

Activities and Strategies for Parents With Less Education to Promote the Oral Language Development of Their Children: A Review of Empirical Interventions

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Abstract

For the present review, we analyzed 28 studies researching the effects of interventions for parents with less education on the oral language development of their young children (ages 3–8). Two groups of interventions were distinguished: 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. In addition, we analyzed which modes of delivery for these activities and strategies were effective. Talk and play activities that use oral language activities and responsive communication strategies seem to be the most effective for parents with less education, especially when they are adapted to activities that occur in the families' daily lives and do not require the use of print. Activities that include the use of books and emphasize print and code awareness strategies seem less effective for parents with less education. Training parents during activities that include child involvement appears to be an effective mode of delivery. Recommendations for future research are presented to increase our knowledge of effective interventions to support the engagement of parents with less education in their young children's language development.

Key Words: oral language development, family literacy interventions, parents with less education, home support, oral language strategies, delivery mode

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, the 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 vocabulary knowledge and their knowledge of syntactic structure originates from 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 use at home is a key factor for literacy development and school success (Weizman & Snow, 2001).

The quality of the oral language development of young children is not only important in relation to their literacy development, it is also important for communication in its own right. Parents and children use words, for example, 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 the parent and child appears to be 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 et al., 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 at the same time (Dewey, 1916). Positive and warm relationships in which parents encourage the child have been shown to be related to children's language and emergent literacy skills (Berlin, Brooks-Gunn, Spiker, & Zaslow, 1995; Tamis-LeMonda, Bornstein, & Baumwell, 2001). The domain of the family has therefore gained the attention of scholars seeking ways to strengthen children's opportunities for literacy development (Wasik & Hendrickson, 2004).

Empirical research has shown that “parents with less education”—often defined as having, at maximum, a high school diploma (Wasik & Van Horn, 2012)—engage children in fewer language experiences compared to parents with more education (Britto & Brooks-Gunn, 2001; Hart & Risley, 1995;

Heath, 1990; Hoff, Laursen, & Tardif, 2002; Van Kleek, Lange, & Schwarz, 2011). Hart and Risley (1995) illustrated in detail how the lower quantity of language use in less educated families impacts later school performance. In addition to differences in quantity of language use, there are also qualitative differences such as the use of decontextualized language (Curenton, Craig, & Flanigan, 2008; De Temple & Beals, 1991; Snow, 1991). The social–emotional environment appears to be different in families with less education as well. Parents with less education are less likely to provide the type of encouraging and warm relationship with their children that evokes the use of oral language (Britto & Brooks-Gunn, 2001; Hart & Risley, 1995; Hoff-Ginsberg, 1991). Their communication with their child is described as more directive, in contrast to parents with more education, who tend to use speech that follows the child’s perspective (Lareau, 2002). Parents with less education tend to emphasize child learning by repetitious practice compared to parents with more education, who tend to emphasize learning by curiosity, informal learning, and having fun (Fitzgerald, Spiegel, & Cunningham, 1991). These different practices seem to be related to the limited resources of parents with less education, such as school experience and examples in their own family environment (Hoover-Dempsey et al., 2005; Horvat, Weininger, & Lareau, 2003).

Moreover, parents with less education seem to initiate relatively few academic or literacy activities such as reading to their children (Yarosz & Barnett, 2001), talking with children about school, and spending time helping with schoolwork (Kutner et al., 2007; O’Donnell & Mulligan, 2008). Many of these issues can be explained by the low literacy skills of parents with less education (Laghzaoui, 2011; Sénéchal, 2012). Low literacy skills may be the most important defining criteria of many less educated adult parents (Drijkoningen, 2015; Kurvers, van de Craats, & van Hout, 2015; Reder, Vanek, & Spruck-Wrigley, 2011). Empirical studies show strong relationships between the way mothers engage their children 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 past educational careers can result in low feelings of self-efficacy and influence their parental role in a negative way (Fitzgerald et al., 1991; Neuman, Hagedorn, Celano, & Daly, 1995). Despite the importance of literacy levels of parents, little research has been devoted to the way family literacy interventions should be tailored specifically to the target group of parents with less education and low literacy skills (Manz et al., 2010; Menheere & Hooge, 2010; Sénéchal, 2012; Van Steensel et al., 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 types of activities provided. Recent meta-analyses and reviews showed positive outcomes of family literacy interventions to enhance language and literacy skills of children (Goodall & Vorhaus, 2011; Manz et al., 2010; Mol et al., 2008; Reese, Sparks, & Leyva, 2010; Sénéchal & Young, 2008; Van Steensel et al., 2011). However, reported effect sizes differ 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, it seems evident that interventions turn out differently for parents of lower and higher educational levels. Mol et al. (2008) found different effect sizes for dialogic reading interventions, a specific form of shared reading that aims to involve the child actively in dialogues, respectively $d = 0.13$ for the at risk group and $d = 0.53$ for the not at risk group. Manz et al. (2010) showed similar outcomes for dialogic reading and other interventions of $d = 0.14$ and $d = 0.39$ for parents with lower and higher socioeconomic backgrounds, respectively, and different outcomes for ethnic groups of $d = 0.64$ (Caucasian) and $d = 0.16$ (ethnic minorities). Educational level of parents is one of the indicators used in many studies to determine the at risk status of participants (besides job level, type of profession, or income; Blok et al., 2005; Mol et al., 2008; Sénéchal & Young, 2008; Van Steensel et al., 2011)

No systematic reviews were found comparing the impact of family literacy interventions for parents with less or more education. Available evidence suggests that it is difficult to implement family literacy interventions for parents with less education in an effective way. An example is provided by the evaluation of the Even Start program involving parents in child education interventions and adult education. This program primarily targets parents with less education. Evaluation studies report no significant effects on literacy measures for children including oral language development (St. Pierre et al., 2003; St. Pierre, Ricciuti, & Rimdzius, 2005).

