

Oral Language Intervention Programs for Preschool-aged Children: A Systematic Literature Review

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ABSTRACT: Oral language skills are the foundation of literacy skills. High risk of educational underachievement must be addressed before difficulties appear. Preschool oral language programs seek to implement evidence-based practices to support literacy development in the early years. The purpose of this review is to provide an overview of oral language intervention programs for preschool-aged children delivered by trained teaching assistants using a Randomized Controlled Trial design (RCT). A literature review was conducted by searching electronic databases up to January 2019, and the relevant studies identified were then analyzed. Twelve articles were included in the analysis. The duration of interventions programs varied from 15 to 30 weeks. Most of the studies reported a small to moderate or a moderate to large effect size from an oral language and/or early literacy intervention program. The review highlights several components and challenges of early language interventions delivered by trained teaching assistants for young children.

KEYWORDS –oral language intervention, preschool, RCT design, review

I. INTRODUCTION

Oral language skills are a well-known precursor to reading success, which develops long before formal reading and writing instruction begins. Indeed, oral language skills are the foundation of literacy skills and are also indispensable for the success of communication with others and essential for social, emotional and academic well-being [1,2].

Difficulty in the acquisition of language may affect literacy development. Moreover, poor oral language skills at school entry can be one of the earliest indicators of the developmental difficulties that may affect academic, emotional and social outcomes for an individual across their life span. Therefore, the high risk of educational underachievement must be addressed before difficulties become established and start to impact on learning. Early interventions which promote oral language skills must be included in government actions to build a secure foundation for literacy. Early oral language intervention increases the chances for improvement at a young age [2,3].

Interventions to improve the language skills of children have been studied using different kinds of modalities, strategies, contexts and target areas. The goal of intervention can be transferal skills from language intervention to early literacy skills. The most effective intervention should cover several aspects of language and include both expressive and receptive skills [2].

The recommendation for intervention with young children encourages the delivery of early intervention services in a child's natural environment with typical communication partners. On the one hand, some studies indicate the benefits of an education setting-based programme in mainstream school settings, delivered by trained and supported teaching assistants. On the other hand, there are others that target a family education and

programmes delivered by parents. However, some studies have made efforts to combine family education with school-based programmes.

In this systematic literature review we sought to answer the following research questions: (1) What is the existing body of literature on oral language interventions for preschool children, and (2) What is the efficacy of these interventions in increasing oral language and literacy skills?

II. METHOD

A systematic literature review of oral language interventions programs for young children was conducted.

2.1. Eligibility criteria

Studies were included if they met the following criteria: (a) participants were children aged 3 to 6; (b) the study used an experimental design where participants were randomly allocated to the intervention or control group (RCT); (c) outcomes were one or more than one oral language skill and/or literacy skills; (d) the intervention group was compared to a treated control group or to a practice as usual control group on this outcome; (e) only school administered interventions.

In order to meet these criteria, studies that used a qualitative method, single-case research designs or a quasi-experimental design without randomized allocation were excluded. Studies that addressed intervention only at home or delivered by parents were also excluded. Exclusion criteria included sensory impairment (i.e., children with severely impaired intellectual, visual or auditory abilities) and children with no expressive language ability (i.e., children with autism or cerebral palsy).

2.2. Literature search

The search terms addressed each eligibility criterion of the Centre for Reviews and Dissemination and were further refined through to ensure that all related terminology was included, such as using known eligible studies to improve search terms.

The studies were identified through searches in the following databases: B-on, Google Scholar, PubMed and Scopus. The final search was conducted on January 24, 2019 and replicated on February 24, 2019 to ensure the inclusion of other published studies. The following terms were used in final search: TITLE-ABS-KEY (preschool OR kindergarten) AND ("oral language program" OR "oral language intervention" OR "early language intervention") AND ("randomized controlled trial" OR "RCT design" OR "RCT").

2.3. Study selection

After exporting the results, the duplicates were removed and screened the citation at the title and abstract level. Next, full-text articles were retrieved for search if they passed the eligibility criteria.

