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Language and Literacy: SES and Strategies to Promote Development

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LANGUAGE AND LITERACY: SES AND STRATEGIES TO PROMOTE DEVELOPMENT

by

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A Research Paper

Submitted in Partial Fulfillment of the Requirements for the
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Kacey Becker

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TABLE OF CONTENTS

	<u>PAGE</u>
INTRODUCTION	1
IMPACT OF SES ON LANGUAGE AND LITERACY	2
MATERNAL SPEECH	2
MATERNAL MEDIATION STYLES	3
BOOK READING FREQUENCY	5
THE EARLY LITERACY ENVIRONMENT	7
MATERNAL EVALUATIONS	9
PROMOTING LANGAUGE AND LITERACY.....	10
MATERNAL SENSITIVITY AND THE HOME ENVIRONMENT	10
PREDICTORS OF LITERACY	13
TRAININGS TO SUPPORT LANGUAGE AND LITERACY	14
IMPLICATIONS AND FUTURE DIRECTIONS	21
REFERENCES	24
VITA.....	26

Introduction

“Literacy arouses hopes, not only in society as a whole but also in the individual who is striving for fulfillment, happiness and personal benefit by learning how to read and write. Literacy... means far more than learning how to read and write... The aim is to transmit... knowledge and promote social participation.” This powerful quote by the United Nations Educational, Scientific, and Cultural Organization (UNESCO) Institute of Education out of Hamburg, Germany speaks to the true purpose of literacy. Literacy benefits the individual by giving him or her power to communicate, the ability to give and receive knowledge, and the opportunity to become involved in the larger society (UNESCO, 2011). Because of the importance of literacy, promoting the learning of language and literacy among today’s children is crucial. Throughout this document language and literacy are discussed in conjunction because according to ASHA (2005), there are “well established” connections between the two areas (p.1). ASHA states that spoken language provides the basis for the development of literacy skills (ASHA, 2005, p.1). Also, spoken and written language build on each other to produce general language and literacy competence (ASHA, 2005, p.1). Yet another connection between language and literacy is evidenced by the ability of instruction in spoken language to improve skills in written language, and vice versa (ASHA, 2005, p.1). Many factors are related to the acquisition of or difficulties with language and literacy. One such factor that can help or hinder the development of language and literacy is socioeconomic status, or SES. SES is the total measure of an individual’s or a family’s social and economic position in society. When analyzing SES, income, education, and occupation are taken into consideration. SES is typically divided into three categories: High SES, middle SES, and low SES. It is important for educators and speech

and language professionals to understand the effects of SES on language and literacy, as well as ways to promote development in these areas.

Impact of SES on Language and Literacy

Maternal Speech

SES is related to language and literacy in a number of ways. One way SES affects language and literacy development is through early experiences with literature. Because parents are children's primary teachers before children enter school, speech used by caregivers is important in promoting language and literacy development in children. Hoff (2003) designed a study to examine the effects of maternal speech on productive vocabulary development because she believed that the relationship between SES and vocabulary development is formed by maternal speech (p.1369). The study included 33 mother-child dyads representing high SES, and 30 mother-child dyads representing mid SES (Hoff, 2003, p.1369). Children in the study were between 16 and 31 months of age (Hoff, 2003, p.1369). Interactions between children and their mothers were video recorded three times a day: While mothers were dressing their children, during breakfast, and during play time (Hoff, 2003, p.1370). These interactions were recorded twice, ten weeks apart and in the participants' homes (Hoff, 2003, p.1370). Maternal speech characteristics of interest to this study included total number of verbalizations, quantity of word tokens and word types, mean length of utterance (MLU), number of utterances promoting topic continuance, and quantity of verbal productions during joint attention with the child (Hoff, 2003, p.1370). Quantity of word tokens referred to the number of individual occurrences of a word type. To assess child vocabulary, the number of word types in a 90-utterance speech sample served as the measure (Hoff, 2003, p.1370).

Results of the study indicated that SES had an impact on maternal speech, and in turn, children's vocabularies. SES was related to five of the six maternal speech characteristics of interest (p.1372). Compared to mothers of mid SES, mothers of high SES had higher MLUs, produced a greater number of utterances, word tokens, word types, and topic continuing replies (Hoff, 2003, p.1372). Specifically, three of these properties impacted the productive vocabularies of the children at time 2: MLU, quantity of word tokens, and quantity of word classes (Hoff, 2003, p.1372). Further analyses showed that only MLU was a significant predictor of child productive vocabulary (Hoff, 2003, p.1372). Results originally indicated that 5% of the variance in child vocabulary scores between time 1 and time 2 was due to SES (Hoff, 2003, p.1372). However, the final analysis of the study showed that of the variance in child vocabulary from time 1 to time 2, 22% was due to maternal speech, while only 1% of the variance was due to SES alone (Hoff, 2003, p.1373). This demonstrated that SES was no longer a significant predictor of children's vocabularies once the variance attributable to maternal speech was removed. This finding supported the hypothesis that maternal speech mediates the relationship between SES and child vocabulary. Even though SES did not impact children's vocabularies directly, it did impact maternal speech, which had a significant effect on vocabulary scores. Hoff concluded that this study should be recognized as evidence that different language experiences are one way in which SES relates to child vocabulary development (Hoff, 2003, p.1375).