Developers of family literacy interventions face the challenge to select effective activities and strategies specifically directed at parents with less education. However, few studies examine the effects of such activities and strategies directed at children's oral language development. The meta-analysis of Mol et al. (2008) is directed at dialogic reading interventions only, while the meta-analysis of Sénéchal and Young (2008) compares the effects of different 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 of basic literacy skills appeared to be more effective than shared book reading. These differences between the so called code-focused and comprehension-focused interventions were not found by Van Steensel et al. (2011). More research is certainly needed in order to identify specific activity types that are effective for parents with less education considering their social, cultural, and literacy practices (cf. Bus, Lese-man, & Keultjes, 2000; Manz et al., 2010; Van Steensel et al., 2011).

There seems to be a knowledge gap concerning the guidelines that parents with less education can use effectively for learning activities with their children. These activities can vary from parent-child oral language interaction to basic literacy learning techniques (Fine & Henry, 1989). Parents can be trained to use a diversity of strategies during these activities, such as 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 general 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 are rarely the subject of systematic research (Barbarin & Aikens, 2009; Wasik & Sparling, 2012). Parents with less education may 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 parents with less education can use may 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 oral language development of children (Mol et al., 2008; Reese, Sparks, et al., 2010). 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 parents with less education.

Modes of Delivery

Recently, several authors have raised the issue of delivery of family literacy interventions (De la Rie et al., 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 parents with higher or less education (Blok et al., 2005; Grindal et al., 2016; Manz et al., 2010; Van Steensel et al., 2011). A recurring topic of debate is the effectiveness of center-based compared to home-based delivery. The findings of Blok et al. (2005) were in favor of center-based or a combination of center- and home-based delivery. In contrast, Manz et al. (2010) showed stronger effects for home-based interventions than for center-based interventions.

Another issue is the need for coaching of parents. Although 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 seems to produce stronger effects (Grindal et al., 2016; Nievar, Van Egeren, & Pollard, 2010; Olds & Kitzman, 1993); coaching with a frequency of at least one visit a month appears to be associated with stronger effects on child outcomes than home visits with less frequency. However, Manz et al. (2010) did not find this effect for frequency of coaching parents. The findings of Olds and Kitzman (1993) showed that professional trainers had more positive effects on child outcomes than semi-professionals. The meta-study of Van Steensel et al. (2011), however, does not show any difference between the two types of trainers. Additionally, several studies show that teachers can play an important role in the delivery of family literacy interventions (Bakker et al., 2013; Epstein, 1991; Van Voorhis et al., 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, parents with less education may need additional knowledge about education and supporting the child (Hoover-Dempsey et al., 2005; Sheridan et al., 2008). It is known from several studies 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; Haguenaer et al., 2005; Kaminsky et al., 2008). In addition, several studies showed that professionals who are able to create a relationship of trust through the use of reciprocal communication were more effective in changing parental behavior than professionals 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 systematic empirical knowledge about effective modes of delivery for activities and strategies that promote children's development, especially those specifically directed at parents with less education. 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; Ezell, Gonzales, & Randolph, 2000). Programs directed at parents with less education often provide adult education directed at improving the language and literacy skills of the parents themselves (Wasik & Herrmann, 2004). Additionally, workshops or group meetings to strengthen parental knowledge about child development may be important for the delivery to the target group of parents with less education (Kagıtcıbası, Sunar, & Bekman, 1988). Such workshops can be extended by hands-on parent activities at school and during home visits, and they 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 parents with less education (Jacobs, 2004). Due to their importance, analysis of the modes of delivery of family literacy interventions used in empirical studies were also examined for this systematic review.

Research Questions

The effects of family literacy interventions on the language development of young children are promising according to several meta-studies. However, it is still unclear which activities and strategies can successfully be used in supporting parents with less education 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 parents with less education to promote their children's oral language development?
2. What are effective modes of delivery of these activities and strategies?

Method

Electronic searches in PsycArticles, PsycINFO, PsycBOOKS, and ERIC were conducted. The searches were limited to the period from 2000–2016. The reason for this limitation is that the 21st 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 quality and quantity of informal language use in the family is of importance for young children's oral language development. The family environments are more and more regarded as primarily important, whereas schools are regarded as a secondary learning environment (Clay, 1993; Neuman & Dickinson, 2001; Reese & Gallimore, 2000; S en echal, 2012).

We worked in five phases. First, 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*, and *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, which was carried out in January 2015, comprised 2,172 publications. We then limited our search to the age group of 3–8 years and English language which resulted in 1,082 publications.

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

The following four exclusion criteria were used: interventions addressing children with specific learning or developmental problems or parents with specific psychological or behavioral problems, interventions containing no clear information about effects, interventions containing no clear information about activities and strategies used, and interventions containing no clear information about the modes of delivery of the intervention. According to the second, third, and fourth exclusion criterion, 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 that was used to create the necessary environment and possibilities for interaction between parent and child, for instance, shared reading, play, talk, or writing activities), intervention strategies (the type of strategies that were used during the intervention activity aimed at strengthening oral language development, for instance, 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 were transferred to the parent).

In the third phase, reference lists of recent reviews and meta-analyses (Baker et al., 2013; Manz et al., 2010; Mol et al., 2008; Reese, Sparks, et al., 2010, Van Steensel et al., 2011) and previously selected articles were examined. Another 129 publications were found by using this snowball method. Of these

129 publications, 27 publications were not obtainable and 96 publications were excluded based on the inclusion and exclusion criteria. This resulted in six more 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 (a year and a half after the initial search) which produced 92 new publications. In this final phase, one more study was identified as relevant based on the same criteria, resulting in a total of 28 publications.

Definitions and Coding

Below, we explain the definitions used and coding procedure. We distinguished two main types of interventions: shared reading and other home activities. Shared reading is defined as interventions that mainly included parent–child shared book reading activities. The second type of interventions includes studies that (mainly) used other home activities than shared reading, for instance, play, talk, craft, write, letter practice, or phonemic practice. Some studies used one activity; others used several activities that might include shared reading as well. We categorized interventions as other home activities when shared reading was included but not emphasized. Twelve studies were classified as shared reading, and a total of 18 interventions were classified as other home activities. Two of the 28 studies were classified in both types of interventions because they reported different experiments that used different types of activities.

Results

Our analyses of the 28 studies are presented in three tables. Table 1 presents characteristics of the selected studies and reported effects on oral language development. Table 2 presents activities and strategies that were used in the interventions. Finally, Table 3 presents the modes of delivery used for the activities and strategies in each of the selected studies.

