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THE RELATIONSHIP BETWEEN LITERACY ACQUISITION AND LANGUAGE
DEVELOPMENT, WITH PARTICULAR REGARD TO CHILDREN WITH SPECIFIC-
LANGUAGE IMPAIRMENT

by

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Bachelor of Science, Southern Illinois University, 2012

A Research Paper
Submitted in Partial Fulfillment of the Requirements for the
Master of Science degree.

Rehabilitation Institute
in the Graduate School
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A Research Paper Submitted in Partial

Fulfillment of the Requirements

for the Degree of

Masters of Science

in the field of Communication Disorders and Sciences

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Introduction

Speech-language pathology is a field that is ever-expanding. In the past, people who are unfamiliar with the field of Communication Disorders and Sciences (CDS) have made assumptions that speech-language pathologists (SLPs) simply treat lisps, stutters, and other minor articulation disorders. This is not the case, as the scope of practice of an SLP is much more complex. Swallowing, pragmatic skills, and grammar development are just a few of the areas of expertise of the SLP. In the school system, in addition, there has been a shift for SLPs to focus on literacy. Historically, reading development has not fallen under the responsibility of the school SLP. Instead, regular and special education classroom teachers have been held accountable for helping children with literacy acquisition. However, literacy development can now be included under the umbrella of speech-language services in schools. Children with specific language impairment (SLI) often experience difficulty with reading acquisition.

Language is a complex entity, and although it is most often considered a spoken form of communication, SLPs also specialize in writing as a facet of language. In order to keep up with the new inclusion, SLPs have to take initiative and learn how to best serve these clients with SLI who might also experience literacy deficits.

Since children with SLI often display deficits in learning to read, it might be beneficial for the SLP to address both of these areas simultaneously in therapy. If SLPs could target literacy skills in conjunction with language intervention for children with SLI, perhaps reading outcomes would increase. Many of the deficit areas that are often associated with SLI also pertain to literacy development for children, particularly skills involving phonological awareness. This combination of treatment procedures could

reduce or eliminate the need for children to receive additional literacy instruction from other teachers, thus saving time and money in the school systems. Children will gain confidence as they improve their skills in language and literacy simultaneously, since their reading ability will improve significantly.

In an effort to address language and literacy concurrently in therapy, SLPs must target skills that pertain to both areas. Phonological awareness, narrative, shared storybook reading, and other broader language skills are just a few of the landmark areas associated with both language and literacy (Fraser & Conti-Ramsden, 2008). As these skills are addressed, SLPs will start to see advancements in both language and reading skills. Improvement in these areas would not only help with language deficits, but would also address some of the issues related to literacy acquisition. Identifying and developing therapeutic techniques that encompass these skills would help improve language and literacy for children with SLI. There are some methods with empirical evidence that have been found to be effective in improving language and reading deficits associated with SLI; it is beneficial for SLPs to become familiar with these techniques and adopt them into their daily work in treating children with SLI. At this point in time, there is little research on the correlation between language and literacy development for children with SLI. However, there are scholarly articles available, and it is important for school SLPs to become familiar with the research in this area. For example, Fraser and Conti-Ramsden (2008) conducted a systematic review of 21 studies providing effective language intervention strategies for children in schools (p. S110). It is critical for SLPs to develop extensive knowledge regarding children who are at-risk for experiencing or developing language impairments; doing so will help

therapists identify children with deficits and initiate therapy with these students as quickly as possible. In order to improve the quality of therapy for children who have been diagnosed with an SLI, it is imperative that school SLPs take the time to examine language and literacy, as well as effective therapy methods for addressing challenges in both of these areas. There is a direct relationship between language development and literacy skills, especially for a particular population of at-risk children; specific language intervention techniques can help increase the likelihood of greater reading outcomes for children with SLI.

Language and Literacy: The Linkage

There is empirical evidence that supports a direct linkage between language and literacy, particularly for children who have diagnosed language disorders. Although this relationship has been suspected for years, it is only recently that professionals in the field of CDS have begun to look further into this connection (Boudreau & Hedberg, 1999). SLPs need to be especially on the lookout for deficits with reading acquisition when dealing with children who have a diagnosed SLI, as it is becoming increasingly more common for children with language deficits to exhibit challenges in reading as well (Fraser & Conti-Ramsden, 2008).