Maternal Mediation Styles

Korat and Haglili (2007) designed a multifaceted study which examined maternal mediation styles, maternal evaluations of children's emergent literacy levels, and children's actual emergent literacy levels across two SES groups (p.249). Only aspects of the study pertaining to maternal mediation styles will be discussed at this time. The study aimed to

examine the effects of mothers' mediation styles during book reading on the emergent literacy levels of their kindergarten-aged children because the authors believed that children from low SES environments would have lower literacy levels than children from high SES environments (Korat & Haglili, 2007, p.253). They also believed that mothers from low SES would use a less efficient mediation style than their high SES counterparts (Korat & Haglili, 2007, p.254). Eighty-four participants, aged five to six years, and their mothers participated in the study, (Korat & Haglili, 2007, p.254). Approximately half of the dyads were from low SES environments, and half were from high SES environments, where SES was based on parental education, parental profession, and family income (Korat & Haglili, 2007, p.254). Three sessions were completed throughout the duration of the study. During the initial phase of the study, children's emergent literacy (EL) levels were assessed using six categories: Print concepts, phonological awareness, recognition of words, letter naming, emergent reading ability, and emergent writing ability (Korat & Haglili, 2007, p.256-260). For the task on print concepts, children were asked questions regarding printed literature. Knowledge of concepts such as page, direction of reading, drawing, writing, and beginning and ending of books were assessed (Korat & Haglili, 2007, p.256). The phonological awareness assessment included phonemic discrimination tasks, while the word recognition assessment asked children to point to words on cards that corresponded with words spoken by the instructor (Korat & Haglili, 2007, p.257). Children were asked to write three words to the best of their ability for the emergent writing task, name printed letters for the letter naming task, and read a familiar book for the emergent reading task (Korat & Haglili, 2007, p.259). During the second session of the study, mother and child pairs participated in a videotaped, joint reading activity in order to examine maternal mediation styles (Korat & Haglili, 2007, p.256). Aspects of maternal mediation were separated into units, which were defined as the

smallest utterances that contained meaning (Korat & Haglili, 2007, p.262). The units were coded in three ways: a.) the speaker, b.) the function of the unit, and c.) the subject of the utterance (Korat & Haglili, 2007, p.262). Topics discussed by mothers during the interactions were classified in four ways, from low to high: 1) relating to illustration, 2) paraphrasing, 3) encouraging comprehension, and 4) relating to writing system (Korat & Haglili, 2007, p.262).

Results indicated significantly higher EL levels in children from high SES environments compared to children from low SES environments in all categories (Korat & Haglili, 2007, p.265). Analysis of maternal mediation level scores (1-4) showed that mothers from high SES used higher mediation levels than mothers from low SES (Korat & Haglili, 2007, p.266). This higher level of mediation made a significant 12% contribution to higher EL levels in children from high SES (Korat & Haglili, 2007, p.267). Conversely, in the low SES group, maternal mediation did not contribute to children's EL levels (Korat & Haglili, 2007, p.268). Similar to the quality of maternal mediation during book reading with children, book reading frequency and the availability of books are also involved in language and literacy development.

Book Reading Frequency

Raikes et al. (2006) devised a study to examine the associations of book reading with language development in children of low SES families (p.925). Participants in the study involved 2,581 mothers from low-income families who answered questions about their children's reading experiences (Raikes et al., 2006, p.929). In this study, maternal education was used as a predictor of SES. When children reached each age of interest (14, 24, and 36 months), mothers were asked, "Please let us know how many times in the past month you read [stories] with your child: More than once a day, about once a day, a few times a week, a few times a month, rarely, not at all" (Raikes et al., 2006, p.931). The first two possible responses were both scored as "daily",