In Table 1, six types of measurements for oral language development are distinguished. Nine studies reported posttests on oral language development by using 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. Two educational attainment levels of the target parent population are distinguished: (1) high school level with a diploma or less (HS

and less), and (2) higher than high school diploma (> HS). In three cases (7, 8, 13) the precise 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 consisted for the largest part of parents with a high school diploma or less. For our analysis, these interventions were considered to be focused on parents with less education. 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. As shown in Table 1, 12 studies contained samples with 35% or more of parents having a higher educational level than high school, including two studies with exclusively parents with more education. We considered this group of interventions as directed at parents with mixed educational levels. The final two columns in Table 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.

A detailed account of the activities and strategies used in each study is presented in Table 2. Within the two main types—shared reading and other home activities—we distinguished several subtypes. For shared reading there are two subtypes: dialogic reading (DR) and story reading (SR; see column Reading Activity in Table 2). Studies are coded as dialogic reading when authors described and followed the principles of Whitehurst and colleagues (Arnold, Lonigan, Whitehurst, & Epstein, 1994; Lonigan & Whitehurst, 1998; Whitehurst et al., 1999), founders of this intervention. Dialogic reading is defined as the one-on-one interactive reading activity in which the adult reader supports the child to tell about the story by questioning. Adults receive hints to use open questions as well as to deepen the conversation, for instance by asking questions about children's own experiences (Whitehurst et al., 1994). Activities are coded as story reading when other forms of shared reading by the parent and child are applied. Twelve studies were categorized as shared reading interventions, of which seven studies described dialogic reading and five story reading. The second type of intervention we defined as other home activities (18 studies). Table 2 reports the activities of each study (see column Activity Type in Table 2). Some studies used only one activity, and others employed several activities.

In addition, Table 2 distinguishes three types of strategies used in either shared reading or other home activities. Oral language strategies is the first type and is defined as strategies to engage children in conversations, using questioning and other tactics that can be used to evoke oral language use by the child. An example is using open questions, such as "Why is the bear angry?" The second type is responsive communication strategies. These strategies are used to emotionally support the child to talk with the parent, for example, by

encouraging the child: “You can tell me why the bear is angry, I am sure you can,” or “That’s right; you know that very well!” The third type in Table 2 is print and code awareness strategies. These strategies aim to involve children in conversations about written language, such as the letters and sounds of words. Examples are: “What is the first letter of bear?” and “Do you know a word that sounds like bear?”

Table 3 shows the modes of delivery of the activities and strategies used in all selected studies. Six modes were distinguished. The first mode was directed to communication with parents. There are two types of communication. The first type, reciprocal communication, refers to building relationships with parents and relating to the perspectives of families. The second type refers to the frequency of communication. When coaching of parents took place at least once a month, the intervention was coded as frequent. The second mode in Table 3 is the type of adaptation. There are two types: fixed activities by researchers and activities that are adapted to families. The code fixed activities was used when activities were provided to all parents in the same way. The code adapted to families was used 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, additional activities used for the delivery, contains all additional activities for parents to provide training, such as additional workshops. Specific delivery activities that include child participation were coded by using the fourth mode. We found several activities that were used, such as school activities (when parents and children practice an activity at school) or home visits (when parent and child practice together with the trainer at home). An additional code was given to studies that reported using modeling during these parent–child activities. Table 3 shows different types of coaching to use strategies in the fifth mode. Central is the feedback that was provided during or after the activity and additional coaching directed at planning activities and strategy use. Finally, Table 3 shows who trained the parents. We distinguished studies that used teachers, researchers, or other trainers. Other trainers can be well-trained parent educators and trained parents.

Table 1. Selected Studies, Interventions, and Reported Effect Sizes

	Reference	Design	<i>N</i>	Child Age	Intervention Type	Duration	Education Level %	% Language Minorities	Bilingual Intervention	Posttest	Sig. Effects	Effect Size If Sig.
1	Aram et al. (2013)	1 exp 1 con RA	58	4-5	Shared reading/ SR	4 weeks	34>HS 66 HS and less	0	NA	Curriculum dependent tests 1. references to book's plot 2. references to sociocognitive terms 3. child's use of mental terms	exp>con exp>con	es=0.24 es=0.18
2	Blom-Hoffman et al. (2006)	1 exp 1 con RA	18	3-5	Shared reading/ DR	12 weeks	75>HS 25 HS and less	NR	NR	Amount of oral language 1. amount verbalizations during task Delayed test 2. amount verbalizations during task	exp>con exp>con	<i>d</i> =0.78 <i>d</i> =1.26
3	Boland et al. (2003)	1 exp 1 con RA	39	2-4	Other home activities	1 week	100>HS*	NR	NR	Curriculum dependent tests 1. interview (open answers) 2. correct responding to y/n feature questions 3. correct responding to event consistent features Delayed test after 3 weeks: Curriculum dependent tests 4. interview (open answers) 5. correct responding to y/n feature questions 6. correct responding to event consistent features	exp>con exp>con	
4	Boyce et al. (2010)	1 exp 1 con RA	75	2-5	Other home activities	5-10 weeks	100 HS and less	98 Hispanic	Y	Amount oral language L1 1. oral language production 2. diversity of words	exp>con exp>con	pes=0.10 pes=0.07

Table 1, continued

5	Brannon et al. (2012)	1 exp 1 con NRA	40	3-5	Shared reading/ SR	10 weeks	25>HS 75 HS and less	75 Hispanic	Y	Amount oral language 1. number of phrases spoken 2. percentage of child participation in conversation	exp>con exp>con	
6	Brickman (2002)	1 exp 1 con NRA	31	3-5	Shared reading/ DR	6 weeks	100 HS and less	100 Hispanic	Y	Standardized test English L2 1. receptive vocabulary Amount oral language L1 2. amount of words 3. amount of sentences 4. mean length utterance Amount of participation 5. amount of turns taken	con>exp	
7	Chow & McBride-Chang (2003)	exp 1: DR, exp 2: usual bookreading 1 con RA	86	4-7	Shared reading/ DR	8 weeks	Mixed*	100 Chinese	Y	Standardized test Chinese L1 1. receptive vocabulary (PPVT) 2. preschool and primary Chinese literacy scale (PPCLS)	exp 1> con	$d=0.47$
8	Chow et al. (2008)	exp 1: DR, exp 2: DR + morpho- logical training, exp 3: usual bookreading 1 con RA	148	4-7	Shared reading/ DR	12 weeks	Mixed*	100 Chinese	Y	Standardized test Chinese L1 1. receptive vocabulary	exp 1> con, exp 3	$d=0.59$ exp 1 v. c $d=0.49$ exp 1 v. exp 3