According to the definition of SLI, children exhibit language delays that are not attributable to other hearing, cognitive, or physical disabilities (Justice, Kaderavek, Bowles, & Grimm, 2005). Also by definition, the children who are diagnosed with SLI, “Are a heterogenous group who have difficulty acquiring, comprehending, and/or expressing themselves with spoken and/or written language” (Cirrin & Gillam, 2008, p. S111). Thus, SLI is marked by a wide range of language deficits that are both receptive

and expressive in nature. Since children with SLI experience difficulty with such a wide array of language skills, it is plausible that these children will have challenges with emergent literacy skills as well.

Phonological and morphological skills are among the most important areas of language that are predictive of literacy development (Fraser & Conti-Ramsden, 2008). However, these are not the only skills that should be considered in therapy for children with SLI. Other skill areas that encompass both language and literacy include reading comprehension and narrative skills, and vocabulary (Cirrin & Gillam, 2008). These abilities are critical areas to consider in an effort to improve language and literacy simultaneously.

Phonological Awareness

Phonological awareness skills encompass a wide variety of areas that are important for the SLP. There are many categories that fall under phonological awareness, including rhyme production and identification, segmentation skills, and letter-sound correspondence (Cirrin & Gillam, 2008). Boudreau and Hedberg (1999) examined the relationship between phonological awareness skills and literacy development by investigating a group of children between 56-70 months of age with language impairment and a group of their typically-developing peers. Almost all of the children with language impairment were unable to understand rhyme receptively and expressively. On the other hand, the group of typically-developing children was able to produce rhyme and comprehend it on a receptive level. These results indicate that children with SLI often experience difficulty with rhyme awareness, an important benchmark skill involved with reading acquisition.

Therapy targeting phonological awareness skills has been found to be particularly effective in children with SLI. Cirrin and Gillam conducted a systematic review of the literature surrounding language intervention strategies for school-aged children. All of the articles met the following criteria: studies that focused on experimental measures of language intervention outcomes specifically, studies that featured children with language disorders between the grades of kindergarten and twelfth, and studies published later than 1985. They found that therapy in phonological awareness yields dramatic outcomes: “The results of 5 Level 2 studies suggest that phonological awareness interventions that include tasks designed to improve rhyming, sound identification, phoneme segmentation, phoneme manipulation, and grapheme-phoneme correspondence consistently yielded moderately large to large effects” (2008, p. S128). Level 2 evidence is defined by the authors as data obtained from “multiple-baseline single-subject design studies” (p. S112). Therefore, SLPs should consider emphasizing these areas in order to improve language and literacy skills for children with SLI.

Language Form

Morphological skills can have a direct impact on literacy as well. According to Fraser and Conti-Ramsden (2008), these skills can be helpful for children in the process of decoding, with both word and non-word targets. The authors examined the relationship between phonological awareness skills and overall language abilities in a group of children with language deficits and their typically-developing peers. They conducted a study including 71 children between 9 and 11 years of age. Fifty-one of the children in the study were classified as having difficulties with reading and/or language.

Fraser and Conti-Ramsden obtained measures of reading accuracy, spelling, phonemic awareness, and receptive and expressive language skills for all of the children. They were able to draw conclusions and highlight correlations between phonological skills and reading ability. As morphology calls on children to understand parts of words and how these segments come together to form words, it should not come as a surprise that this skill is critical for the process of literacy acquisition. Morphological understanding can often serve as a challenge for children with SLI. This ultimately leads to additional difficulty for children with SLI who are learning to read.