III. RESULTS

3.1. Study selection

The process of identifying studies through the systematic review process is depicted in Figure 1. We identified an initial 143 records through the search and screened these at the title level. Then we removed duplicates to give 139 records and screened these at the abstract level. During the abstract screening, 99 records were excluded, leaving 40 studies to be screened for eligibility criteria using full-text. During the full-text screening, an additional 13 articles were excluded due to not meeting one of the following inclusion criteria: (a) population, (b) outcome, or (c) study design. As a result, this review analyses a total of 12 studies that met all inclusion criteria and could be included in a descriptive synthesis.

3.2. Description of studies

In this section, a brief description of the 12 selected studies is explored. The earliest study, an article from Bowyer-Crane et al., in 2008, evaluated a structured intervention comparing phonology with reading intervention (P+R) group with an oral language intervention (OL) group. This RCT analyzed a 20-week programme delivered by teaching assistant (TA) for children with poor oral language. Immediately after the

intervention, children in the OL group showed an advantage to the P+R group in vocabulary and grammatical measures, and the P+R group showed an advantage in literacy and phonological skills. Even though these advantages were maintained over 5 months, children who received the P+R programme did not show better progress over the OL group in single word reading. In the delayed follow up, after five months, the effects sizes remained mostly between moderate and large [4].

Bowyer-Crane, Snowling, Duff, and Hulme [5] also used the intervention programmes from Bowyer-Crane et al. [4] for children with specific language impairment (SLI) and general delay (GD). This study showed no difference between the SLI and GD groups in response to oral language intervention. The SLI group had better results in literacy measures and vocabulary. However, the effect size on the narrative task was moderate, group differences were no longer statistically significant at delayed follow-up. Group differences in grammar skill and non-word repetition were also approaching moderate effect sizes.

