations about the process that will follow when teachers decide to become involved in professionalization activities to improve their SFPs in support of child language development. We have four proposals for in-service education that might be supportive of these aims.

First, it is important to acknowledge the complexity of teachers' work. Working with children and parents in a diverse school environment requires that teachers possess significant knowledge about child education, parent involvement, and cultural backgrounds (Walker, 2019). Many teachers manage to work with parents with hardly any preparation in their professional training. However, these knowledge gaps require attention. Coaches need to adopt a careful approach. Appreciating teachers' knowledge and experience can contribute to teachers' feelings of efficacy. Additionally, acknowledging gaps in their knowledge is needed to help teachers become aware of new opportunities they can explore to improve their work (cf., Epstein et al., 2019). Discussing strengths and new and more effective behavior can stimulate teachers to become involved in a process to improve their practice (Hoover-Dempsey et al., 2002).

Second, teachers should be equipped with relevant knowledge. Coaches can stimulate teachers' decision-making by introducing them to theories that can improve their work with parents by using a bioecological perspective (Bronfenbrenner, 1977; 1992). This theory positions the home as the most influential domain and school as the second influential domain where young children acquire language (i.e., micro-system). This theory also shows the opportunities for bidirectional relationships between these domains (i.e., meso-system) for child language support. Bioecological theory explains the relevance of adapting to interactions in the home

environment and improving partnerships with parents (e.g., Sheridan et al., 2019). Teachers may not be familiar with this theory and may have visions that prioritize school expectations about child learning and assume parental involvement is needed to establish school objectives. These different expectations of parental engagement might be counterproductive (Kim & Sheridan, 2015). Furthermore, teachers might benefit from illustrations of the problems that lower-educated parents encounter in the home environment and that impact child language development.

Third, joint inquiry can be used to stimulate teachers' reflections on how they can improve their work with parents. Active engagement of teachers to construe new behavior is a condition for the professional development of teachers (e.g., Van Veen et al., 2012). Teachers can be involved by exploring their existing partnerships (e.g., "Do you have warm relationships with all parents? With whom do you have these relationships and with whom not? Why?"). They can be stimulated to investigate possible blind spots (e.g., "How many parents in your classroom provide a rich language environment to their children according to your observations and how do you know?"). In our studies, we experienced that creating time for sharing experiences related to theories and scientific knowledge can stimulate teachers to explore practical barriers. More specific questions can help teachers reflect on their roles in support of child language development (e.g., "What can you do as a teacher, when you see that the parent does not talk to the child?", "How can you help the parent to use more language?"). These investigations with teachers become most productive during networks where teachers exchange their experiences that contribute to reflection (Epstein et al., 2019). Most teachers will conclude that they experience more barriers than expected and that they are not the only ones. Teachers need this awareness to change their behavior (Rogers, 2003).

A final proposal is to align expectations about the process to improve teachers' work with parents. When teachers decide to become involved in a program to improve their work with parents, inquiry will remain a key factor for change. In our studies, we learned that coaches should align expectations about the nature of the professionalization program. It should be clear that there is no instant package or prescribed method that can change parent behavior. Teachers should realize that they are responsible for triggering improvements adapted to families' abilities and knowledge by their continuous plan-do-act cycles. This type of professionalization could be new to teachers. It might contrast prior experiences of teachers with programs that were pre-scripted that required them to follow the content precisely. Coaches can use the AHL program to structure the professionalization process and work step-by-step on improving SFPs in support of child language development and developing the needed abilities of teachers. It will require time and space for teachers to become familiar with this different type of learning based on professional autonomy (e.g., Stokhof, 2018). This research and our follow-up studies

have shown that providing time and space for teachers to learn can trigger behavioral changes (Van der Pluijm, 2019; 2020). As a consequence, working with parents may enrich teachers' profession instead of what might sometimes feel like a burden.

## Optimizing pre-service education

During pre-service education, teachers are not sufficiently prepared for building partnerships with parents (Denessen, Kloppenburg, Bakker, & Kerkhof, 2009; Epstein & Sanders, 2006; Thompson, Willemse; Mutton, Burn, & De Bruïne, 2018). In our research, we noticed that teachers lacked the knowledge and competencies to build reciprocal relationships, especially when involving parents with different educational and cultural backgrounds. We have some recommendations for strengthening the curriculum of pre-service teacher education.