Table 1, continued

13	Levin & Aram (2012)	exp 1: SR, exp 2: writing, exp 3: visuo motor 1 con RA	124	4-5	1 group shared reading group / SR 2 groups other home activities	7 weeks	Mixed*	0	NA	Standardized test 1. receptive vocabulary 2. productive vocabulary 3. word definitions Child participation Amount of oral language 4. child initiated dialogues immediate posttest Delayed posttest 5. child initiated dialogues	exp 1 > con, exp 2, exp 3	
14	Morgan & Goldstein (2004)	1 exp	5	3-4	Shared reading / SR	24 weeks	100 HS and less	20 Caucasian 80 African American	N	Amount of oral language 1. decontextualized talk 2. Preschool Language Assessment Instrument (PLAI)	growth growth	
15	Pelletier & Corter (2005)	exp 1: readiness center, exp 2: other preschool program experience 1 con (no intervention) NRA	186	4	Other home activities	12 weeks	59 > HS 41 HS and less**	22 Indian 9 Tamil 4 Chinese 17 Other	Y (when possible)	Standardized test L2 1. Early Development Instrument (incl. vocabulary) Ratings oral language 2. Parent ratings of early development	exp 1, exp 2 > con exp 1 > exp 2, con	
16	Plata Potter (2013)	1 exp (3 cohorts)	103	3-5	Other home activities	2 years	23 > HS 77 HS and less	59 Hispanic	Y	Pre-K early literacy assessment 1. PALS L2 Standardized tests 2. receptive vocabulary L2 3. early literacy L1/L2	neg. growth	

Table 1, continued

17	Reese et al. (2010)	exp 1: DR, exp 2: conversation about past events 1 con RA	33	4-5	1 group shared reading/ DR, 1 group other home activities	NR	100 HS and less	48 Hispanic, Albanian, French, Arabic, African American	Y	Standardized test 1. productive vocabulary Curriculum dependent test 2. story recall, 3. narrative quality 4. story comprehension	exp 2> exp 1 exp 2> con, exp 1	
18	Rolla San Francisco et al. (2006)	Exp: family intervention 1 con RA	210	5-6	Other home activities	8 weeks	100 HS and less	0	NA	Standardized test 1. productive vocabulary 2. phonological awareness		
19	Ryan (2005)	1 exp 1 control NRA	52	4	Other home activities	1 year	100 HS and less	100 Hispanic	Y	Pre-K early literacy assesment 1. PALS L2	exp>con	$d=0.77$
20	Sheridan et al. (2011)	1 exp 1 con RA	217	3-5	Other home activities	2 years	61.1>HS 37.9 HS and less	26.5 Hispanic, 17.5 African, 2.8 Indian, 21.3 other	NR	Standardized test L1/L2: 1. productive vocabulary Ratings oral language: 2. rating by teachers	exp>con	$d= 1.11$
21	Sim et al. (2014)	exp 1: story reading, exp 2: story reading and print 1 con RA	80	4-6	Shared reading/ SR	8 weeks	91>HS 9 HS and less	79 Caucasian 19 Asian 3 other	N	Standardized test 1. productive vocabulary 2. receptive vocabulary 3. rhyme Delayed posttests (3 months later) 4. productive vocabulary 5. receptive vocabulary 6. rhyme	exp 1, exp 2> con exp 1, exp 2>con	exp1, exp2: $d=0.20$ exp1, exp2: $d=0.28$

Table 1, continued

22	St. Clair et al. (2006) and (2012)	1 exp 1 con NRA	29	3-5	Other home activities	1 year	100< and less HS**	97 Hispanic	Y	Standardized test L2 1. receptive vocabulary 2. verbal reasoning Delayed posttest 6 years later 3. state reading assessment score	exp>con exp>con	
23	Strouse (2011)	exp 1: dialogic questioning, exp 2: directed attention, exp 3: actress 1 con RA	81	3-4	Other home activities	4 weeks	100>HS	6 African and Hispanic	N	Standardized language test 1. productive vocabulary Curriculum dependent test 2. story comprehension 3. story specific	exp 1, exp 2>exp 3, con exp 1, exp 3>exp 2, con exp 1, exp 3>exp 2, con	
24	Sundman-Wheat (2012)	1 exp 1 con NRA	26	4-5	Other home activities	9 weeks	67>HS 31 HS and less	58 African 23 Hispanic	N	Preschool early literacy assessment L2 1. vocabulary L2 2. phonemic awareness	exp>con exp>con	
25	Sylva et al. (2008)	1 exp 1 con RA	112	5-6	Other home activities	1 year	64>HS 36 HS and less	34 NR	N	Standardized test L2 1. receptive language 2. phonemic awareness		
26	Tardáguila-Harth (2007)	1 exp	4	4-7	Shared reading/DR	NR	100 HS and less	100 Hispanic	Y	Amount of language L1 1. oral language production immediate posttest Delayed post 2. oral language production posttest	growth growth	

Table 1, continued

27	Van Tuijl et al. (2001)	exp 1: Turkish parents bilingual programme, exp 2: Moroccan group Dutch version 1 control 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 1. receptive vocabulary L2 2. productive vocabulary L2 Standardized test L1 3. receptive vocabulary 4. productive vocabulary Delayed posttests (after 2 years and 6 years) 5. oral language development		
28	Zhang et al. (2010)	exp 1: mainly low educated group, exp 2: mostly higher educated group, exp 3: mixed educated group	42	4-5	Other home activities	8 weeks	1st group 7>HS 93 HS and less 2nd group: 55>HS 45 HS and less 3rd group: 41>HS 59 HS and less	100 Chinese	Y	Standardized test 1. receptive vocabulary English L2 2. receptive vocabulary Chinese L1 3. productive vocabulary English L2 4. productive vocabulary L1 Delayed posttest: 5. productive vocabulary English L2 6. productive vocabulary L1	growth in exp 2> exp 1 growth in exp 2> exp 1	

*exact percentages of education levels at and below High School 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; 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; Sig.=significant; SR=story reading; DR=dialogic reading.