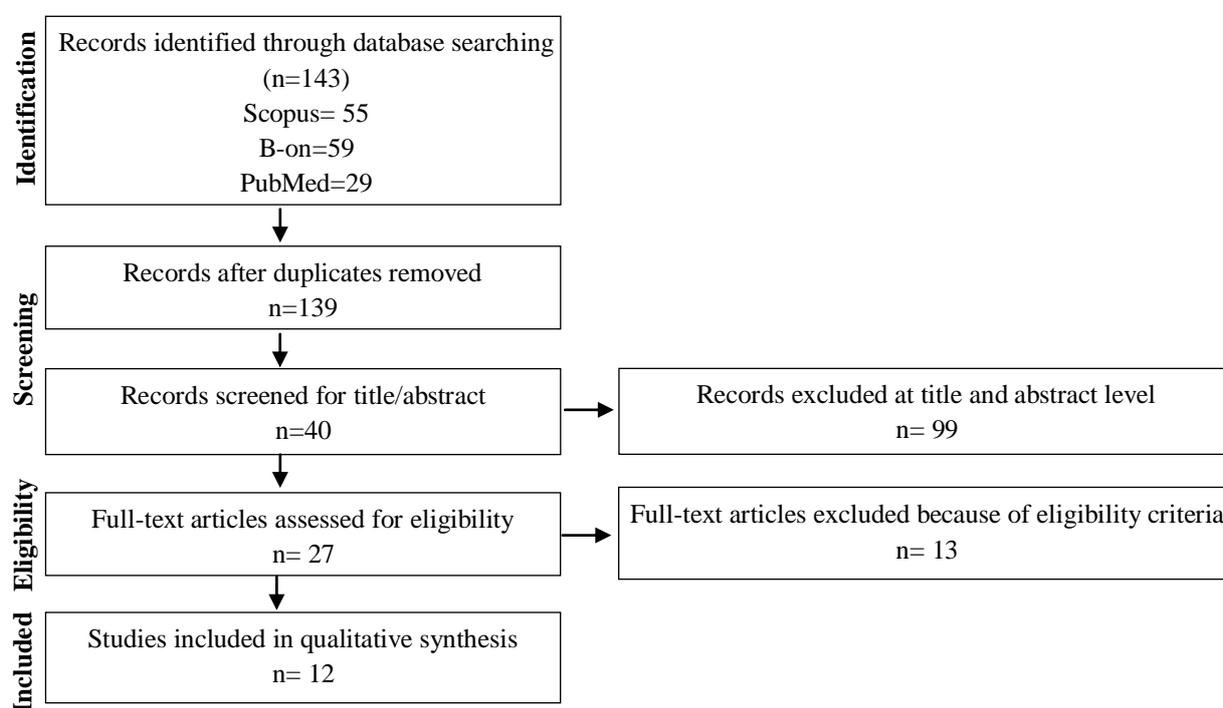


Figure 1. Study selection PRISMA flowchart

The efficacy of the oral language interventions programme from Bowyer-Crane et al. [4] was also studied in 2017 by Bowyer-Crane, Fricke, Schaefer, Lervåg, and Hume [6]. Children learning English as an additional language (EAL) and monolingual peers with language weaknesses (ML) were randomly allocated to the intervention or the control group. After the intervention, although the monolingual group outperformed the EAL group in language skills, the EAL group was stronger in word reading. EAL children outperformed monolingual children on phonological processing, and word reading.

An oral language intervention programme for pre-school children, the Nuffield Early Language Intervention (NELI), was developed in the UK and administered by trained TAs [7]. This RCT allocated children to a 30-week intervention group or a waiting control group. This oral language programme focused on vocabulary, narrative skills, listening comprehension, phonological awareness. The children in the intervention group demonstrated significant improvements in oral language skills and narrative skills, both in the immediate post-test and in the delayed follow-up (six months after the intervention had ceased). The most significant evolution was observed in the phonological awareness measure, contrasting with the lower evolution in literacy

at the word level. However, improvements in oral language skills were transferable into improvements in reading comprehension measures, demonstrating the efficacy of this intervention [7].

Fricke and Millard [3] implemented a fifteen-week oral language intervention programme based on NELI, focused on listening comprehension, vocabulary and oral narrative skills for children with English as an Additional Language (EAL). The programme demonstrated benefits for the intervention group when comparing the vocabulary aspects with the waiting control group. However, there were no significant improvements in the other components of the programme. The effect size was small to moderate for expressive naming and large for receptive picture selection of taught vocabulary. The mean length of utterance in morphemes of the narrative had a small effect size of the intervention.

The NELI programme was used in another RCT where one group of children had an intervention for 30 weeks and another group for 20 weeks [1]. This RCT study focused on vocabulary, narratives, and auditory comprehension and the intervention was implemented in a preschool-setting by trained TA. Improvements were found in most of the language measures in both groups, in the immediate post-test and at delayed follow-up. Although the improvements were more evident with the 30 weeks of intervention, no significant differences were found. Both intervention groups demonstrated improvements in oral language measures. However, similar to the study Fricke et al. [7], the intervention did not show significant effects on emerging literacy skills [1]

Haley, Hulme, Bowyer-Crane, Snowling and Fricke [8] adapted the NELI intervention programme to 15 weeks, increasing the intensity, and focusing on intervention in vocabulary, narratives, listening and grammar. For this RCT study, children with the lowest scores on language measures were selected. The significant differences found between the intervention group and the waiting control group was related to the naming and word definition measures. There were gains of moderate to large effect size in vocabulary, moderate effect size on listening comprehension and small effects on the remaining measures.

Rodge, Melby- Lervåg and Lervåg [2] randomly assigned second-language learners to a practice-as-usual control group or an 18-week intervention programme administered by preschool teachers. The intervention was administered three times a week for a total of 18 weeks, two 45-minute small group sessions and one 10-minute individual session. The programme targeted oral narratives, grammar, vocabulary, and interactive storybook reading. Book reading involves techniques that direct children to use language independently, as well as to expand their vocabulary. The children in the intervention group demonstrated significant improvements on a measure of taught vocabulary. This intervention programme also showed a positive effect immediately on expressive language after the intervention and maintained after seven months with a small size.

Hagen, Melby- Lervåg and Lervåg [9] studied an adaptation of the intervention programme mention above with children with language difficulties. The 30-week intervention programme targeted language comprehension skills and was delivered by trained preschool teachers. Although the effects were reduced at the follow-up compared to the immediate post-test, the intervention continues to produce clear benefits on measures of language comprehension. However, there was no significant difference in the moderate effect size in immediate post-test and follow-up.