First, improving teacher education for working with parents requires a vision that acknowledges the importance of parental roles in child learning at home. As argued in the previous section, educators may have visions that prioritize schools' expectations about child learning and assume parental involvement is only needed to establish school objectives (Kim & Sheridan, 2015). Recognizing the home environment for child learning based on relevant theories (i.e., Bronfenbrenner & Morris, 2006; Epstein, 1987) is an important requirement for teacher training as it positions working with parents as a vital part of teaching (cf., Walker, 2019). Parent engagement should become an important part of the curriculum. Attention should focus on family background, such as parental education levels, parental language and literacy levels, cultural backgrounds, and economic circumstances that play a role in child language development and that affect children's opportunities (Evans, 2013; Waddel, 2013).

Besides these introductions into the body of knowledge on parent engagement, stimulating candidates to interact with parents (i.e., having informal talks or introductory conferences with parents) should be a priority (Epstein, 2018). Teachers in our research were particularly interested in learning about reciprocal communication. Using reciprocal communication strategies stimulated them to exchange views with parents about supporting child language development. These exchanges led to information about children and warm relationships with parents. For this aim, we used simulations that facilitated situated learning, a way of learning that uses authentic situations to develop the required competencies (Kolb, 2014; Lave & Wenger, 1991). This type of learning, such as repetitive cycles of learning through real experiences, can be useful to provide candidates with the elementary skills before they start their profession (Walker & Leg, 2018).

During our research, we experienced that integrating the use of theory, application and reflecting on personal attitudes towards parents (based on the taxonomy of Dee Fink, 2013), stimulated teachers to improve their skills and motivation to work with parents. This type of

integrated learning may be useful for teacher educators to establish the strong motivational behavior that prepares candidates for this complex part of their work (Denessen et al., 2009; Walker, 2019).

## Develop supportive policy

We found that it was difficult for teachers and school principals to implement the AHL program due to a lack of supportive policy (see Chapters 3 and 4). Teachers noticed that their changed behavior positively affected their relationships with parents and their interactions with children, but they were unable to engage their colleagues in this development. School principals in our studies acknowledged the value of embedding SFPs in support of child language development into school policy but lacked the resources (see Chapter 3). Barriers that we found included priority setting on parent engagement versus teaching children, funding for professional development, and insufficient knowledge for systematic implementation of renewed practices in school. Based on our findings, we recommend policymakers to create favorable conditions to stimulate schools to build SFPs in support of child language development, matching the characteristics of their population and granting teachers professional autonomy.

First, we address the issue of priority setting. Although parental engagement at schools is a subject of national policy (e.g., Ministerie van Onderwijs, Cultuur & Wetenschap, 2019), schools do not focus on SFPs in the light of young children's language development. Given the evidence that shows the impact of investments in the home environment for later language and literacy performance, more attention should be directed at implementing approaches that recognize family influences. The existing ECEC is a logical setting for this transformation. Recognizing parents as primary educators of their children requires policy that acknowledges the diversity of families and the inequalities that exist in families that are less educated (Green, 2016). Unfortunately, inequalities between children from lower- and higher-educated parents cannot be minimized by schools only. Recent reports of the Inspectorate (2018) showed increased inequalities.

Such priority setting of policy to improve SFPs in support of child language development requires teachers to develop new skills. In our studies, we found how teachers flourished when they were involved in bottom-up coaching and collaborative networks. We recommend policymakers to build on these experiences and stimulate professional development by encouraging teachers to improve their work with parents based on ownership (see section: Engaging teachers based on professional autonomy). Teachers should be given more time to participate in coaching and assistance in the classroom. Additionally, establishing a clear vision that acknowledges families as equal partners in school policy may be needed to sustain professional development (Krijnen et al., 2020).

Teachers will be willing to improve their SFPs in support of child language when these facilities are in place. However, stimulating SFPs may be difficult due to the shortage of teachers in the Netherlands. Schools could involve other professionals. In the schools that participated in our research, we met parent educators and library consultants that were eager to become involved, but due to the lack of policy support and facilities, it was not possible to involve these professionals in classrooms (Van der Pluijm, 2019; 2020). A clear vision on SFPs should include involving a variety of professionals and increasing their engagement to contribute to improved practices in classrooms.

However, this requires coordination. This brings us to our next recommendation. Schools that participated in our research reported problems with systematic implementation and coordination of their new forms of parent engagement at the school level. Therefore, we recommend a new position be created at schools for this specific aim (e.g., a coordinator for partnerships with parents). National policymakers can encourage the development of this new position and facilitate schools to find a suitable form for their specific context.