Table 2. Activities and Strategies in the Interventions

	Reference	Shared Reading				Other Home Activities			
		Reading Activity	Oral Language Strategies	Responsive Communication Strategies	Print & Code Awareness Strategies	Activity Type	Oral Language Strategies	Responsive Communication Strategies	Print & Code Awareness Strategies
1	Aram et al. (2013)	SR*	Question, discuss, retell, decontext, expand						
2	Blom-Hoffman et al. (2006)	DR	Complete, recall questions, 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 questions, decontext, prompt, evaluate, expand, repeat	Follow, encourage					
7	Chow & McBride-Chang (2003)	DR	Complete, recall questions, decontext, prompt, evaluate, expand, repeat	Follow, encourage					

Table 2, continued

8	Chow et al. (2008) A. DR	DR	Complete, recall questions, decontext, prompt, evaluate, expand, repeat	Follow, encourage					
	B. DR Morphological training	DR	Complete, recall questions, decontext, prompt, evaluate, expand, repeat	Follow, encourage	Morphological				
	C. DR Typical reading	DR	**						
9	Jiménez et al. (2006)	DR	Complete, recall questions, decontext, prompt, evaluate, expand, repeat	Follow, encourage					
10	Kagıtcıbası et al. (2001)					Read, problem solving, math, visuo motor	Questions	NS	NS
11	Kupzyk et al. (2016)					Play, sing, read, coloring	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, labelling	Affective responsive behavior, cognitive responsive behavior	

Table 2, continued

13	Levin & Aram (2012) A: 1 Reading Group	SR	Question	Age appropriate encouragement, scaffolding	Phonemics, letter tasks				
	B: Writing					Write	Questions	Encouragement, scaffolding	Phonemics, letter tasks, spelling
	C: Visuo motor					Visuo motor	Questions	Encouragement, scaffolding	Phonemics, letter tasks
14	Morgan & Goldstein (2004)	SR	Decontext (text to life, explanatory, interpretation)						
15	Pelletier & Corter (2005)					Talk and play during daily situations, story reading	Questions	NS	Phonemics
16	Plata Potter (2013) Rural LLC					Curriculum related activities NS	NS	NS	NS
17	Reese et al. (2010) A: 1 DR	DR	Complete, recall questions, decontext, prompt, evaluate, expand, repeat	Follow, encourage					
	B: 1 Reminiscing					Talk about past events during daily situations	Complete, recall questions, decontext, prompt, evaluate, expand, repeat	Follow, encourage	

Table 2, continued

18	Rolla San Francisco et al. (2006)					Talk and making word webs during book reading, talk activities during meal-time	Questions, associate, vocabulary, expand, discuss, decontext		Letter tasks, phonemics
19	Ryan (2005)*					Talk, play, and read in relation to daily situations	Vocabulary, expand	NS	NS
20	Sheridan et al. (2011)					Talk and play during daily situations	Questions and wait, prompt to respond and wait	Affective responsive behavior, cognitive responsive behavior	
21	Sim et al. (2014) 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 tasks, print, rhyme				
22	St. Clair et al. (2006)					Talk and play activities at home, relation to daily situations	Vocabulary, expand	NS	Letter tasks, rhyme
23	Strouse (2011) A. Dialogic questioning					Talk activities related to video stories	Complete, recall questions, decontext, prompt, evaluate, expand, repeat	Follow, encourage	

Table 2, continued

	B. Directed attention					Talk activities (video)	Comment	Redirecting	
	C. Regular video (control)					Talk activities (video)			
	D. Dialogic actress					Talk activities (video)			
24	Sundman-Wheat (2012)					Curriculum related activities NS	Prompt, repeat	Encourage	Phonemics, letter
25	Sylva et al. (2008) SPOKES					Read, write, curriculum-related NS, play	Prompt, decontext	Encourage	Phonemics, letter tasks, rhyme, print
26	Tardáguila-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 tasks, textual
28	Zhang et al. (2010)					Read, write, sing, story reading			Phonemics, letter tasks, print, rhyme, concepts

*Also: Social cognition-added activities. **No suggestions provided.

Abbreviations: NS=activity or strategy is mentioned but not specified; SR=story reading; DR=dialogic reading.

Table 3. Modes of Delivery of Activities and Strategies

	Reference	Communication With Parents		Type of Adaptation		Additional Workshops, Conferences, Materials Used for Intervention Delivery					Training Sessions With Child Involvement				Coaching of Strategy Use			Parent Trainer		
		Reciprocal relationships	Frequent communication	Fixed by researchers	Adapted to family life	Workshops and other instruction (incl. modeling)	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-Hoffman 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	Kagiticbasi et al. (2001) OH*	+	+	+		+	+			+						+			+	
11	Kupzyk et al. (2016) OH*	+	+	+		+	+					+	+	+				+		

Table 3, continued

12	Landry et al. (2008, 2012) OH*	+	+		+		+				+			+	+	+			+
13	Levin & Aram (2012) SR/OH		+	+		+	+				+		+	+	+	+			+
14	Morgan & Goldstein (2004) SR*	+	+	+			+				+			+	+	+			+
15	Pelletier & Corter (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-Wheat (2012) OH		+	+			+					+		+	+	+			+
25	Sylva et al. (2008) OH	+	+	+		+	+				+			+	+				+
26	Tardáguila-Harth (2007) SR*	+	+	+			+				+			+	+	+			+
27	Van Tuijl et al. (2001) OH*	+	+	+		+	+				+			+	NS	NS	+		+
28	Zhang et al. (2010) OH*		+	+		+	+						+	+			+		+

*= samples with mainly or only less educated parents.

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

Shared Reading

We discuss the results of the dialogic reading and story reading interventions separately related to Tables 1, 2, and 3.