Johanson and Arthur [10] created a Let's Know the experimental curriculum. An intervention targeted vocabulary, comprehension monitoring and text-structure knowledge skills. Children from the low socioeconomic background were randomly allocated to a broad intervention group, a deep intervention group or a waiting list control group. This semi-structured 21-week programme improved the vocabulary skills of children in both experimental groups. On the other hand, language comprehension improvements were the only found in a deep intervention group.

Milburn, Lonigan and Philips [11] study three interventions programme for children at risk because of familial demographics and developmental disabilities or delays in language. The Tier 2 early literacy intervention focus on oral-language (targeted vocabulary, morphosyntax and comprehension skills), print-knowledge and phonological-awareness. The 15-week oral language intervention was conducted by trained educators in three 20-min small group sessions per week. Higher proportions of children were classified as responsive after the phonological awareness intervention. This print knowledge yielding the lowest proportion of children classified as responsive.

Wilcox, Gray, Guimond and Lafferty [12] study a 15-week semi-structured intervention programme for children with developmental speech and/or language impairment (DSL). The programme was called Teaching Early Literacy and Language intervention (TELL) and targeted phonological awareness, print concepts, alphabet knowledge, writing, vocabulary, sentence length and complicity skills. This RCT showed that children in the TELL group improved their phonological awareness, letter sounds and rhyme awareness skills.

3.3. Synthesis of studies

Publication years ranged from 2008 to 2017 and all studies randomly assigned participants to groups. In addition, to comparing intervention group to control conditions (n= eight studies), four studies also included an additional treatment comparison group (i.e., phonology with reading intervention group or abroad or deep intervention group).

Sample sizes ranged from a total of 149 to 394 participants in the control and treatment (See Table 1 for the characteristics of each study). Moreover, per group, the sample sizes ranged from 16 to 157 children.

Table 1. Study characteristics

Study	Comparison Groups	Sample Size	Participant Characteristics	Intervention	Outcome
Bowyer-Crane, et al. (2008)	Phonology with Reading (P+R)	tx n = 76	Children with poor oral language skills	<i>Type:</i> Structured <i>Periods:</i> two 10-week <i>Length:</i> daily 20min 1:1 or 30min group lessons <i>Delivered by:</i> teaching assistant (TA) <i>Tests:</i> Pre-, mid-, post- and maintenance tests	<i>Construct:</i> phonological awareness <i>Measurement:</i> phoneme awareness, phoneme completion, and phoneme blending
	Oral Language (OL)	tx n = 76	P+R age = 57,53 months OL age = 56,83 months		<i>Construct:</i> language <i>Measurement:</i> expressive grammar, narrative skill, specific vocabulary, and listening comprehension. <i>Construct:</i> literacy <i>Measurement:</i> letter identification, single-word reading, reading comprehension, prose reading accuracy, nonword reading, and spelling.
Bowyer-Crane, et al. (2011)	Phonology with Reading (P+R)	SLI n= 29 GD n= 39	Children with specific language impairment (SLI) and those with a general delay (GD).	<i>Type:</i> Structured <i>Periods:</i> two 10-week <i>Length:</i> daily 20min 1:1 or 30min group lessons <i>Delivered by:</i> teaching assistant (TA) <i>Tests:</i> Pre-, mid-, post- and maintenance tests (5 months after)	<i>Construct:</i> language <i>Measurement:</i> expressive grammar, narrative skill, specific vocabulary
	Oral Language (OL)	tx P+R n = 19 SLI/18 GD tx OL n = 10 SLI/21 GD	SLI age= 56,17 months GD age= 55,33 months		<i>Construct:</i> literacy <i>Measurement:</i> letter identification, early word reading, spelling <i>Construct:</i> phonological awareness <i>Measurement:</i> phoneme blending, segmentation and deletion, phoneme awareness
Bowyer-Crane, et al. (2017)	Oral Language (OL)	tx n = 40 ML/40 EAL ct n = 40 ML/40 EAL	Children learning English as an additional language (EAL) and monolingual peers with language weaknesses (ML). EAL age= 55,18 months ML age= 55,51 months	<i>Type:</i> Structured <i>Periods:</i> two 10-week <i>Length:</i> daily 20min 1:1 or 30min group lessons <i>Delivered by:</i> teaching assistant (TA) <i>Tests:</i> Pre-, post (1 year after)	<i>Construct:</i> language skills <i>Measurement:</i> listening comprehension, expressive grammar, expressive vocabulary <i>Construct:</i> literacy skills <i>Measurement:</i> letter-sound knowledge, invented spelling, word reading, reading comprehension <i>Construct:</i> phonological skills <i>Measurement:</i> phonological processing and sound isolation.
Fricke, et al. (2013)	NELI-Oral Language programme	tx n = 90	tx age = 4;0 (years; months)	<i>Type:</i> Structured <i>Time:</i> 30-week	<i>Construct:</i> Language skills <i>Measurement:</i> grammar, vocabulary, listening