A final recommendation for policymakers is to ensure that attempts to develop SFPs in support of child language development are research-based (Epstein et al., 2019). Existing ECEC policy is an example of how continued research monitors policy goals and outcomes. Unfortunately, few effects have been shown in this area (Fukkink et al., 2017). An additional proposal is to stimulate different types of research to customize approaches to the needs of stakeholders and to collect theoretical knowledge from practice (Klatter & Martens, 2019). DBR can contribute to this aim. Subsequently, we recommend that this knowledge be diffused systematically and further developed in teacher networks, teacher education, and in local policy (Martens, 2010; Vermeulen, 2016).

These investments by policymakers will contribute to further development of SFPs in support of child language development. Research shows the importance of such policy to connect school and home environments (Bronfenbrenner, 1977; Epstein, Jung, & Sanders, 2019; Epstein & Sanders, 2006) and the need for embedding innovations of teacher behavior in policy (e.g., Van Veen et al., 2012).

## CLOSING REMARKS

This thesis revealed that lower-educated parents seem to be underrepresented in research and overlooked in practice. Although family literacy research and research into SFPs aim to prevent inequities, it appears that particularly the parents with the least education are hardly reached. Schools suffer from a lack of knowledge about the importance of the home environment

for child language learning, the impact of the HLE on children's language development, the challenges that lower-educated parents experience, and the required teacher skills to connect with parents. This is not surprising considering that pre-service and in-service education prepare teachers insufficiently for their work with parents.

We argued why different types of research are needed to fill the gap between theory and practice and to extend our knowledge of effective programs for collaboration between teachers and lower-educated parents. Coordinating and implementing research can contribute to improved practices in support of young children's language development in disadvantaged family contexts. This thesis described how teachers can improve their skills to work with lower-educated parents by implementing the seven steps of the AHL program and how their efforts can influence parent-child interactions. Teachers who participated in our studies indicated that they could do their work more effectively, after they coped with their struggles with parents.

This work on SFPs directed at young children's language development might contribute to positive perceptions of teachers and to their work in disadvantaged areas that are most in need of high-quality teachers. The theoretical principles that we presented can be used and tested in diverse settings and will hopefully inspire new school practices that build upon shared interests and knowledge of teachers and parents.

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# SAMENVATTING (Summary in Dutch)

## Introductie

Taalachterstanden ontstaan op jonge leeftijd en zijn bepalend voor de ontwikkeling van geletterdheid en de schoolloopbaan van kinderen. Een veelbelovende strategie om taalachterstanden bij jonge kinderen te voorkomen is een integrale vorm van ondersteuning van kinderen op school en thuis, waarbij de invloed van de thuisomgeving voor de ontwikkeling van kinderen erkend wordt. Meta-studies hebben effecten van programma's met een dergelijke strategie aangetoond op de ontwikkeling van taal en geletterdheid bij kinderen. Het gaat hierbij om Family Literacy Programs (in het Nederlands: gezinsprogramma's) die zich richten op het verrijken van de taalomgeving thuis, duale programma's die zich richten op de ontwikkeling van kinderen op school en thuis, en zogenaamde School-Family Partnership programs (in het Nederlands: partnerschapsprogramma's), die beogen de afstemming tussen de school en de thuisomgeving te versterken. Minder effecten zijn aangetoond voor programma's die zich alleen richten op de ontwikkeling van kinderen op school, zoals de huidige Nederlandse aanpak in de Voor- en Vroegschoolse Educatie (VVE), die geen geïntegreerde ouder component hebben. Ook zijn er minder effecten aangetoond voor ouders met een lage opleiding en andere kenmerken van een lage SES, zoals een immigratieachtergrond. Dit heeft geleid tot een roep in de wetenschap om programma's die beter aansluiten bij behoeften van deze groepen ouders.

Er is tot nu toe weinig aandacht voor het op maat aanbieden van programma's aan ouders met lage opleidingsniveaus, terwijl een lage opleiding van ouders de belangrijkste verklaring is voor de taalachterstanden tussen kinderen en een belangrijke reden voor de Nederlandse overheid om scholen te subsidiëren. Opleidingsniveau wordt als zeer laag gedefinieerd indien ouders alleen de basisschool hebben afgerond en als laag wanneer het voortgezet onderwijs op maximaal vmbo niveau is doorlopen (zie de definitie van OECD, 2015).