and the last two possible responses were both scored as “rarely” (Raikes et al., 2006, p.931). A response of “daily” was given a score of 3, “a few times a week” was given a score of 2, “a few times a month” was given a score of 1, and “rarely” was given a 0 (Raikes et al., 2006, p.931). Mothers were also asked questions pertaining to the number of books available to the children (Raikes et al., 2006, p.931-932). When children reached 24 months of age, their mothers’ expressive verbal ability and warmth levels were assessed using the Woodcock-Johnson Psychoeducational Battery-Revised Picture Vocabulary Test (WJ) (Raikes et al., 2006, p.931). Mothers completed the MacArthur Communicative Development Inventories (CDI) during assessments when their children were 14 and 24 months old (Raikes et al., 2006, p.932). The infant form used at the earlier age measured child comprehension and vocabulary production, while the toddler form used at 24 months assessed only vocabulary production (Raikes et al., 2006, p.932). At 36 months, children were given the PPVT-III in either English or Spanish to measure their receptive vocabularies (Raikes et al., 2006, p.932). Although the Bayley Mental Development Index (MDI) is a measure of cognitive status, the assessment contains questions related to language at the 24 and 36 months assessments; therefore the measure was also used in the study (Raikes et al., 2006, p.932).

Results of the study indicated that approximately half of the mothers in the study read daily to their sons or daughters when they were 14 months old, 29% said they read to their children several times a week, 10.6% said they read to their children several times per month, and 12.2% reportedly read rarely to their children (Raikes et al., 2006, p.932-933). Also, books were available to the vast majority of children at all ages (Raikes et al., 2006, p. 933). Mothers’ level of education and verbal ability scores related to the frequency of reading: Mothers who were at least high school graduates and scored above an 85 on the WJ scale read more frequently

to their 14-month-old children (Raikes et al., 2006, p.933). Similarly, the probability of children being read to daily increased as their mothers' years of education increased (Raikes et al., 2006, p.934). The study also found that the availability of books was closely associated with the frequency of book reading (Raikes et al., 2006, p.933). The authors also found that for English-speaking mothers, the frequency of reading was related to child vocabulary and comprehension at 14 months and child vocabulary at 24 months (Raikes et al., 2006, p.935). Also at 24 months, daily reading or reading several times a week related to MDI scores, and at 36 months, reading several times a week related to MDI scores (Raikes et al., 2006, p.935). Daily reading at the three ages related significantly to PPVT-III and MDI scores at 36 months (Raikes et al., 2006, p.936). The authors concluded by discussing the significance of reading in the development of language at 14 and 24 months, but how the association between reading and language development becomes less clear by 36 months of age (Raikes et al., 2006, p.944-945). This study highlighted the importance of maternal book reading early in children's lives, as well as the roles maternal education (SES) and verbal ability play in the frequency of reading to children (Raikes et al., 2006, p.933-934).

The Early Literacy Environment

A similar study by Rodriguez, Tamis-LeMonda, Spellmann, Pan, Raikes, Lugo-Gil, and Luze (2009) studied multiple aspects included in early home literacy experiences in low-income families: Frequency of participation in literacy activities, maternal interaction quality, and use of age-appropriate objects supportive of learning. (p.678). 3001 families from 17 Early Head Start Research and Evaluation Project programs were involved in the study (Rodriguez et al., 2009, p.680). An interview with each mother was conducted at the beginning of the study and investigators visited the homes of participants when children reached 14, 24, and 36 months of

age (Rodriguez et al., 2009, p.681). Each home visit included parent interviews, assessments of children's language and cognition, a short, videotaped session of mothers playing with their children, and the investigators' completion of a checklist of observations made about the home environment (Rodriguez et al., 2009, p.681). Children were administered the Bayley Mental Development Index (MDI) at each age and the PPVT-III at 36 months, while mothers completed the MacArthur Communicative Development Inventories Short Form (CDI) when children were 14 and 24 months old (Rodriguez et al., 2009, p.684). Assessments of early literacy experiences were based on items collected during the initial interviews and the home visits (Rodriguez et al., 2009, p.681).

Results indicated that at each age, most children were exposed to moderate literacy activities and learning materials (Rodriguez et al., 2009, p.685). "Moderate" literacy activities were defined as those in which children were read to at least a few times a week by their mothers (Rodriguez et al., 2009, p.683). Also, half of the mothers scored low in quality of maternal engagement (Rodriguez et al., 2009, p.685). Children with high quality literacy environments scored twice as high in both receptive and expressive language as children in low literacy environments (Rodriguez et al., 2009, p.689). Literacy experiences across all three ages explained 27% of the variance in MDI and PPVT-III scores at 36 months (Rodriguez et al., 2009, p.690). This study pointed to the importance of maternal employment and education in producing beneficial literacy experiences. Years of maternal education was associated with MDI and CDI comprehension scores at 14 months, and all language and cognition scores at 24 and 36 months (Rodriguez et al., 2009, p.686-687). This study reinforces findings of the previous study that maternal engagement and positive literacy experiences are important in language development.