	(vocabulary, narrative skills, active listening)	ct n = 90	ct age = 4;0 (years; months)	<p><i>Length first 10weeks:</i> 3x15-min small group sessions per week <i>Length others 20weeks:</i> 3x30min sessions small group sessions plus 2x15min individual sessions per week <i>Delivered by:</i> teaching assistant (TA) <i>Tests:</i> screening, pre-, mid-, post- and follow-up tests</p>	<p>comprehension, narrative skills, taught vocabulary. <i>Construct:</i> literacy skills <i>Measurement:</i> letter-sound knowledge, reading, spelling <i>Construct:</i> phoneme awareness <i>Measurement:</i> onset awareness, phoneme awareness, sound linkage segmentation, bleeding and deletion</p>
Fricke and Milard (2016)	NELI-Oral language intervention (vocabulary, narrative skills, active listening and confidence in independent speaking)	tx n = 32 ct n = 32	Children with EAL age =3;7 (years; months)	<p><i>Type:</i> Structured <i>Time:</i> 15-week <i>Length:</i> 3x20-min small group sessions per week <i>Delivered by:</i> teaching assistant (TA)/ Early Years Practitioner (EYP) <i>Tests:</i> screening, pre-, mid-, post- and follow-up tests</p>	<p><i>Construct:</i> Language skills <i>Measurement:</i> grammar, vocabulary, listening comprehension, narrative skills, taught vocabulary.</p>
Fricke et al. (2017)	NELI-Oral language intervention (vocabulary, narrative skills, active listening and confidence in independent speaking)	tx 30w n = 132 tx 20w n =133 ct n = 129	Children with weakest language skills tx 30w age = 46,01 months tx 20w age = 46,08 months ct age = 46,16 months	<p><i>Type:</i> Structured <i>Time:</i> 30-week or 20-week <i>Length:</i> 3x20-min small group sessions first 10 week, then 57 30-min small group plus 37 15-min individual sessions <i>Delivered by:</i> teaching assistant (TA) <i>Tests:</i> screening, pre-, post- and follow-up (after 6 months) tests</p>	<p><i>Construct:</i> Language skills <i>Measurement:</i> grammar, vocabulary, listening comprehension, taught vocabulary. <i>Construct:</i> early literacy skills <i>Measurement:</i> letter-sound knowledge, word-level, reading comprehension</p>
Hagen, Melby-Lervåg and Lervåg(2017)	Language comprehension intervention (vocabulary skills, narrative skills, grammar skills and active listening skills) Adapted from Rodge, Melby-Lervåg and Lervåg (2016)	tx n =157 ct n = 144	Children with language difficulties age = 57,84 months	<p><i>Type:</i> Structured <i>Time:</i> 30-week or 20-week <i>Length:</i> 90 sessions (2x30-min small group sessions per week plus 15-min individual session) <i>Delivered by:</i> trained preschool teachers <i>Tests:</i> screening, pre-, post- and follow-up (after six months) tests</p>	<p><i>Construct:</i> Near measures <i>Measurement:</i> taught vocabulary <i>Construct:</i> intermediate measures <i>Measurement:</i> listening comprehension, morpheme generation. <i>Construct:</i> distal measures <i>Measurement:</i> word definition skills, morpheme generation, receptive vocabulary, verbal comprehension of syntax, listening comprehension, narrative skills.</p>
Haley, et al. (2017)	NELI-Oral language intervention (vocabulary)	tx n =52 ct n = 51	Children with the poorest performance on standardised language	<p><i>Type:</i> Structured <i>Length:</i> 15 weeks <i>Time:</i> 3x20-min small group sessions per</p>	<p><i>Construct:</i> oral Language skills <i>Measurement:</i> grammar comprehension, expressive vocabulary, expressive language, listening</p>