Verder is onduidelijk hoe leraren de benodigde bekwaamheden kunnen verwerven om met laagopgeleide ouders met diverse culturele achtergronden te werken. Onderzoek toont aan dat leraren onvoldoende worden voorbereid op hun werk met ouders in achterstandssituaties en met lage opleidingsniveaus. Dit proefschrift sluit aan bij de behoefte aan passende interventies die leraren kunnen inzetten om laagopgeleide ouders te ondersteunen bij het stimuleren van de taalontwikkeling van hun jonge kind, met aandacht voor de afstemming tussen de school- en thuisomgeving. Hiervoor is meer kennis nodig over de effectieve elementen van de bestaande partnerschaps- (SFP's) en gezinsprogramma's (FLP's). Ook is onderzoek nodig om te achterhalen hoe leraren de competenties kunnen ontwikkelen die nodig zijn om laagopgeleide ouders te ondersteunen, de school- en thuisomgeving op elkaar af te stemmen en daarbij programma principes als beoogd toe te passen. Om tegemoet te komen aan deze behoeften

is het ontwerpen van een nieuwe aanpak wenselijk, waarmee leraren in de voorschool en onderbouw de begeleiding van kinderen en ouders in hun werk kunnen verbeteren. De hoofdvraag van dit onderzoek is: *Welke aanpak kunnen leraren van jonge kinderen gebruiken om partnerschappen aan te gaan met laagopgeleide ouders met als doel de taalontwikkeling van hun kinderen te stimuleren?*

Voor dit onderzoek maken we gebruik van een ontwerpgerichte benadering, die ons in staat stelt nauw aan te sluiten bij behoeften van zowel ouders als leraren en in samenwerking met hen te werken aan het benodigde ontwerp. We hebben vier studies uitgevoerd om de hoofdvraag te beantwoorden. De eerste studie is een review van empirisch onderzoek gericht op activiteiten en strategieën die laagopgeleide ouders kunnen gebruiken om de taalontwikkeling van hun jonge kind te stimuleren en effectieve manieren om deze kennis aan ouders over te dragen. Hiervoor hebben we 28 studies geanalyseerd die inzicht geven in de effecten van interventies voor laagopgeleide ouders op de mondelinge taalontwikkeling van jonge kinderen (3-8 jaar). In de tweede studie wordt een prototype ontworpen van het programma Thuis in Taal, dat bestaat uit een serie ontwerpprincipes (onder meer afkomstig uit de review studie) om partnerschappen aan te gaan tussen school en laagopgeleide ouders en om de kwaliteit van ouder-kind interacties te bevorderen. In samenwerking met leraren, schooldirecteuren, ouderconsulenten en ouders hebben we onderzocht welke aanpassingen in de ontwerpprincipes nodig zijn om knelpunten op te lossen die participanten ervaarden bij het toepassen ervan. Aan de hand van deze resultaten is het prototype aangepast. In de derde studie hebben we dit nieuwe programma Thuis in Taal geïmplementeerd in de groepen van 14 leraren van zeven scholen in Rotterdam (groepen 0 tot en met 3). Onderzocht is of de leraren in staat waren de ontwerpprincipes toe te passen en in staat waren de principes aan te passen aan de specifieke behoeften van de ouders. In de vierde studie is gekeken naar de ontwikkeling van percepties en ouder-kind interacties van de ouders die deelgenomen hebben aan het onderzoek. Hiervoor hebben we onderzocht hoe de percepties van ouders en hun taalactiviteiten thuis zich in een jaar ontwikkelden bij een heterogene steekproef van ouders ($n$ =71) met verschillende opleidingsniveaus. In een steekproef van alleen laagopgeleide ouders ($n$ =19) hebben we nader bekeken hoe de ouder-kind interactie zich ontwikkelde in speciaal ontworpen ouder-kind activiteiten. Dit gebeurde in acht groepen van vier basisscholen. In beide gevallen hebben we gekeken of de kwaliteit van de overdracht door leraren een rol speelde in de ontwikkeling van percepties en gedrag bij ouders.

## Belangrijkste bevindingen

Door middel van de reviewstudie hebben we activiteiten en strategieën verzameld die laagopgeleide ouders kunnen gebruiken om de mondelinge taalontwikkeling van hun jonge kinderen te stimuleren. Aanvullend hebben we kennis opgedaan over hoe deze interventies aan deze groep ouders kunnen worden overgedragen. De onderzoeksvragen waren: *1) Welke*

*effectieve activiteiten en strategieën kunnen laagopgeleide ouders gebruiken om de mondelinge taalontwikkeling bij hun jonge kind te stimuleren?* En 2*) Wat zijn effectieve manieren om deze activiteiten en strategieën over te dragen?* Uit dit onderzoek is gebleken dat 'praat- en spel' activiteiten, waarin taal- en responsieve communicatiestrategieën gebruikt worden, het meest effectief zijn voor laagopgeleide ouders. De overdracht van deze activiteiten en strategieën blijkt effectiever als deze aansluiten bij de routines en kennis van ouders en wanneer kinderen actief betrokken zijn bij de overdracht aan ouders. Dit is vooral het geval wanneer deze activiteiten geen specifieke vaardigheden van ouders vragen, zoals lees- en schrijfvaardigheid of kennis van de Nederlandse taal. Activiteiten die gebruik maken van boeken en die nadrukkelijk gericht zijn op het stimuleren van lees- en schrijfvaardigheden van kinderen blijken minder effectief voor laagopgeleide ouders.