Maternal Evaluations

Yet another way in which SES can affect language and literacy development via early experiences is through maternal evaluations of children's emergent literacy. Referring back to Korat and Haglili (2007), one aspect of the study aimed to discover whether maternal evaluations of their children's EL differed between high SES and low SES dyads, and whether these evaluations were associated with their children's actual EL (Korat & Haglili, 2007, p.249). (Please refer to pages three and four for participant and procedure information related to this study.) During the third and final session of the study, mothers were asked for their evaluations of their children's literacy abilities (Korat & Haglili, 2007, p.256). The mothers were asked to judge their children's literacy skills compared to their classmates in book-related concepts, word writing, recognition of words, phonological awareness, naming of letters, and emergent book reading (Korat & Haglili, 2007, p.260).

Results of this aspect of the study showed that mothers in both SES groups evaluated their children's EL to be higher than it actually was on the following measures: print concepts, phonological awareness, letter naming, and emergent book reading (Korat & Haglili, 2007, p.265). Also, both maternal evaluations and children's actual EL levels in the high SES group were higher than in the low SES group in print concepts, word recognition, word writing, and emergent book reading (Korat & Haglili, 2007, p.266). SES was found to be related to EL scores for print concepts and letter naming (Korat & Haglili, 2007, p.266). Furthermore, for print concepts and letter naming, overestimations of their children's EL were larger for mothers in the low SES group (Korat & Haglili, 2007, p.266). There was no predictive value of maternal evaluations to actual EL in the low SES group; in the high SES group, however, maternal evaluations accounted for 30% of the variance in EL levels (Korat & Haglili, 2007, p.268).

These findings support the idea that children whose mothers judge their abilities to be higher may perform at higher levels (Korat & Haglili, 2007, p.270). Also, these results support the idea that children whose mothers are more accurate in their evaluations of their children's level of functioning may perform at higher levels than children whose mothers are less accurate in their evaluations (Korat & Haglili, 2007, p. 271). Based on the literature reviewed thus far, SES is related to early experiences with language and literacy and the development of related skills, as well as maternal evaluations of such skills. Caregivers, educators, and speech-language pathologists should not lose hope for children who are affected by low SES, but instead promote language and literacy development by utilizing strategies that have been shown to improve abilities in these areas. When these steps are taken to promote language and literacy development in children, communication disorders may be prevented. According to ASHA (2005), the SLP's role in the prevention of language and literacy disorders "involves working with others to ensure that young children have opportunities to participate in emergent language activities, both at home and in pre-school" (p.6).

Promoting Language and Literacy

Maternal Sensitivity and the Home Environment

Another study by Roberts, Jurgens, and Burchinal (2005) examined the effects of four measures of home literacy practices (i.e. frequency of shared book reading, maternal book reading strategies, child's enjoyment of reading, and maternal sensitivity) as well as a global measure of the home environment on children's language and emergent literacy between the ages of three and five years (p.348). Participants in the study included 72 children and their mothers (Roberts et al., 2005, p.348). The children's mean age at the beginning of the study was 8.1 months (Roberts et al., 2005, p.348). The children were followed from their first year of life

through entry to kindergarten, with multiple assessments taking place throughout the duration of the study (Roberts et al., 2005, p.349). Questionnaires were distributed to the mothers regarding the frequency of shared book reading at home as well as their children's of enjoyment of reading when children were 18, 30, and 42 months of age and before entry to kindergarten (Roberts et al., 2005, p.349). The mothers' use of strategies and sensitivity during book reading were assessed when children were 2, 3, and 4 years old, while the overall measure of home quality and responsiveness was assessed at 9, 18, 30, and 42 months of age and at kindergarten entry (Roberts et al., 2005, p.349). Children's language and literacy abilities were assessed annually between 3 years of age and entry to kindergarten (Roberts et al., 2005, p.349). Maternal book reading strategies examined in the study included: Simple description, elaborate description, links to the world, prediction/inferences, book concepts, letter/word related references, letter/sound relationships, and recall/recite text (Roberts et al., 2005, p.350). Maternal sensitivity was computed based on the following dimensions: Warmth (i.e. positive affect), sensitivity (i.e. awareness of child's cues and capabilities), responsiveness (i.e. responsive to child's cues, interests, and behaviors), encouragement of initiative (i.e. encourages child to be self-directed), stimulation value (i.e. uses teachable moments to promote cognitive or linguistic competence), and elaborateness (i.e. follows or elaborates on child's behaviors) (Roberts et al., 2005, p.350). Overall quality and responsiveness of the home environment was obtained using the HOME (Home Observation for Measurement of the Environment Inventory), which is an observation/interview that measures caregivers' responsivity, acceptance of child behaviors, the environment's organization, academic and language stimulation, and involvement with the child (Roberts et al., 2005, p.351). Regarding child outcomes, the PPVT-R was administered to children at 3 years of age and at entry to kindergarten to assess receptive vocabulary (Roberts et