	knowledge, narrative and listening skills)		measures mean age = 3 years 11 months	week <i>Delivered by:</i> teaching assistant (TA) <i>Tests:</i> pre- and post-tests	comprehension. <i>Construct:</i> reading-related skills <i>Measurement:</i> letter-sound knowledge, alliteration matching and early word reading. <i>Construct:</i> taught vocabulary knowledge <i>Measurement:</i> naming, definitions,
Johanson and Arthur (2016)	Let's Know! (vocabulary, comprehension monitoring, and text-structure knowledge): Broad; Deep.	N = 49 children tx Broad <i>n</i> =15 tx Deep <i>n</i> =18 ct <i>n</i> = 16	Children from low socioeconomic-background mean age = 53 months	<i>Type:</i> Semi-structured <i>Time:</i> 21-week (three 7-week units) <i>Length:</i> 4x30-min small group sessions per week <i>Delivered by:</i> trained intervention educators <i>Tests:</i> pre-, -post-tests	<i>Construct:</i> language skills <i>Measurement:</i> vocabulary, comprehension monitoring, and text-structure knowledge, language comprehension.
Milburn, Lonigan and Philips (2017)	Tier 2 intervention (oral-language intervention targeted vocabulary, morphosyntax and comprehension skills; print-knowledge intervention; and phonological-awareness intervention)	tx <i>n</i> =91 ct <i>n</i> = 90	Children at risk because of familial demographics and developmental disabilities or delays in language tx age = 58,5 months ct age = 58,1 months	<i>Type:</i> Structured <i>Time:</i> 15-week <i>Length:</i> 3x20-min small group sessions per week <i>Delivered by:</i> trained intervention educators <i>Tests:</i> screening, pre-, mid-, post- and follow-up tests	<i>Construct:</i> language <i>Measurement:</i> <i>Construct:</i> print knowledge <i>Measurement:</i> <i>Construct:</i> phonological awareness <i>Measurement:</i>
Rogde, Melby-Lervåg and Lervåg (2016)	General language instruction (narrative skills, grammar, vocabulary instruction and dialogic storybook reading)	tx <i>n</i> =58 ct <i>n</i> = 57	Second-language learner's children tx age = 66,28 months ct age = 66,09 months	<i>Type:</i> Structured <i>Time:</i> 18-week <i>Length:</i> 2x45-min small group plus 10-min individual sessions per week <i>Delivered by:</i> kindergarten teachers <i>Tests:</i> pre-, post- and follow-up (after seven months) tests	<i>Measurement:</i> taught vocabulary, expressive vocabulary, expressive grammar, receptive vocabulary, receptive grammar, narrative skills.
Wilcox, et al. (2011)	Teaching Early Literacy and Language (TELL): phonological awareness, print concepts, alphabet	tx <i>n</i> =80 ct <i>n</i> = 38	Children with developmental speech and/or language impairment (DSLI) tx age = 53,63 months	<i>Type:</i> Semi-structured <i>Time:</i> 15-week <i>Length:</i> 4x150min sessions per week <i>Delivered by:</i> preschool teachers <i>Tests:</i> pre-, mid-, post- tests	

knowledge, writing,
vocabulary, sentence
length and
complexity.

ct age = 53,55 months

Note. RCT = randomized controlled trial. tx = treatment group, ct = control group. P+R = Phonology with reading programme, OL = Oral Language. NELI = Nuffield Early Language Intervention. NR = not reported.

3.4. Participant characteristics

The age of participants was measured most often in months according to the intervention group or control/ comparing intervention group, from 43 to 66.28 months. Four studies samples reported child mean age, which ranges from 43 to 57.84 months. Overall, children of participants in the 12 studies were in pre-school throughout the intervention. Studies included mixed conditions of participants most of the studies included children with poor oral language skills and a few included diagnoses of language difficulties, for example, children with specific language impairment and with general delay [6,12]. A couple of studies included children learning a second language, such as children learning English as an additional language (EAL) [2,3,7].