We vonden echter weinig interventiestudies die gericht zijn op laagopgeleide ouders. De meeste studies richtten zich op heterogene groepen ouders. Daarom pleitten we voor meer onderzoek naar de effecten van activiteiten en strategieën die uitgevoerd worden door laagopgeleide ouders. Hierbij is de definitie van opleidingsniveaus een aandachtspunt. Wanneer er in onderzoek scherper onderscheid wordt gemaakt tussen effecten van interventies voor verschillende opleidingsniveaus van ouders dan draagt dit in belangrijke mate bij aan onze kennis over de werking van deze interventies die de taalontwikkeling van kinderen beogen te bevorderen. Tot slot werd geconstateerd dat ook andere kenmerken van ouders, zoals hun geletterdheid, tot nu onderbelicht blijven in onderzoek.

In de tweede studie hebben we een eerste prototype van het Thuis in Taal programma onderzocht door middel van een serie tests en bijstellingen in de praktijk van tien leraren op vijf scholen. Dit eerste prototype bestond uit vijf leidende principes (later stappen genoemd) en bijbehorende handreikingen om partnerschappen aan te gaan met ouders ter ondersteuning van de taalontwikkeling van hun kind. In de volgende figuur zijn deze stappen en handreikingen samengevat:

**FIGUUR 1:** Thuis in Taal prototype op basis van vijf ontwerpprincipes

| Ontwerp Principe/Stap | Beoogd gedrag van leraren | Handreiking |
|---|---|---|
| 1. Verken de taalomgeving thuis van kinderen | Leraren verzamelen informatie over achtergronden van ouders en de interacties met hun kind. | Klassenlijst |
| 2. Ontwikkel schoolbeleid waarin de benodigde procedures voor het aangaan van partnerschappen ter ondersteuning van de taalontwikkeling van kinderen geborgd wordt | Leraren maken een systematische planning van procedures voor het aangaan van partnerschappen (o.a. informeel contact, kennismakingsgesprekken, wekelijkse ouder-kind activiteiten). | Planning van ouderactiviteiten |
| 3. Bouw wederkerige relaties op met ouders | Leraren nodigen ouders actief uit om relaties op te bouwen en een samenwerking aan te gaan ter ondersteuning van de taalontwikkeling van kinderen (bijv. door regelmatige informele gesprekken en kennismakingsgesprekken). | Tips voor het gebruik van wederkerige communicatie |
| 4. Organiseer regelmatig ouder-kind activiteiten in de klas | Leraren organiseren wekelijks ouder-kind activiteiten uit die interactie stimuleren en die passen bij de behoeften en mogelijkheden van de ouders. | Checklist ouder-kind activiteiten |
| 5. Stimuleer het gebruik van strategieën om de ouder-kind interactie te bevorderen | Leraren leggen uit en doen voor hoe laagopgeleide ouders de taalontwikkeling van hun kind kunnen stimuleren en het gebruik van taal kunnen uitbreiden. | Tips om het gebruik van strategieën te stimuleren |

We hebben onderzocht hoe het prototype kon worden aangepast om knelpunten op te lossen waar leraren en ouders in tien klassen tijdens de implementatie tegenaan liepen. De onderzoeksvraag was: *Welke aanpassingen van het prototype zijn nodig om bij te dragen aan blijvende partnerschapsrelaties met laagopgeleide ouders ter ondersteuning van de mondelinge taalontwikkeling van jonge kinderen?* Het lukte zeven van de tien leraren om elk principe te implementeren. Deze leraren hadden extra aandacht nodig bij het verkennen van de taalomgeving thuis (principe 1) en het bleek lastig om de principes in te bedden in schoolbeleid (principe 2). Leraren hadden meer individuele coaching nodig om wederkerige relaties aan te gaan (principe 3), om de beoogde ouder-kind activiteiten te implementeren (principe 4) en om ouders te ondersteunen bij het toepassen van strategieën die de interactie bevorderen (principe 5). Leraren bleken niet gewend aan het herhaaldelijk uitleggen en voordoen van activiteiten en strategieën aan ouders. Zij hadden voorbeelden en aanmoedigingen van coaches en collega's nodig om de technieken daadwerkelijk te gaan toepassen. Een aantal leraren had ook aanmoediging nodig om anderstalige ouders met weinig Nederlandse taalbeheersing te stimuleren in de eigen taal met hun kind te communiceren. Dit was nodig omdat bleek dat deze ouder-kind paren soms niet het gesprek aangingen als zij die stimulans niet kregen. Onze resultaten lieten ook zien dat principe 5 verbeterd kon worden om de procesgerichte rol van