Print Awareness

Print awareness is particularly important for children at the beginning stages of literacy development. McGinty and Justice (2009) discussed the profound importance of print awareness, particularly for children with SLI, in their study:

Print knowledge is a multidimensional construct and encompasses children's understanding of the forms of print (e.g., letters or words), features of print (e.g., directionality or organization of print on a page), and functions of print (e.g., that print symbolically represents speech and meaning) acquired prior to the advent of formal reading instruction. (p. 81)

In this particular study, the authors examined 41 preschool-aged children with SLI. The aim of the study was to examine the relationship between print knowledge and literacy in children with SLI. McGinty and Justice argued that children with SLI tend to have challenges with print awareness. Since these skills are so critical for literacy acquisition, a child with SLI might experience even more difficulty while learning to read. All of these

conventions are prerequisites to understanding text, so this further supports the fact that children with SLI might be delayed.

Reading Comprehension and Vocabulary

Reading comprehension abilities are highly dependent upon overall language skills. Fraser and Conti-Ramsden (2008) claimed that deficits in reading comprehension can be attributed to a variety of overall language deficits. As previously discussed, the authors examined 71 children between nine and eleven years of age. They determined that children with poor reading comprehension also exhibited deficits in broader language skills.

There are a variety of language abilities that could influence reading comprehension. A few of these might include deficits with semantic or syntactic comprehension (Boudreau & Hedberg, 1999). Children who lack a strong foundational framework regarding word meaning and sentence construction could have a challenge with reading comprehension. In this instance, language ability has a direct correlation with literacy development. Skills in the area of reading comprehension overlap between the categories of language and literacy.

Vocabulary is a critical skill in the language development of young children. This word comprehension has a direct impact on a child's ability to read passages in a timely manner, according to Fraser and Conti-Ramsden (2008): "Indeed, if children are to read words quickly, then those which are readily accessible in children's lexicons are going to be read quicker than words which are not automated and still have to be decoded" (p. 564-65). Logistically, this finding makes sense. Children are going to decode words more quickly if they are familiar with the words and their semantic meanings. Therefore,

vocabulary development and understanding is directly associated with literacy, particularly with regard to speed and ease of decoding.

Future Directions

Although this research devoted particular attention to the relationship between language and literacy, there are still numerous gaps in the literature. In order to improve the ability to understand the process of literacy development, particularly for children with SLI, professionals in the field must continue to develop research in this area. Boudreau and Hedberg (1999) offer possibilities for future research that will have a profound impact on the success of children who exhibit SLI. They suggest that researchers continue to look specifically at problems that children with SLI face in the acquisition of literacy. By understanding this direct relationship on a deeper level, SLPs will be more qualified to provide effective therapy for children who are faced with these issues (Boudreau and Hedburg, 1999). This is a critical area of future research for professionals in CDS in order to provide appropriate and effective treatment. Understanding the ways in which language impacts literacy will help improve the process of acquiring reading for children with SLI.

At-Risk Population

Children with SLI are particularly susceptible to difficulty with language and literacy acquisition due to factors ranging from race, disposition, and gender. Early intervention is critical in delivering effective treatment. Knowledge and awareness of potential risk factors is particularly helpful in identifying children who are at-risk for developing language and literacy at a young age.

Although research indicates that particular characteristics might help identify an SLI, this does not mean that all children who exhibit these traits will have deficits in language or literacy (McGinty & Justice, 2009). Each child is unique and complex, so it is best practice to take a holistic approach in determining a diagnosis for a child. One single variable does not exclusively indicate SLI or literacy challenges, rather, it is important to consider the interactions of variables impacting overall development. While at-risk categories are helpful in identifying children with SLI and literacy challenges, SLPs must use them with caution and be careful of over-diagnosing children based on predisposing factors.

Prevalence

Language disorders are exceptionally prevalent in the academic setting for SLPs: “These children make up the largest subgroup of students with communication disorders who receive intervention services from SLPs in schools” (Cirrin & Gillam, 2008, p. S111). Since language is such a broad disorder category, it should come as no surprise that it is one of the most common in the academic setting. In her systematic review of the literature, Larney (2002) discovered that language delay is one of the most prevalent issues facing children in preschool. Language is a broad area and therefore, there are many deficit areas that children struggle with related to language development. It is evident in the literature that children in the early school years are particularly at-risk for experiencing language difficulties and therefore, challenges with literacy acquisition.