al., 2005, p.351) To evaluate receptive and expressive language, the Clinical Evaluation of Language Fundamentals—Preschool (CELF-P) was administered at 4 years of age and at kindergarten entry, and to assess emergent literacy knowledge, the Test of Early Reading Ability (TERA) was administered at 4 years of age and at kindergarten entry (Roberts et al., 2005, p.351).

Results of the study indicated that the home literacy measures of frequency of shared book reading and child enjoyment of reading were not significantly related to any of the language and literacy outcomes (Roberts et al., 2005, p.354). However, maternal sensitivity was significantly related to receptive vocabulary both at age 3 and at kindergarten entry, demonstrating a relationship between maternal sensitivity during shared book reading and children's vocabulary skills between 3 years of age and entry to kindergarten (Roberts et al., 2005, p.354). Similarly, the use of book reading strategies was also related to receptive vocabulary scores, with a higher number of strategies used resulting in higher receptive vocabulary scores between age 3 and entry to kindergarten (Roberts et al., 2005, p.354). Perhaps the most stunning finding of this study was the impact of the home environment on all child outcomes. The HOME measure was the best predictor of language and literacy skills, as it predicted receptive vocabulary at 3 years and entry to kindergarten, receptive and expressive language at 4 years and entry to kindergarten, and early literacy skills at 4 years and entry to kindergarten (Roberts et al., 2005, p.355). This study demonstrated that the use of specific strategies and maternal sensitivity during book reading may be associated with higher receptive vocabulary scores, but creating a sensitive, accepting, and stimulating home environment may be an even better way to promote children's language and literacy development.

Predictors of Literacy

An article by Swank (1997) examined the influence of various linguistic factors on children's emerging reading abilities (p.63). The author sought to determine the impact of children's performance on phonological, orthographic, morphologic-syntactic-semantic, and literacy tasks on later reading ability (Swank, 1997, p.63). Participants in the study included 60 children with a mean age of 5 years and 6 months (Swank, 1997, p.63). Participants were assessed at the beginning of their kindergarten school year (Swank, 1997, p.63). To assess phonological abilities, the examiner used a series of tasks that focused both on syllabic awareness skills (i.e. syllable deletion, syllable counting, and rhyming) and phonemic awareness skills (i.e. phoneme deletion, phoneme counting, and phoneme identification) (Swank, 1997, p.63). Orthographic knowledge was assessed by using the letter identification subtest of the Woodcock Reading Mastery Test—Revised (WRMT-R) and a phoneme-grapheme correspondence task (Swank, 1997, p.63). The PPVT-R, the Expressive One Word Picture Vocabulary Test, and the grammatic understanding subtest of the Test of Language Development—Primary 2 (TOLD-P 2) were administered to assess morphologic-syntactic-semantic skill levels (Swank, 1997, p.63). To measure literacy abilities, the print concepts portion of the Early School Inventory (ESI) was administered (Swank, 1997, p.63). Participants were again assessed at the end of first grade, with the word attack and word identification subtests of the WRMT serving as the outcome measures of written word decoding abilities (Swank, 1997, p.63).

Results of the study indicated that all predictor variables were significantly correlated with both outcome measures of reading ability (Swank, 1997, p.63). To address the issue of shared variance, predictor variables were reduced to four composite variables:

Orthographic/phonological processor, meaning/context processor (morphologic-syntactic-semantic and literacy measures), lower-level phonological processor (syllable awareness), and chronological age (Swank, 1997, p.64). The orthographic/phonological factor contributed the most variance to word identification and word attack, at 61% and 51% respectively (Swank, 1997, p.64). The meaning/context factor contributed 8% variance to the word identification measure, and 5% to the word attack measure (Swank, 1997, p.64). Also, the lower-level phonological factor score contributed a significant 5% to word identification and 6% to word attack (Swank, 1997, p.64). Chronological age did not significantly contribute to reading outcomes (Swank, 1997, p.64). These findings demonstrated that knowledge of phonology, orthography, syllable awareness, and meaning are important factors in children's abilities to decode written language. Although orthographic/phonological factors contributed the most variance to outcome measures of reading ability, the impact of meaning and context on children's emerging reading skills should not be overlooked.