ouders te ondersteunen en het initiatief van het kind aan te moedigen. Dit bleek van belang omdat een directieve benadering door ouders tot minder taalgebruik door kinderen leidde en tot minder speelsheid in de interactie. Zeven leraren beoordeelden het prototype als bruikbaar in hun praktijk. Drie leraren stopten met de implementatie na het derde principe. Zij vonden het vierde en vijfde principe minder geschikt omdat zij in hun praktijk minder (zeer) laagopgeleide ouders tegenkwamen of werkten met iets oudere kinderen (groep 4). Bij de implementatie van het prototype volgden we ook de ervaringen van ouders. Gaandeweg observeerden we meer deelname van ouders aan ouder-kind activiteiten en meer interactief gedrag met hun kind. Ouders waren positief over hun deelname aan het programma en de relevantie daarvan voor hun rol als ouder in de thuisomgeving. Ook kwamen we problemen tegen die lastig waren op te lossen, zoals dat leraren in hun opleiding onvoldoende worden voorbereid op de samenwerking met ouders en het lerarentekort op scholen. Evaluaties met leraren, schooldirecteuren en ouders hebben geleid tot het besluit principes meer af te bakenen (o.a. minder nadruk op de noodzaak schoolbeleid te ontwikkelen) en een aantal nieuwe principes te formuleren om de rolontwikkeling bij ouders te stimuleren, voorrang te geven aan initiatief van het kind en taalgebruik te prioriteren. De positieve evaluaties van de professionaliserings activiteiten, die leraren stapsgewijs hielpen de benodigde competenties te ontwikkelen door steeds uitproberen en reflecteren, hebben geleid tot het besluit deze vorm van coaching uit te breiden en zo drempels weg te nemen bij de implementatie van principes waarbij leraren meer ondersteuning nodig hadden (bij Principe 1, 3, 4 en 5).

Voor we overgingen tot de uitvoering van studie 3 en 4 werd het prototype van het programma Thuis in Taal aangepast met de uitkomsten van studie 2, passend bij de behoeften van leraren en ouders. Het uiteindelijke programma kreeg vorm door middel van in totaal zeven stappen (daarvoor ontwerpprincipes genoemd), met bijbehorende handreikingen en scholing (zie de samenvatting in Figuur 2):

**FIGUUR 2:** Programma Thuis in Taal met zeven stappen

| Fase | Stap |
|---|---|
| Realiseer partnerschapsrelaties | 1. Verken de taalomgeving thuis van kinderen |
| | 2. Betrek ouders en collega's in procedures om partnerschappen aan te gaan ter ondersteuning van de taalontwikkeling van kinderen |
| | 3. Bouw wederkerige relaties op met alle ouders |
| Implementeer interventie activiteiten | 4. Organiseer wekelijks ouder-kind activiteiten in de klas, passend bij de behoeften en mogelijkheden van laagopgeleide ouders (met gebruik van Stap 1-3) |
| Stimuleer de taalontwikkeling | 5. Stimuleer rolontwikkeling bij ouders |
| | 6. Geef prioriteit aan het gebruik van taal |
| | 7. Breid de taal van kinderen uit |