Race and Gender

There is little research literature exploring correlations between race and the prevalence of SLI. Tomblin, Records, Buckwalter, Zhang, Smith, and O'Brien (1997) attempted to set precedence in this regard by examining predictors of SLI in kindergarten children. The authors compiled a population of Native American, African American, Hispanic, White, and Asian children using a stratified cluster sample in the upper Midwest region. Children were screened for language skills; all the children who failed the screening and a portion of the children who passed were selected for the study. The children who continued were given a workup including hearing, language, speech, and nonverbal IQ diagnostics. The results indicated that SLI occurred most frequently in Native American and African American children; Hispanic children followed closely thereafter, and lastly White children. Interestingly enough, "None of the 70 Asian children were found to present SLI" (Tomblin et al., 1997, p. 1255). It appears that children of minority race and ethnicities are more susceptible to obtaining a diagnosis of SLI. However, in order to develop more concrete conclusions pertaining to SLI and race, further research is warranted.

There is limited information in the current literature to support conclusions about gender effects on the prevalence of SLI. Tomblin and colleagues (1997) also explored gender influence in addition to racial differences among children with SLI. The research, however, was somewhat inconclusive. Tomblin et al. (1997) reported:

Of the 216 children diagnosed as SLI, 59% were male and 41% were female.

Recall that 51% of the children sampled for this study were male and 49% were female. Thus, the prevalence rate was adjusted for this small difference in number of males and females participating. Within males the prevalence rate for

SLI was .08 and among females it was .06. The difference between these two proportions of .02 was not significantly different from 0 (95% confidence interval for difference in proportions $-.003 \leq .02 \leq .04$). (p. 1255).

Although there did not appear to be significant differences between gender for this particular study, Tomblin et al. (1997) reported that the general consensus in the research supports the notion that males are more often affected by SLI than females. Further research should be conducted to develop more concrete evidence supporting this notion.

Socioeconomic Status (SES)

Socioeconomic status (SES) is a variable that has been particularly popular in recent literature. McGinty and Justice (2009) paid particular attention to the relationship between SES and literacy development. The authors conducted a study examining variables affecting literacy in young children. One of the variables of interest was the SES of participant families. The results indicated that SES was responsible for 10% of the variance in the children's' print knowledge (McGinty & Justice, 2009, p. 88). The family's access to resources can have a strong impact on the child's ability to develop language and literacy.

Parental level of education is another important consideration relating closely to SES. McGinty and Justice (2009) argued that specifically, maternal level of education can predict literacy development. The authors also investigated the quality of literacy activities conducted in the home. They were able to support further research findings through their work:

This study complements those findings by suggesting that the quality of home literacy is the key variable impacting print knowledge variability in children with SLI and that these experiences varied systematically by SES, accounting for a large portion of the effects that SES had on children's skills. (p. 92).

Quality of home literacy experiences is largely dependent on parental level of education and SES. Children who come from low-income homes and parents who did not achieve a high level of education are less likely to have exposure to books or vast experience with literacy in the home environment prior to beginning school.

Children from low SES households are particularly at-risk due to lack of access to certain resources. Justice, Chow, Capellini, Flanigan, and Colton (2003) discuss previous studies indicating that children from homes considered to be low SES are specifically at-risk for challenges. The research highlighted in this article highlights exposure to resources and parental involvement to be a few of the variables making acquisition of language and literacy difficult for children from low-income households (p. 321). These children come from low income neighborhoods, and therefore attend schools that cannot provide access to technological resources. Books and other technology are often nonexistent for these children as well. Consequently, it is even more challenging for these children to develop language and literacy skills.

Disposition

Children's ability to perform in school is largely influenced by behavioral interactions. Attention deficits are of particular concern when it comes to children's success in school. McGinty and Justice (2009) acknowledged the importance of attentional skills and the possible interaction between attention and language

development. Attentional skills were defined in the research by McGinty and Justice as behavioral skills that have an impact on a child's ability to learn and participate in the school environment (p. 82). The authors argued that language difficulties and SLI frequently occur in conjunction with attention deficits. They also commented that attentional challenges can have a direct impact on children's ability to develop language and literacy skills, particularly areas of print knowledge. Therefore, children who present with challenges related to attention are particularly at-risk and should be closely monitored by teachers and SLPs.