Trainings to Support Language and Literacy

A study designed by High, LaGasse, Becker, Ahlgren, and Gardner (2000) aimed to evaluate the effects of a literacy promoting intervention program. The program was part of a well-child care program implemented by a community-based health center for pediatric care (High et al., 2000, p.928). The program focused on parent attitudes and behaviors, as well as child language. Participants in the study included 205 families from low SES homes with children who were, on average, seven months old at the time of enrollment (High et al., 2000, p.928). Families were randomly assigned to the intervention or control group (High et al., 2000, p.928). Families were interviewed at the initiation of the study to gather information regarding demographics, children's play interests and sleeping habits, and parental language proficiencies

(High et al., 2000, p.929). Only 27% of families were considered to have a Child Centered Literacy Orientation (CCLO), which was defined as “a measure of a family’s ability and willingness to engage in literacy-promoting activities with young children” (High, et al., 2000, p.928). A CCLO was identified if parents mentioned reading as one of their child’s favorite activities, or one of their favorite things to do with their child, or if sharing books at bedtime was common (High, et al., 2000, p.928). At all well-child visits, which took place at 6, 9, 12, 15, and 18 months of age, families in the intervention group received an age-appropriate children’s book, a handout explaining the benefits and enjoyment of interactive book reading, and literacy promoting guidance (High et al., 2000, p.928). Families in the control group received pediatric care from the center, but did not receive books or handouts (High et al., 2000, p.929). Follow-up interviews were conducted one month after the child had attended three well-child visits or when the child turned 22 months old for those who completed fewer than three visits (High et al., 2000, p.929). At follow up, the mean age of children was 18.7 months for the intervention group and 18.3 months for the control group (High et al., 2000, p.929). Families in the intervention group had completed 3.4 well-child visits and received 3.2 books, compared to the control group who had completed 3.4 visits and received no books (High et al., 2000, p.929). Outcome variables of the follow-up interview included the numbers of days per week that a parent read with the child and the number of nights per week that a parent read with the child at bedtime (High et al., 2000, p.929). Parents were also asked to list their child’s three favorite things to do, as well as their three favorite things to do with their child. A child centered literacy orientation (CCLO) was identified if reading books was mentioned in response to either of these questions, or if the family reported reading books at bedtime six nights per week (High et al., 2000, p.929). Parent reading behaviors were also discussed during the interview (High et al., 2000, p.930). The

MacArthur Communicative Development Inventories (short form) was administered to parents at follow-up to assess child receptive and expressive language abilities (High, et al., 2000, p.930).

Results of the study indicated that families in the intervention group responded to the program by increasing reading time with their children, becoming more enthusiastic about reading together, and increasing the amount of books in the home (High, et al., 2000, p.930). Families in this group were more likely than those in the control group to report an increase in shared book reading as one of their child's three favorite activities, as well as one of their favorite activities to do with their child (High et al., 2000, p.930). These families also reported a 17% increase in sharing books at bedtime, compared to the control group who saw a slight decline in this behavior (High et al., 2000, p.930). CCLO was increased by 40% in the intervention group compared to 16% in the control group (High, et al., 2000, p.930). The frequency of book reading increased by almost two days per week in intervention group families, while families in the control group reported little change in this area (High, et al., 2000, p.930). The number of books in the home was equal between the two groups at the beginning of the study. During the follow-up interview, 22% of parents in the control group reported having <10 books in the home, compared to only 6% of parents in the intervention group (High et al., 2000, p.930). At follow-up, higher receptive vocabularies were reported for children in the intervention group compared to the control group using the modified MacArthur Inventories (High et al., 2000, p.930). Children were separated into younger (13-17 months) and older (18-25 months). Higher receptive and expressive vocabularies were present only in older children who received intervention (High et al., 2000, p.930). The intervention was found to account for 6% of the variability in receptive vocabulary and 4% of the variability in expressive vocabulary in this older children subgroup (High et al., 2000, p.930). Reading aloud to children accounted

for 17% of the variability in receptive vocabulary and 11% of the variability in expressive vocabulary, indicating that the effect of the intervention was mediated through increased reading aloud to older toddlers (High et al., 2000, p.931). Results of this study highlighted the ability of improved parental attitudes and behaviors toward literacy to improve children's receptive and expressive language skills. The critical role of parental involvement in promoting language and literacy development was demonstrated in the research presented.