Dialogic Reading

Two of the four dialogic reading studies directed at parents with less education 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 parents with less education showed negative results for Spanish (L1) word production. Three studies included parents with higher education levels, and all three reported positive effects. The modes of delivery of the four dialogic reading studies directed at parents with less education were quite intensive, and more additional coaching activities were used for tailoring the intervention compared to the three studies with more heterogeneous samples. All dialogic reading studies used researchers as parent trainers.

Story Reading

There are two story reading studies (mainly) directed at parents with less education. Both studies reported positive effects on oral language skills in L2. Both studies used oral language strategies. However, each had a unique emphasis. One of these studies used specific strategies aimed at strengthening decontextualized language, a central aspect that is related to both reading ability and classroom participation. The other study used a specific strategy to help parents provide time for the child to interact combined with a responsive communication strategy. Both studies used intensive forms of coaching for tailoring the delivery of the intervention. Of the three story reading studies directed at heterogeneous groups of parents, two studies combined print and code awareness strategies with oral language and responsive communication strategies, and one study used oral language strategies only. Two of these studies used comparable forms of coaching of parents as those used by the studies directed at parents with less education. The third study used few delivery activities. All three studies directed at heterogeneous groups of parents reported positive effects on immediate post-tests. However, two of these studies reported no positive effects on delayed post-tests. All studies used researchers as parent trainers except for one that used teachers.

Other Home Activities

Seven of 11 studies directed at parents with less education reported significant positive effects on oral language development. Five of these seven studies used talk and play activities that are adapted to the families' homes instead of

fixed activities. 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 mix of talk and play and read and write activities. Only one of these compared effects with a control condition. The four of the 11 studies that did not report positive effects used mainly read and write activities which were the same for all parents (fixed). These studies used fewer oral language and responsive communication strategies and more print and code awareness strategies than the previously mentioned group. Studies directed at parents with less education used several types of delivery activities, mostly training sessions with child involvement, often with an emphasis on reciprocal relationships. Interventions that contained fixed read and write activities and that 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. One study used reading and writing activities, and five of these studies used mainly talking activities (sometimes combined with play). Similar to the studies directed at parents with less education, the read and write study used print and code awareness strategies, and 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 they emphasized print and code awareness strategies. Five of the seven studies used several types of delivery activities, mostly training sessions with child involvement and some with an emphasis on reciprocal relationships. Interventions that contained fixed read and write activities and that emphasized code and print awareness strategies showed fewer effects despite this intensive mode of delivery.

Conclusions and Discussion

Analysis of the Results and Conclusions

The two research questions are: (1) What are effective activities and strategies that can be used to support parents with less education to promote their children's oral language development? and (2) What are effective modes of delivery of these activities and strategies, according to empirical studies? Table 4 describes the results of all studies that allow comparisons between experimental groups and a control group in respect of type of activity. From these comparisons it can be deduced that the use of talk and play activities is most effective for

parents with less education. For studies that used this type of activity, we found the most convincing evidence (see Table 4 left side). All five talk and play studies with parents with less education (of which three use randomized assignment to conditions) reported significant effects on oral language development without exception. A total of five studies containing 19 experimental comparisons is involved, of which 12 showed positive effects of the interventions (63%).

Less evidence was found for the effectiveness of shared reading for parents with less education 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. A total of 11 experimental comparisons were involved (see Table 4), two of which showed positive effects (22%).

We found the least evidence for the effectiveness of read and write activities for parents with less education. One of the three experimental studies reported positive effects on children's oral language development; two reported no effects. A total of 10 experimental comparisons were involved (see Table 4), of which only one showed a positive effect on oral language development (10%).

When comparing these results for parents with less education to the results of the heterogeneous groups of parents (Table 4, right side), we see similar results for the talk and play activities. In total, five experimental talk and play studies were found that reported positive effects (of which four used random assignment). There were 25 experimental comparisons in this category, of which 15 showed positive effects (60%, compared to 63% for parents with less education). For shared reading in heterogeneous groups, however, a different picture emerges compared to the lower educated target group. There are six studies (three dialogic reading, three story book reading) comparing experimental and control groups directed at heterogeneous groups of parents that reported positive effects. The six studies contained 25 experimental comparisons, of which 11 showed positive effects of shared reading (44%, compared to 22% for parents with less education). The evidence for the effects of shared reading with *heterogeneous* groups of parents, based on much more experimental evidence than for parents with less education, 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. There were, however, only two studies in this category carrying out 12 experimental comparisons (see Table 4), of which none showed effects.

In addition to the studies presented in Table 4, there were six studies without comparison to control groups, which were all directed at parents with less education. Three of these studies used read and write activities and showed mixed results. One study showed growth of oral language development, one did not show growth, and one showed negative growth. The other three studies

used shared reading (two dialogic, one story reading) and showed growth on children’s oral language development. Given that these were all rather small-scale studies with few participants (4–16) and did not have any comparison groups, we cannot give much weight to their results. It is possible that in such small-scale interventions parents with less education received more individualized coaching for shared reading, explaining the positive results found.

Table 4. Overview of Experimental Comparisons for Activity Type for Less Educated and Heterogeneous Groups of Parents

Author***	# Exp. Comparisons*	# Sig. Effects**	RA	Author***	# Exp. Comparisons*	# Sig. Effects**	RA
Studies Directed at Less Educated Samples				Studies Directed at Heterogeneous Samples			
Shared Reading Activities							
Dialogic Reading							
6. Brickman	5	1 (neg.)	N	2. Blom-Hoffman	2	2	Y
17. Reese	4	0	Y	7. Chow (2003)	2	1	Y
				8. Chow (2008)	1	1	Y
<i>Total</i>	<i>9</i>	<i>1 (neg)</i>	<i>1</i>	<i>Total</i>	<i>5</i>	<i>4</i>	<i>3</i>
Storybook Reading							
5. Brannon	2	2	N	1. Aram	3	2	Y
				13. Levin	5	1	Y
				21. Sim	12	4	Y
<i>Total</i>	<i>2</i>	<i>2</i>	<i>0</i>	<i>Total</i>	<i>20</i>	<i>7</i>	<i>3</i>
Other Home Activities							
Talk and Play Activities							
4. Boyce	2	2	Y	3. Boland	6	2	Y
12. Landry	9	6	Y	15. Pelletier	6	4	N
17. Reese	4	1	Y	20. Sheridan	2	1	Y
19. Ryan	1	1	N	23. Strouse	9	6	Y
22. St. Clair	3	2	N	24. Sundman-Wheat	2	2	Y
<i>Total</i>	<i>19</i>	<i>12</i>	<i>3</i>	<i>Total</i>	<i>25</i>	<i>15</i>	<i>4</i>
Read and Write Activities							
10. Kagitcibasi	1	1	N	25. Sylva	2	0	Y
18. Rolla San Francisco	2	0	Y	13. Levin	10	0	Y
27. Van Tuijl	7	0	N				
<i>Total</i>	<i>10</i>	<i>1</i>	<i>1</i>	<i>Total</i>	<i>12</i>	<i>0</i>	<i>2</i>