In addition to issues dealing with attention, the level of enjoyment children experience with literacy also plays a role in reading development. Justice et al. (2003) conducted a study examining the effects of two different intervention strategies for preschoolers with literacy deficits. Throughout the study, the authors discovered that children's interest in literacy activities has an impact on their ability to develop skills (p. 329). This finding should not come as a surprise, as people tend to excel in areas that are of interest to them. Children tend to devote more time, attention, and practice to things that they find particularly fun and interesting.

Future Directions

As detailed above, there is little empirical support surrounding potential risk factors for SLI and/or literacy challenges. Although some studies have attempted to highlight possible influential variables, significant conclusions have not yet been developed. Researchers should continue exploring individual factors that appear to be correlated with language and literacy challenges.

In addition, it would be helpful to take a holistic approach and examine interacting variables and the impact on language and reading development. For example, it would be beneficial to observe whether boys who come from low-income families are more susceptible to language and literacy difficulties than boys who come from high-income families with attentional difficulties. Another interaction to consider might be the combination of race and gender effects on language and literacy. The possibilities are endless, and it would be helpful to discover these interactions in an effort to help identify children who are at-risk for developing SLI or literacy.

The at-risk categories highlighted above (gender, race, SES, disposition) should be studied in further detail. Other factors to consider might include age, intelligence, birth order, or geographic category. Researchers in the field of CDS should continue in the development of at-risk categories, because they are critical in helping identify children who are at-risk of an SLI diagnosis or literacy development challenges. Evidence-based practice (EBP) in schools is dependent on the ability to identify at-risk children and prevent further challenges with language and literacy.

Therapeutic Procedures

EBP is becoming the “gold standard” in conducting therapy with people who have communication disorders. Gillam and Gillam (2006) provide information about the most efficient way to conduct EBP. According to the authors, “The current emphasis on EBP differs from prior approaches to clinical decision making in that it provides clinicians with models for systematically collecting and reviewing research evidence and ways to make treatment decisions by integrating the best scientific evidence with personal experience, client preferences, and employer policies” (p. 304). All of these facets must be

considered in order to effectively utilize EBP in everyday practice. This approach is holistic and accounts for wants and needs of the child, the family, the therapist, as well as the agency or school.

In a world with a number of therapy approaches that is increasing by the day, selecting the most appropriate type of intervention can be a daunting task for the SLP. This challenge is particularly difficult for SLPs in the school who have caseloads reaching as many as 60 students at a time. Finding the time to spend extensive time researching the most up-to-date therapeutic activities can be overwhelming.

Gillam and Gillam (2006) developed a seven-step decision-making process for implementing EBP. Teachers should consider utilizing this approach in order to maximize their time and help make EBP more efficient and realistic. The seven steps outlined by the authors occur in order as follows: Develop a general or specific question, find evidence that relates to the question, determine the level of evidence and evaluate, examine internal evidence dealing with parent-student input, evaluate internal evidence relating to the therapist and agency, make an educated decision, and reflect on the results. These steps provide a user-friendly method for implementing EBP in everyday practice.

There are various intervention strategies and programs to consider when treating a child with language and literacy deficits. The research indicates that language intervention targeting literacy skills is optimal for children with SLI. Prior to selecting a specific plan of action, it is important to take several factors into consideration. Deficit areas, strengths, and interests of the child are areas to account for first and foremost. After these areas have been carefully considered, the therapist has to make an

educated decision about which therapy approach will best suit the child. Often times, this is a trial and error process. If the first intervention strategy is unsuccessful, the therapist has to move backward and select another approach that might be more appropriate. Eventually, the goal is to find the most effective treatment program that utilizes the child's strengths and interests to improve his/her deficit areas.