In another study, Girolametto, Weitzman, and Greenberg (2003) provided child care providers in day care centers with an in-service training on language facilitation strategies and studied child language outcomes (p.299). Caregivers in the experimental group were trained in a) child-oriented responses (waiting for child initiations, using verbal and nonverbal responses, and being face to face), b) interaction-promoting responses (waiting for turns, encourage turn-taking, ensuring participation of all children), and c) language-modeling responses (using labels, expansions, and extensions) (Girolametto et al., 2003, p.303). During both a reading activity and a play dough activity, children who received care from these individuals used a greater number of utterances and multiword combinations than children in the control group, whose care providers did not receive training (Girolametto et al., 2003, p.305). Children in the experimental group also used more peer-directed utterances than their control group peers (Girolametto et al., 2003, p.305). This study demonstrated that caregiver use of language facilitation strategies increases children's overall talkativeness to adults and peers.

In another study on promoting language and literacy acquisition, Justice and Ezell (2000) advocated for a "print focus" during parent-child shared reading activities to stimulate children's early literacy skills of print and word awareness. The study examined the efficacy of a home reading intervention program for increasing parents' use of print-referencing behaviors (Justice

& Ezell, 2000, p.257). The authors defined print-referencing behaviors both in nonverbal and verbal terms. Nonverbal print-referencing behaviors included pointing to words on a page and tracking print with a finger, while verbal print-referencing behaviors included comments about print (“this word says ‘splash’”), questions about print (“what do you think this word says?”), and requests about print (show me where it says ‘splash’”) (Justice & Ezell, 2000, p.261). The study included 28 parents and their typically developing 4-year-old children (Justice & Ezell, 2000, p.258). At pretest, each child was assessed using an early literacy assessment that included five subtests: Words in print, alphabet knowledge, print recognition, word segmentation, and print concepts (Justice & Ezell, 2000, p.261). Also, each parent-child dyad participated in a recorded shared reading session (Justice & Ezell, 2000, p.260). Parents were instructed to read as they normally would to their children (Justice & Ezell, 2000, p.260). Next, each parent received eight books to read during home reading sessions and a schedule of when to read each book (Justice & Ezell, 2000, p.260). The intervention lasted four weeks and included 16 reading sessions, with two books being read in each session (Justice & Ezell, 2000, p.260). Parents who were assigned to the experimental group were instructed on how to use print-referencing techniques, while those in the control group were not given such instruction (Justice & Ezell, 2000, p. 260). After this training was completed, parents in the experimental group were asked to implement each of the five print-referencing behaviors at least three times during each book reading session (Justice & Ezell, 2000, p.260). Upon completion of the program, the dyads completed a posttest reading session and children were again tested with the early literacy assessment (Justice & Ezell, 2000, p.260). Examples of tasks used for the words in print subtest included “Show me just one word on this page,” “Show me the longest word on this page,” “Show me the space between the two words,” and “Point to the words as I read” (Justice & Ezell,

2000, p. 261). For the alphabet knowledge subtest, children were asked to both name letters and point to letters as they were read, and they were asked to read a word that was pointed to by the examiner during the print recognition subtest (Justice & Ezell, 2000, p.261-262). During the word segmentation subtest, children used blocks to demonstrate their knowledge of the number of words in a phrase, and for the print concepts subtest, examples of tasks included “Show me the name of this book,” “Where do I begin to read,” and “Show me just one letter on this page” (Justice & Ezell, 2000, p.262).

Results of interest included a) the training’s effect on parental reading behaviors, and b) the effect of print-referencing behaviors on children’s early literacy skills (Justice & Ezell, 2000, p. 263). Results indicated a significant increase in the parental use of all five print-referencing behaviors in the experimental group during shared book reading with their children from pre-to posttest (Justice & Ezell, 2000, p.264). Regarding children’s literacy scores, upon comparison of gain scores from pre- to posttest, children in the experimental group outperformed children in the control group on four of five measures: Words in print, word segmentation, print recognition, and print concepts (Justice & Ezell, 2000, p.264). Gain scores were similar across both groups for the alphabet knowledge subtest (Justice & Ezell, 2000, p.264). Significant group differences in gain scores were observed in favor of the experimental group for three of five subtests: Words in print, word segmentation, and print concepts (Justice & Ezell, 2000, p.264). No group differences in children’s gain scores were found on alphabet knowledge and print recognition (Justice & Ezell, 2000, p.264). The results of this study indicated the positive effects of training on the rate of parental print-referencing behaviors during shared reading with their children. This illustrated that parents are willing and able to learn how to use strategies that may promote their children’s language and literacy skill development, specifically concepts related to words in

print, word segmentation, and print concepts, according to this study. This study provided a clear demonstration that, during shared reading, a print focus may be crucial in promoting children's early literacy skills and preventing future language and literacy delays or disorders.