3.5. Intervention

All of the 12 studies selected a school setting-based intervention for preschool-aged children and delivered by a professional whom the research team trained and supported. The most usual delivery was by a teaching assistant (n=7), but others professionals that work with children were also included, such as preschool teachers (n=3) and intervention educators or early years' practitioners (n=3).

The type of instruction varied slightly from structured to semi-structured, with all intervention including some oral language skill. Nine studies targeted vocabulary skills, seven listening comprehension skills, six narrative skills, five phonological awareness and four grammar skills. However, early literacy and dialogic storybook reading was the focus on six of these interventions.

The duration of interventions programmes varied from 15 to 30 weeks. The most common was 15-week (n=4) and 20-week intervention (n=5). Only three articles involved a 30-week programme [1,7,9]. The majority of studies delivered their intervention programme in small group sessions (n=11), and only a few used individual sessions too (n=4).

The efficacy of the interventions was assessed mostly through a pre- and post-test design. A few studies also assess their participant in a mid-test and/or follow-up tests. A couple of them screened the children before pre-tests [1,3,7,9].

3.6. Outcome

Although all studies measured oral language skills of preschool children, the outcomes varied widely across studies. Outcomes included overall language and literacy constructs and their related measurements, such as vocabulary, narratives, listening comprehension or letter-sound knowledge.

When reported, constructs are related to the target areas of oral language and early literacy intervention.

IV. DISCUSSION

In summary, this systematic review identified 12 studies that quantitatively evaluated the efficacy of an oral language intervention programme for preschool children. This review has three main findings that relate to the study design, context and participants.

First, school setting-based oral language intervention that uses a rigorous, quantitative and random group design, like RCT, were rare. The 12 studies included were published over a period of 10 years, beginning in 2008, most of them in the UK. Consequently, this is a recent line of research that seems to have begun expanding in the past ten years. These studies explored the belief that children with poor oral language are at risk of educational and social underachievement [3,4]. Although children with oral language difficulties comprise a small segment of the population, it is notable that such intervention programmes are effective and may address oral language and early literacy before difficulties become established. The language provides a critical foundation for children's learning process [2]. However, in some of the studies, the control group was untreated. Therefore, the full impact of the interventions on language and literacy skills is difficult to ascertain [5].

Second, the results of the analysis of the effects did provide evidence for the efficacy of oral language interventions in increasing the language skills of children with language difficulties or second-language learners. All included studies focused on one or more language skill that was improved by the intervention, of which the

more common are vocabulary, listening comprehension, narrative and phonological awareness. Most of the studies reported a small to moderate or a moderate to large effect size from a language intervention programme. Most of the studies showed a moderate to large effect size in vocabulary [1,2,3,5,8,10], and moderate effect sizes on listening comprehension [1,8]. On the other hand, phonological awareness is the second most reported measure with small to moderate effect size [5, 6, 12]. In addition, narrative and grammar skill are also described as a measure with a small effect size [3,5]. The length of intervention programmes also varied; nevertheless, as the study of Fricke et al. [1] suggests, the efficacy of the intervention is no different if the programme has 20 or 30-weeks. Therefore, this review suggests that intensive and moderate intervention in small groups promotes language development. However, additional experimental research is necessary to identify which types and duration of language intervention are beneficial for preschool children with and without language difficulty.

Third, concerning child characteristics, most of the studies in this review examined the efficacy of language intervention for preschool children with some language difficulties, second-language learners or the with poor language skills. For example, an intervention programme may be more useful for children with language difficulties than for a second-language learner. Therefore, effective oral language intervention for children with disabilities requires further research. For children with general delay, the results are less encouraging, and the question remains of how best to help children with pervasive difficulties develop adequate language and literacy skills [5].

V. CONCLUSION

This review provides insight into several components of setting-based oral language intervention programmes for preschool children.