Parent-Implemented Programs

Although children spend the majority of their time in school, they also spend a considerable amount of time at home with caregivers. Young children rely on their parents as a model in an academic manner. Therefore, it is logical to consider parental involvement in facilitating language and literacy in young children with SLI. In some cases, this type of intervention is not appropriate. It is important to evaluate the child's parental support and home environment in selecting parent-implemented programs as supplementary intervention.

Justice, Kaderavek, Bowles, and Grimm (2005) developed a study to examine the effects of a home-literacy program on phonological awareness in preschool children with SLI. The program featured storybooks and instructions for conducting shared-storybook activities with their children over a 10 week period; the parents were directed to record the sessions for later review. As previously detailed, phonological awareness is a language deficit area that directly impacts reading acquisition. Targeting phonological awareness as an intervention strategy will therefore benefit language and literacy simultaneously. A skill of particular interest for the authors throughout the study was rhyme:

Children in the experimental group made significant gains in rhyme from pretest to posttest, an effect that was not present for the comparison group children. This finding indicates that parent-implemented [phonological awareness] intervention warrants further investigation as a possible means to deliver early literacy interventions for children with SLI specifically and children with developmental disabilities more generally. (p. 152).

This study provides supporting evidence for parent involvement in literacy intervention for children with SLI. It goes without mentioning that this type of intervention requires collaboration between the therapist and the caregivers. The SLP must take the time to educate the caregivers on ways to facilitate language and literacy with their children. As the authors proved, however, this type of intervention strategy can be extremely effective.

Narrative Generation

Swanson et al. (2005) argue that children with language deficits have difficulty with narrative skills. In fact, these children often require explicit instruction focusing directly on narrative skills when language deficits have been prevalent in the early years of development (p. 132). The authors detailed a narrative-based intervention program that is tailored to children with language impairment.

The specific intervention procedure included a warm-up activity, a story retell-imitation task, a story generation task, and repeated retellings. Data was collected during pre and posttest sessions. Results indicated that, "Eight of 10 children exceeded the clinically significant improvement criterion for [narrative quality] following participation in [narrative-based language intervention]" (Swanson et al., 2005, p. 137).

Specifically, the children in the study produced narratives with characters and a specific setting following participation in the program.

Hoggan and Strong (1994) also examined narrative intervention in great detail. The authors provided various narrative teaching strategies that facilitate language and literacy in young children. Some of the activities included semantic-word mapping, summarizing, and flow charting. Semantic-word mapping is defined as “a graphic display of word-concept relationships. [SLPs] use the display to help students understand word meanings, word relationships, and concepts” (p. 79). Summarizing is a skill used to condense and highlight the major events involved in a story. Flow charting is used to “generate and demonstrate the relationships among ideas in a story” (Hoggan & Strong, 1994, p. 82). These skills not only improve language skills but also impact literacy development. Narrative intervention should continue to be investigated as a literacy intervention strategy for children with SLI.

Shared Storybook Reading

Some children participate in shared storybook reading from a very young age. Kaderavek and Justice (2002) argue that this activity can help improve language development in young children. The authors provide extensive information about shared storybook reading as an intervention strategy for SLPs. In fact, they consider this type of intervention to be extremely effective in working with young children:

Additionally and importantly, our own research, clinical experience, and review of the literature remind us that engaging children in storybook reading can be an appropriate and meaningful intervention target in and of itself. The speech-

language pathologist does not always have to view the storybook as a means to an end or merely as a context for targeting specific language forms. (p. 404).

According to the article, this type of intervention activity can serve as a powerful tool in targeting language and literacy simultaneously. Exposing children to books and providing a model throughout a shared storybook experience can help children in their development of language and literacy targets.

Justice et al. (2005) parent-implemented intervention program specifically targets shared storybook reading as an intervention tool. The parents in the study were given 10 storybooks and were instructed to read with their children four times per week over a ten-week period. The parents were given explicit instructions on how to conduct the shared storybook readings. Results indicated that the children made gains in rhyming skills. The participants also reported enjoyment of the particular program. Therefore, the conclusions reached in this study warrant further exploration of shared storybook reading as an intervention strategy.