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

Effect sizes are reported in Table 1. *First authors only are listed for this table.

Abbreviations: Y = yes, N = 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 parents with less education used oral language and responsive communication strategies (see Table 2) and therefore may be regarded as partly responsible for the positive effects associated with that type of activity as discussed above. However, the shared reading studies also used these strategies with, apparently, much less success, especially for parents with less education in experimental studies. Therefore, possibly it is the combination of strategies emphasized (oral language and responsive communication) and activity type (talk and play) that makes the intervention more effective for children's oral language development. On the other hand, the read and write activities directed at parents with less education and at 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.

The second research question on the modes of delivery allows for the following conclusions regarding their effectiveness for parents with less education. The first is that delivery seems most effective when it is flexible and adapts to 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 3). These are the same five studies that used talk and play activities and oral language and responsive communication strategies for parents with less education (see Table 4, left side). As previously discussed, all five reported significant effects on oral language development, based upon 19 experimental comparisons.

The second conclusion is that delivery of activities and strategies can be more effective for parents with less education when parents *and* children are involved in the training. Four of the five talk and play studies (4, 12, 19, 22) and one shared reading study (5) showed positive effects with parents with less education and used this mode of delivery (see Table 3), in contrast to two shared reading studies (6, 17) that did not use child involvement during training and showed no effects on oral language development. An additional indication that child involvement during training is beneficial is that three studies with no control condition directed at shared reading (9, 14, 26) used this mode of delivery and showed growth in children's oral language proficiency. However, the use of this delivery mode seems less effective for read and write activities. One experimental read and write study (10) reported positive effects on oral language development, and a study with no control condition showed growth (11). Both used child involvement. The remaining four read and write studies

that used this mode of delivery with parents with less education (two experimental studies: 18, 27, and two studies without control conditions: 16, 28) showed no effects on children's oral language development. Therefore, we can conclude that child participation in training as a mode of delivery is effective for parents with less education, 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 parents with less education and about the most effective delivery modes for these activities and strategies. Our analysis demonstrates that there are several relevant aspects in intervention studies that can be regarded as effective. First, we found that talk and play activities are more effective for parents with less education than shared reading and read and write activities. Second, we found the combination of oral language and responsive communication strategies to be effective. Third, it was concluded that an adaptive mode of delivery is important for our target group. Finally, child involvement during parent training appeared to be an effective mode of delivery. Below, we will discuss possible explanations for each of these findings separately.

Talk and play activities appear to be the most effective for promoting the oral language development of the children of parents with less education. 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 by using it. The richer the language used, the more children's oral language will benefit from these conversations. The finding that talk and play activities are effective can be explained if we assume that these activities directly connect to the daily lives of parents with less education and therefore lend themselves to enriching the language exchanges between these parents and their children.

Training parents in eliciting rich dialogues by the use of narratives, conversations, and storytelling—in which print does not play a central role—are examples of talk activities. The avoidance of print may be important, because parents with less education may find literate activities such as shared book reading difficult and, therefore, print-free talk activities more accessible (Boyce et al., 2010; Reese, Leyva, et al., 2010). 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 often joyful and challenges participants to enrich the interaction 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. In the combination of oral language and responsive communication strategies, cognitive support is supplemented by an emotional component. This means parents recognizing the child's needs and following the child's interest, providing enough time for the child to think and talk, and at the same time challenging the child by using appropriate (open) questions intended to elicit decontextualized language (cognitive support). From research into child–parent dialogues, it is known that lower socioeconomic status parents quite often use a directive style of communication (Hart & Risley, 1995). The combination of oral language and responsive communication strategies possibly supports parents in changing the communication in which the adult leads the conversation and the child follows the adult to a communication in which children become partners in an open discussion or even take a leading position. This challenging role for the child may be an important ingredient of interventions directed at children's oral language development. Children are stimulated to produce oral language expressing their thoughts in words—which may result in the learning of new words—when parents use stimulating questions that help children enrich their language use (Swain, 2000). An example of how strategies and activities are intrinsically related in interventions for parents with less education is provided in Reese, Leyva, et al. (2010), who emphasized the use of questions as a strategy that direct parents to connect to the child's experiences by the activity of talking about past events and evoking decontextualized language.

Our third conclusion states that the mode of delivery for parents with less education seems most effective when it is flexible and adapts to the families' specific backgrounds and personal experiences, especially when the intervention adapts to activities that occur in the families' homes. Examples are 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). The familiarity of parents with less education with these situations may be a favorable condition for the effectiveness of the interventions (Jacobson, Degener, & Purcell-Gates, 2003), while an activity such as shared reading may be unfamiliar for many parents with less education (Yarosz & Barnett, 2001). Familiarity with the activity contributes to parents' confidence, which is an important prerequisite for successfully using the targeted strategies. Adapting interventions to family

backgrounds and daily activities could be an effective ingredient that helps prevent transfer problems that are often encountered (Manz et al., 2010). If parents learn to use the strategies in a family situation, for instance, talking about favorite dishes of the child, the parent is able to repeat the use of strategies in the same activity at home as practiced (“Alright, tell me more about what you really like most? When did we eat that? For what occasion?”). In addition, using strategies adapted to daily family activities prevents parents spending extra time on top of their already 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 adapt to the social environment of families’ homes. It is possible to use printed materials that are normally present in family life, enabling parents with less education 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 include reading 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 time table to take public transportation or 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 to develop oral language, phonological awareness, and print knowledge.