Oral language intervention programmes are beneficial to children at an early age and successfully applied by teachers trained in these programmes in the context of kindergartens. In addition, there is evidence that interventions provided in a pre-school context are cost-effective and can be effectively implemented in everyday school contexts. However, more understanding is needed regarding which types of language skills are optimal as a target when the goal is oral language and early literacy improvement.

Furthermore, there is a need to evaluate the efficacy of an oral language intervention programme for pre-school children in order to improve the oral language skills and literacy of young children. In this way, future academic and professional difficulties, that consume more resources and limit the individuals and society, can be addressed before start to impact on learning.

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REFERENCES

- [1] S. Fricke, K. Burgoyne, C. Bowyer-Crane, M. Kyriacou, A. Zosimidou, L. Maxwell, ... C. Hulme, The efficacy of early language intervention in mainstream school settings: A randomized controlled trial, *Journal of Child Psychology and Psychiatry*, 58(10), 2017, 1141–1151. doi:10.1111/jcpp.12737
- [2] K. Rogde, M. Melby-Lervåg, and A. Lervåg, Improving the general language skills of second-language learners in kindergarten: A randomized controlled trial, *Journal of Research on Educational Effectiveness*, 9, 2016, 150–170. doi:10.1080/19345747.2016.1171935
- [3] S. Fricke, S., and G. A. Millard, A setting-based oral language intervention for nursery-aged children with English as an additional language, in V. A. Murphy and Evangelou (Eds.), *Early Childhood Education in English for Speakers of Other Languages*, (London, UK: British Council, 2016) 171–186.
- [4] C. Bowyer-Crane, M. J. Snowling, F. J. Duff, E. Fieldsend, J. M. Carroll, J. Miles, ... C. Hulme, Improving early language and literacy skills: differential effects of an oral language versus a phonology with reading

- intervention, *Journal of Child Psychology & Psychiatry*, 49(4), 2008, 422c432. doi:10.1111/j.1469-7610.2007.01849.x
- [5] C. Bowyer-Crane, F. J. Duff, C. Hulme, and M. Snowling, Response to early intervention of children with specific and general language impairment, *Learning Disabilities: A Contemporary Journal*, 9(2), 2011, 107–121.
- [6] C. Bowyer-Crane, S. Fricke, B. Schaefer, A. Lervåg, and C. Hulme, Early literacy and comprehension skills in children learning English as an additional language and monolingual children with language weaknesses, *Reading and Writing*, 30(4), 2017, 771–790. doi:10.1007/s11145-016-9699-8
- [7] S. Fricke, C. Bowyer, A. J. Haley, C. Hulme, and M. J. Snowling, Efficacy of language intervention in the early years, *Journal of Child Psychology & Psychiatry*, 54(3), 2013, 280–290. doi:10.1111/jcpp.12010
- [8] A. Haley, C. Hulme, C. Bowyer-Crane, M. J. Snowling, and S. Fricke, Oral language skills intervention in pre-school: A cautionary tale. *International Journal of Language & Communication Disorders*, 52, 2017. 71–79. doi:10.1111/1460-6984.12257
- [9] A.M. Hagen, M. Melby-Lervåg, and A. Lervåg, Improving language comprehension in preschool children with language difficulties: a cluster randomized trial. *Journal of Child Psychology & Psychiatry*, 58(10), 2017, 1132–1140. doi:10.1111/jcpp.12762
- [10] M. Johanson, and A. Arthur, Improving the language skills of pre-kindergarten students: Preliminary impacts of the Let's Know! experimental curriculum, *Child & Youth Care Forum*, 45(3), 2016, 367–392. doi:10.1007/s10566-015-9332-z
- [11] T.F. Milburn, C. J. Lonigan, and B. M. Philips, Determining responsiveness to Tier II Intervention in RTI: Level of performance, growth, or both, *The Elementary School Journal*, 118 (2), 2017. doi:10.1086/694271
- [12] M.J. Wilcox, S.I. Gray, A. B. Guimond, and A.E. Lafferty, Efficacy of the TELL language and literacy curriculum for preschoolers with developmental speech and/or language impairment. *Early Childhood Research Quarterly*, 26, 2011. 278–294. doi:10.1016/j.ecresq.2010.12.003