Vervolgens voerden we twee summatieve evaluaties uit door middel van meervoudige case studies. In studie 3 (Hoofdstuk 4) bekeken we de impact van het programma Thuis in Taal op de percepties en het gedrag van leraren. We onderzochten bij 14 leraren of zij de stappen van het programma uitvoerden volgens de intenties van het programma en het aanpasten aan behoeften van ouders. De onderzoeksvraag van deze studie was: *In hoeverre draagt het programma Thuis in Taal bij aan blijvend gebruik van de zeven stappen om partnerschapsrelaties aan te gaan ter ondersteuning van de mondelinge taalontwikkeling van kinderen?* Uit interviews met leraren bleek dat van deze 14 leraren er 12 in staat waren de implementatie van het programma uit te voeren en volledig participeerden in de professionaliseringsactiviteiten. Van deze 12 leraren lukte het negen leraren om alle stappen te volgen en drie leraren om er zes te volgen. Voor deze laatste drie bleek het implementeren van Stap 7 lastig. Twee leraren werden door persoonlijke omstandigheden gehinderd bij de implementatie en voerden slechts drie of vier stappen uit. Op basis van vragenlijsten zagen we sterke verbeteringen tussen voor- en nameting van de toepassing van de eerste drie stappen door leraren. Alleen voor Stap 3 bleek deze verbetering net niet significant. De meeste vorderingen werden gevonden tijdens observaties van leraren tijdens de toepassing van Stap 4-7 met kinderen en ouders. Leraren slaagden er bij de nameting in om aanzienlijk meer ouders in ouder-kind activiteiten te betrekken ten opzichte van de voormeting. We vonden de minste vooruitgang bij de leraren die niet volledig participeerden in de professionaliseringsactiviteiten. Tot slot bleken alle 14 leraren na de implementatie gemotiveerd om het samenwerken met ouders volgens de stappen van het programma Thuis in Taal voort te zetten. De reden hiervoor was dat zij merkten dat het programma had bijgedragen aan de doelen die zij als leraar nastreven en dat zij het programma op maat konden maken passend bij hun voorkeuren en de schoolcontext. Daarom wilden zij deze manier van werken voortzetten. Er zijn ook verbeterpunten gevonden. Hoewel leraren beter in staat waren om inzicht te krijgen in de achtergronden van ouders (eerste aspect van Stap 1), lukte het hen minder goed om ook goed zicht te krijgen op de interacties en taalactiviteiten thuis (tweede aspect van Stap 1). Ook werd er minder verbetering bij leraren gevonden bij het opbouwen van wederkerige relaties (Stap 3). We vonden bovendien significant lagere beoordelingen van leraren bij het tweede aspect van Stap 1 (Inzicht krijgen in de interacties en taalactiviteiten) en Stap 3 voor ouders met een zeer laag opleidingsniveau (maximaal basisschool) ten opzichte van hogeropgeleide ouders. Uit de interviews bleek dat leraren het van belang vonden goed te werken aan deze stappen, maar dat zij een aantal voorwaarden misten om kennis op te doen over de taalomgeving thuis en om de benodigde tijd te besteden aan het opbouwen van wederkerige relaties met de laagstopgeleide ouders. Daarom besloten we deze studie met de constatering dat meer tijd en ruimte voor leraren belangrijke voorwaarden zijn om het benodigde inzicht te krijgen en de vertrouwensrelatie op te bouwen die nodig zijn om met laagopgeleide ouders samen te werken aan de taalontwikkeling van hun kinderen.

In de vierde studie (Hoofdstuk 5) is de impact onderzocht van het programma Thuis in Taal op de percepties en het gedrag van ouders. Twee deelstudies werden uitgevoerd. In de eerste deelstudie onderzochten we in hoeverre de percepties van ouders over de partnerschappen met leraren, hun gevoelens van zelfvertrouwen (self-efficacy) en het aantal taalactiviteiten thuis veranderden gedurende hun deelname aan het programma. De onderzoeksvragen waren: *Draagt het programma Thuis in Taal bij aan partnerschapsrelaties met laagopgeleide ouders met focus op de mondelinge taalontwikkeling van kinderen, zelfvertrouwen bij ouders en de kwantiteit van taalactiviteiten thuis?* En: *Zijn er verschillen die verklaard kunnen worden door de kwaliteit van de overdracht door leraren en opleidingsniveaus van ouders?* Voor deze deelstudie namen we in 14 groepen van zeven basisscholen interviews af bij een diverse groep ouders (*n* =71) met verschillende opleidingsniveaus. De resultaten tijdens de nameting lieten zien dat bijna alle ouders (98%) aangaven regelmatig deel te nemen aan ouder-kind activiteiten in de klas. De percepties van ouders over de partnerschappen en hun gevoel van zelfvertrouwen veranderden niet significant, ook niet als we de kwaliteit van de overdracht door leraren vergeleken (leraren die niet alle stappen van het programma toepasten ten opzichte van leraren die alle stappen toepasten). Wel kwamen significante verschillen uit de vergelijking van het aantal taalactiviteiten thuis bij de zeer laagopgeleide ouders (maximaal basisonderwijs) ten opzichte van de andere groepen ouders (minimaal lager voortgezet onderwijs en hoger). Voor de laagstopgeleide ouders waren de aantallen taalactiviteiten bij de voormeting significant lager en werd een significante groei gevonden in het aantal gerapporteerde taalactiviteiten tijdens de nameting.