Questioning

Questioning appears to be an obvious means to measure comprehension in almost any learning environment. While simple, however, it can be an effective therapeutic activity for SLPs. Hoggan and Strong (1994) explored the benefits of questioning in their informative article attempting to identify possible sources of teaching narrative skills. Hoggan and Strong (1994) argued that therapists can utilize questioning, "When reading aloud to extend thinking, obtain information, or facilitate active problem solving. Speech-language pathologists can use questioning whenever abstract words, words with multiple meanings, or idioms occur" (p. 81). In order to

effectively implement questioning procedures, shared storybook reading can be an appropriate instructional strategy.

Questioning while reading the story aloud together can help clear up what Hoggan and Strong refer to as “misinterpretations” (p. 81). If a child is unclear about the content of the story, a particular vocabulary word, or an unfamiliar phrase, the therapist can develop awareness of the problem and resolve any issues through the use of questioning. In instances when the child is unable to answer particular questions, it will help the SLP identify areas that need to be readdressed for optimal comprehension and learning to occur. Questioning is a simple activity that can prove to be helpful in developing emergent language and literacy skills in young children.

Print Knowledge

As previously discussed, print knowledge is a critical component of early language and literacy development for young children. McGinty and Justice (2009) discuss methods for fostering print awareness in children with SLI. The authors explain that an appropriate model can serve as an effective therapeutic technique in some instances:

Children’s observations of literacy activities by others (e.g., observing parents reading a newspaper or writing a grocery list), personal exploration of literacy (e.g., pretending to read or write), and participation in adult-guided interactions with print (e.g., book reading, learning letter names) are believed to directly foster children’s print knowledge” (parents reading a newspaper or writing a grocery list), personal exploration of literacy (e.g., pretending to read or write), and

participation in adult-guided interactions with print (e.g., book reading, learning letter names) are believed to directly foster children's print knowledge" (p. 83).

Parents, teachers, and adults in children's lives can serve as role models in the development of language and literacy, and particularly print knowledge skills. Learning by observing can be a powerful tool in teaching children important skills.

Future Directions

Researchers should continue to explore and develop appropriate therapeutic techniques that can be utilized to foster language and literacy skills in children with SLI. Future studies need to be conducted comparing the effects of various programs in order to develop gold standard approaches to be used in treatment. SLPs in the schools do not have extensive time and resources to conduct research involving the most effective therapeutic methods. Therefore, it is important for other members of the professional community to continue exploring the options and publishing results for practicing SLPs to read and implement in therapy.

Conclusion

SLI is a diagnosis that appears all too often on the caseloads of SLPs practicing in the school system today. Research indicates that children with SLI not only have deficits related to language, but also in the development of literacy skills. SLPs, therefore, have a twofold responsibility when it comes to providing intervention to these children; language and literacy skills must be addressed in therapy simultaneously in an effort to improve reading outcomes as the children progress through school. Areas to consider in providing therapy to children with SLI include phonological awareness, print knowledge, narrative development, morphology, and reading comprehension. Children

in specific demographic categories are particularly susceptible to obtaining a diagnosis of SLI. Race, gender, and socioeconomic status are just a few of the factors to consider in an effort to prevent language and literacy deficits in the early years.

Therapeutic practice methods are available and supported through the principles of EBP. SLPs treating children with SLI should consider shared-storybook reading, print knowledge development, questioning strategies, and parent involvement in the treatment of language and literacy challenges. These methods, and many more, have been researched and identified as appropriate therapeutic strategies for young children learning to read. As EBP is becoming the gold standard in selecting therapeutic methods, it is rational to conceive that more and more therapy procedures will be developed and supported over the next few years.

Ultimately, it is critical to identify children who are at-risk for developing language and literacy at an early age. Prevention is key in promoting and fostering reading skills in young children with SLI. In order to best serve clients, SLPs must rely on the research in developing therapeutic practices that are most appropriate for the clients they serve. Targeting language and literacy skills simultaneously in therapy is the most effective means of fostering the development of reading and language in young children with SLI.

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