A study by Rivers, Lombardino, & Thompson (1996) examined the effects of phonological decoding training on children's word recognition abilities (p.67). Participants in the study included three children between the ages of 5 and 5.5 years (Rivers et al., 1996, p.68). It was determined that the children had low reading abilities based on results of the Early Reading Screening Instrument (ERSI) (Rivers et al., 1996, p.69). The ERSI was administered to participants both pre-training and post-training, and included the following subtests: Alphabet knowledge, concept of word, invented spelling, and word recognition (Rivers et al., 1996, p.69). The alphabet knowledge subtest measured participants' abilities to name and write upper- and lowercase letters, the concept of word subtest measured participants' abilities to match spoken words with their printed counterparts as the child pointed to the words and read aloud, the invented spelling subtest measured subjects' abilities to graphically represent words, and the word recognition subtest assessed subjects' abilities to read words (Rivers et al., 1996, p.69). In phase one of the study, participants were taught letter-sound associations via labeling and sound production exercises with the examiner (Rivers et al., 1996, p.69-70). This phase continued until participants produced all letter-sound associations three times without errors across three consecutive sessions (Rivers et al., 1996, p.70). In phase two of the study, participants were taught word decoding skills through segmentation and blending activities (Rivers et al., 1996, p.69). During this training, participants were taught to segment each sound in CVC pseudowords by placing checkers in squares on a laminated paper that corresponded with each sound in the word (Rivers et al., 1996, p.70). Next, participants were taught to blend the three sounds to

produce the word (Rivers et al., 1996, p.70). This phase continued until participants read at least 13 trained CVC pseudowords for three consecutive sessions (Rivers et al., 1996, p.70).

Generalization from trained CVC pseudowords to untrained CVC pseudowords, untrained CVC real words, untrained CV and VC pseudowords, and untrained CV and VC real words was also assessed throughout the study (Rivers et al., 1996, p.69).

Results of the study indicated that after being trained in letter-sound associations and phonemic segmenting and blending, participants showed improvements in their word recognition and invented spelling abilities (Rivers et al., 1996, p.71). The authors stated that minimal changes in alphabet knowledge were observed possibly due to high levels of alphabet knowledge present at pre-test (Rivers et al., 1996, p.71). Generalization to all untrained word constructions was achieved by two of the three participants (Rivers et al., 1996, p.71). Results of the study also demonstrated that letter-sound association training promoted decoding skills of segmenting and blending, supporting the importance of utilizing both letter-sound association training and phoneme segmentation and blending training in promoting language and literacy development (Rivers et al., 1996, p.72-73). The findings of this study support research that shows the benefits of phonemic awareness training on early reading and emergent literacy skills.

The literature presented in this document is important in the clinical work of SLPs because it has demonstrated the roles SES plays in language and literacy development. SLPs must be aware of children on their caseloads who reside in low SES environments because these children may not be exposed to appropriate language and literacy experiences at home, and as a result demonstrate poor development in these areas. SLPs must advocate for children they serve by educating parents, caregivers, and teachers on the evidence related to early language and literacy development. The importance of shared book reading and the use of techniques while

reading should be emphasized, as well as the importance of the overall home environment for promoting language and literacy. SLPs may also collaborate with general classroom teachers to ensure that children's phonology and orthography skills are developing, as these skills have been shown to predict later reading ability. When these steps are taken to promote children's language and literacy abilities, communication delays and disorders may be prevented.

This area of research has indicated many ways in which SES impacts language and literacy development in children. There are, however, areas that need to be further researched in the future. Based on the literature reviewed, a future research question pertains to the effect of maternal education as an indicator of SES. Many studies use maternal education as a measure of SES. Understanding how education relates to SES would be useful in determining exactly what constitutes low or high SES, which would in turn aid in understanding precise effects of SES on language and literacy. Another area to be researched involves the impact of SES on pragmatic language development. Research has discussed many aspects of language but literature regarding pragmatics is absent. Deficits in pragmatics may affect social language and literacy experiences that promote development in these areas. Learning how SES affects pragmatic language development would help SLPs understand pragmatic deficits present on their caseloads and develop appropriate intervention strategies. Recognizing the relationship between SES and pragmatics, if there is one, may help explain deficits in other areas of language, as well as literacy. Similarly, future research is needed to understand the long-term effects of language facilitation strategies on social interaction skills. Research has shown the usefulness of these strategies for increasing the number and complexity of utterances, as well as the number of peer-directed utterances. Also, strategies during shared book reading have been shown to promote receptive vocabulary, as well as early reading and emergent literacy skills. Knowing how these

strategies relate to long-term social skills would provide SLPs with important information regarding intervention for pragmatic deficits.

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