In de tweede deelstudie hebben we gekeken naar de ouder-kind interactie tijdens de specifiek ontworpen ouder-kind activiteiten op vier basisscholen die de principes van Thuis in Taal toepasten. Hiervoor selecteerden we ouders met de twee laagste opleidingsniveaus (zeer laag: alleen basisschool en laag: alleen voortgezet onderwijs op maximaal vmbo niveau). De onderzoeksvragen waren: 1*) Leidt het programma Thuis in Taal tot verbeteringen op kenmerken van de ouder-kind interactie tussen voor- en nameting?* En: 2) *Zijn er verschillen die verklaard kunnen worden door de kwaliteit van de overdracht door leraren?* De resultaten van deze tweede deelstudie laten een significante groei zien op drie aspecten van de kwaliteit van de interactie (namelijk: betrokkenheid van het kind, het stimuleren van de autonomie van het kind en emotionele ondersteuning van het kind) tijdens beide ouder-kind activiteiten die geobserveerd zijn in de voor- en nameting. Een vergelijking van interacties tussen klassen met een sterke en minder sterke kwaliteit van de overdracht door leraren, toonde dat de ontwikkeling in deze groepen verschilde ten gunste van de leraren die een sterke overdracht van de programma principes lieten zien. Dit was het geval voor het vierde aspect van de kwaliteit van de interactie (cognitieve ondersteuning van het kind), alle aspecten van de kwantiteit van de interactie (aantal woorden van het kind, aantal woorden van de ouder, aantal beurtwisselingen) en twee

aspecten van de kwaliteit van taal (de omvang van gedecontextualiseerd taalgebruik en overig taalgebruik). Dit effect werd alleen gevonden voor de tweede activiteit, die vergeleken met de eerste activiteit een speelsere structuur had.

## Conclusies en implicaties

Dit brengt ons bij het antwoord op de hoofdvraag van dit proefschrift [*Welke aanpak kunnen leraren van jonge kinderen gebruiken om partnerschappen aan te gaan met laagopgeleide ouders met als doel de taalontwikkeling van hun kinderen te stimuleren?*]. Op basis van de resultaten van de vier studies concluderen we dat de stappen van het programma Thuis in Taal bijdragen aan succesvolle partnerschappen tussen leraren en laagopgeleide ouders om de mondelinge taalontwikkeling van kinderen te stimuleren. Vanuit het perspectief van leraren laten onze resultaten zien dat leraren gecoacht kunnen worden om met het Thuis in Taal programma te werken en dat zij deze aanpak als een waardevolle toevoeging ervaren van hun werk als leraar. Vanuit het perspectief van laagopgeleide ouders laten de resultaten een toename zien van deelname van deze ouders tijdens ouder-kind activiteiten op school, hun verbale interactie met hun kind tijdens deze ouder-kind activiteiten en het aantal taalactiviteiten thuis. De resultaten bieden aanknopingspunten voor verdere versterking van het programma en voor implementatie in zowel de praktijk als het beleid. De theoretische principes die we hebben gepresenteerd kunnen gebruikt worden in diverse settings en zijn bedoeld om te inspireren bij het vormgeven van nieuwe schoolpraktijken, waarbij steeds wordt voortgebouwd op de gemeenschappelijke belangen en kennis van leraren en ouders.

# ABOUT THE AUTHOR

Martine van der Pluijm (1972) was born in Schiedam in the Netherlands. She started working as a social worker and combined her work with a degree course in Pedagogy at an institute for higher professional education. In 2002, Martine completed her master in Pedagogical Sciences, specializing in Educational Philosophy, at Radboud University Nijmegen. She had various positions in different organizations and worked as a policy advisor and as a coach and developer of education methods in the field of education. In 2006, she started working as an independent advisor, researcher, and project manager. During this period, she became involved in the specific subject related to this thesis: the role of teachers in preventing the intergenerational transfer of language and literacy problems. In 2011, she wrote a PhD proposal on how teachers can build partnerships with lower-educated parents in support of child language development. She received a grant from Rotterdam University of Applied Sciences to conduct research in 2012 and started working there as a lecturer in Pedagogy and Social Work in the Bachelor program. Martine is interested in design-based research (DBR) to develop new research-based interventions that are customized to the needs of children, parents, and educators. She is especially interested in issues that concern equity and child education.

Currently, Martine is a postdoc researcher in the design and effects for the At Home in Language program for teachers to support families at their pupil's homes. This design is focused on how teachers can extend their partnerships with lower-educated parents in support of young children's language development, tailored to the needs of families. This home-based design will be a complementary part of the school-based program Martine designed during her PhD research. She teaches Social Work in the Bachelor program and Pedagogy in the Master Pedagogy and is involved in developing a comprehensive research program (DBR) for students.

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