Two additional aspects of adaptation of interventions to parents with less education are of interest. First, adapting the intervention language to the home language of language minorities is an important issue. All 16 studies directed at parents with less education reported details about ethnicity and language of the participants, and all 14 studies that included language minorities adapted the intervention language to participants’ home language (see Table 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 parents with less education, which contrasts with Manz et al. (2010) who concluded that the importance of ethnicity and language is overlooked in studies. Second, studies that adapt to families by investing in reciprocal relationships—for instance, investing in conversations to contribute to mutual understanding—are considered to be effective according to several authors (Bakker et al., 2013; Lusse,

2013). However, we found only five studies investing in these relationships (5, 10, 11, 12, 27). Four of those 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 parents with less education 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 trainer and parents imitating the trainer during interaction with their own child (Jacobs, 2004). This may make the training more meaningful to parents and might lower the threshold for them to continue using the strategies at home. This form of learning by experiencing seems to be an effective didactic approach for parents with less education, 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).

The growth of 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, strengthening parental knowledge about child development and positive beliefs about the parental 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 parents with less education that report positive results in children's oral language development invested in parental knowledge and beliefs by organizing workshops for parents (5, 9, 10, 11, 17, 19, 22), while other studies did not use workshops (4, 12, 26). The workshops might have contributed to the effectiveness of these interventions. However, there are also other ways to transfer knowledge to parents, for instance, during reflection on the activities as part of coaching. Therefore, based on our findings, it is not possible to draw conclusions about the effectiveness of using workshops.

Finally, it seems that both a center- and home-based delivery of the intervention for parents with less education can be effective. Most studies directed at parents with less education that report positive results on oral language development trained parents at home (4, 9, 10, 12, 14, 17, 26). However, four studies report positive results while using center-based delivery (5, 11) or a combination of center-based and home-based delivery (19, 22). This might be an indication that the location is not decisive for the effectiveness of the intervention. However, there are good reasons to consider a combination of center- and home-based delivery. Most interventions are implemented by

researchers for a limited period, so it may be important to involve teachers in order to improve 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 found specifically directed at parents with less education. Despite our efforts, we were not able to find more studies that targeted only parents with less education or studies that reported results differentially for higher and lower educational levels of the parents involved. This study is the first known systematic review comparing the effects of interventions on children's oral language development directed at parents with less education 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 parents with less education. In addition, future studies should pay more attention to defining the target group. Many studies that we encountered showed a lack of attention for full reports of parental education levels. Researchers should distinguish at least two levels of education: the level of attainment of high school and below and above high school. However, it would be desirable to distinguish parental education levels more precisely. In particular, the group of parents with less education is much more heterogeneous than the often used criterion of "maximally high school" would suggest. This group varies not only in country of origin and mother tongue, but also 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 very limited 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, Little, & Hedges, 2014; Scheele, 2010). Many of these low-literate 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 until now has been reported scarcely (Manz et al., 2010; Sénéchal, 2012). However, testing literacy skills can be intrusive and time consuming. Self-reports and observations may be useful alternatives for estimation of literacy levels, for instance, based

on observations of parents filling in a form or when reading with their child. More detailed descriptions of the characteristics of less educated target groups allows researchers to conduct more systematic comparisons of interventions directed at these groups.

In addition, more research investigating the effectiveness of family literacy interventions that use talk and play activities adapted to the 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 parents with less education than fixed (preprogrammed) 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 the family context. In contrast, we suggest focusing on how to contribute to more effective parental support of emergent literacy development by utilizing families' social and cultural resources. This research should focus on and document how interventions aim to adapt to and influence parental knowledge and beliefs.

Finally, we have some recommendations that can expand our knowledge about the effectiveness of interventions utilizing talk and play activities. First, it is important to pay attention to precise descriptions of the investigated activities and strategies. As discussed, we excluded a substantial amount of studies from this review due to a lack of information about the interventions used. Second, further research should investigate if activities can contribute to oral language and literacy development at the same time. Third, in light of the complexity of oral language skills, we recommend researchers to use a variety of posttests that can provide insight on the effectiveness of the intervention, for example, the amount of oral language (word count) and standardized tests (e.g., productive vocabulary). Our review shows that in only three studies were combinations of these types of posttests used. Finally, it is recommended that, in the case that parents from language minorities are involved in the study, posttests are used that measure children's oral language development in both the first (home) and second languages to be able to appreciate effects in both.

Implications for Practice

Three recommendations can be made for practioners who aim to support parents with less education to promote oral language at home. First, we recommend using talk and play activities and a combination of responsive communication and oral language strategies. Suitable activities are 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. Many parents with

less education lack the knowledge and experience for such conversations with their child. Three basic steps can support parents to enrich their conversations with the child. A first step is 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 such as "I spy" can include an explicit instruction to give time to the child to think and change turns after the right answer is given. The second step is enriching these dialogues by using scaffolding, a strategy that can naturally intertwine both emotional and cognitive support, by following the child's perspective and challenging the child by supporting the use of acquired language and new language (Landry et al., 2008). Ensure that parents follow the child's interest and sensitively support and encourage the specific child initiative (Boyce et al., 2010). Encourage parents to ask open questions adapted to that specific matter of interest of the child. A third step is supporting parents to ask children to tell about their past experiences, a strategy that challenges the child to use decontextualized language (Reese, Levy, 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, map out the social and cultural environment of the family, such as daily routines and the activities they undertake and prefer (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. It is desirable to avoid one-way communication and build reciprocal relationships (Bakker et al., 2013; Lusse, 2013). Based on this reciprocal acquaintance, the intervention activities and goals can be adapted to the social and cultural 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 parents with less education 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, until now, most teachers lack the knowledge to collaborate with parents in an effective way, especially when it concerns parents with less education (Bakker et al., 2013). Therefore, teachers should be trained to fulfill 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 parent and child carry out activities together (Jacobs, 2004). In both situations, teachers can play an important role in supporting parents with less education and thereby contribute to the enrichment of the home language environments of the children.

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*Indicates a study included in the review.

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