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Impact of peer tutoring sessions on oral language vocabulary in early childhood inclusive settings

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IMPACT OF PEER TUTORING SESSIONS ON ORAL

LANGUAGE VOCABULARY IN EARLY

CHILDHOOD INCLUSIVE SETTINGS

by

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A dissertation submitted in partial fulfillment
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ABSTRACT

**Impact of Peer Tutoring Sessions on Oral Language Vocabulary in
Early Childhood Inclusive Settings**

by

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Dr. Tom Pierce, Examination Committee Chair
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Researchers agree that developing high quality programs using evidence based

practice and active participation from students with disabilities, who receive instruction

with typical peers, is critical to overall student achievement and success of inclusive

practice (Bailey, McWilliam, Buysse, & Wesley, 1998; Villa, Thousand, Meyers, &

Nevin, 1996; Volz, Brazil, & Ford, 2001). Identifying what interventions are necessary in

order to support the developmental objectives and positive outcomes of young children

remains a priority concern (Cavallaro, Ballard-Rosa, & Lynch, 1998). This study

addressed the following questions: (a) Do peer tutoring sessions in early childhood

settings increase oral language vocabulary in students with disabilities who have

language delay? (b) Do peer tutoring sessions generalize use of learned vocabulary to a

new classroom setting by students with disabilities who have language delay? (c) Does a

balanced model of peer tutoring maintain new vocabulary use between the tutee and

typical peers in an independent choice center following the tutoring sessions? An

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examination of the effects of peer tutoring sessions in order to improve oral vocabulary for young students with disabilities were addressed.

The goals of the study were: (a) to investigate peer tutoring sessions and vocabulary growth in young students with disabilities who have language delays, (b) to measure oral vocabulary growth over a six week period, (c) to analyze student use of vocabulary in classroom interest centers, (d) to promote the findings from this study in order to improve educator and family access and understanding of peer tutoring across settings and (e) to demonstrate a balanced model of peer tutoring and the gains for the tutee and the tutor.

A pretest was conducted in order to determine current vocabulary levels for the participants in this study. The results of peer tutoring as an intervention were summarized after six weeks of the study. Students with disabilities increased oral language vocabulary when typical peers modeled new words and followed the peer tutoring steps.

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CHAPTER 1

INTRODUCTION

In early childhood education, the placement of preschool students with disabilities into classrooms with students without disabilities has been typical practice in order to provide benefits to both student groups (Holahan & Costenbader, 2000). Studies of inclusive classrooms in early childhood education have examined and declared the advantages of social growth through peer modeling for students with and without disabilities (Diamond, 2001; Bricker, 1995; Evans, Salisbury, Palombaro, & Goldberg, 1994; Ivory & McCollum, 1999). Other social interaction studies report findings that skills are attained through the appropriate types of support given by teachers in the early childhood setting (Odom & Brown, 1993). Discovering how typical peer tutoring after teacher instruction directly affects language acquisition and growth in early childhood requires further investigation (Kontos, Moore, & Giorgetti, 1998). Understanding which interventions prompt talking and what arrangement of environment facilitates oral language is needed by classroom teachers Risley, 1977). The effects of developing language and communication skills early in the child's school career indicate further reduction in additional learning disabilities and social or behavioral disorders (Wetherby & Prizant, 1993).

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Language Development in Young Children

The ability to communicate and engage in conversation is a predictor of the positive interaction that a child will experience with a peer (Guralnick, Gottman, & Hammond, 1996). Students with little or no spoken language can be socially isolated, despite their placement in an inclusive setting. Students with minimal or no vocabulary need intensive speech training that is supported by peers in order to increase their vocalizations for wants and needs and to expand their word approximations (McGee, Morrier, & Daley, 1999). Developmentally Appropriate Practice (DAP) emphasizes peer engagement in order to learn vocabulary and the beginning concepts of reading and writing (Morrow & Gambrell, 2004). If the goal of early intervention is to begin a normalization process across settings that are important to the family, then investigating researched based practices that involve typical peers in classrooms is appropriate for early intervention educators (Bailey, McWilliam, Buysse, & Wesley, 1998). Normalization, for the purpose of this study, refers to the child within the family unit participating in a life that is as normal as possible based on the family beliefs, practices, and use of language (Bailey et al.,1998; Wolfensberger, 1972).

Acquiring language involves three interrelated parts: (a) using language to accomplish a task, (b) characterizing the child's ability and predisposition to language, and (c) hearing the language in the environmental setting (Rice, 2002). The scope of language includes phonology (sounds), morphology (rules of word formation), semantics (meaning), and syntax (rules of sentence structure). Additionally, the social function of language is critical to the overall competence of early communication (Hymes, 1972).

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Piaget (1962) emphasizes the egocentrism of children's early speech and language patterns and the relationship between thinking and language. According to Piaget, these patterns of egocentrism are for internal self purpose and are not related to any person or expected response and disappear as a child reaches school age. Environmental experiences are necessary in order to build the cognitive process that precedes language.

Contrary to Piaget's theory of language primarily developing from the child's egocentric cognitive awareness and action of objects, Vygotsky (1962) theorizes that children use their private thought of language as an interaction social tool to express wants, needs, and ideas. Egocentric speech has a function of individualizing language for oneself and connecting to thinking and problem-solving circumstances, thus evolving into meaningful, inner speech as a child grows (Vygotsky). Enhancing a child's language development involves hearing language and making sense of its importance in everyday function (Snow, 1984). Acquiring new language is the result of experiences that the child constructs through interaction and then applies with the assistance from an experienced partner (Berk & Winsler, 1995).

Language of Typically Developing Preschoolers

Language acquisition appears at the same age across different cultures and moves through similar patterns from simple words and phrases to expanded grammatical use (Slobin, 1985). Individual rate of acquisition varies according to what a child understands and the social intent of the language (Rice, 2002). The cognitive and social level of the child contributes in part to language acquisition in combination with environmental aspects. Direct language instruction from adults is not necessary for typically developing preschool children and may even interfere with normal language enrichment (Rice).

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Children enter school with an understanding that language is the communication form of wants and needs and a means to express knowledge (Hart, Walker, & Gray, 1977). Preschoolers carry on conversations and have an internalized language system that will eventually assist them with reading and the visual representation of language (Bateman & Weatherell, 1965). Additionally, preschoolers, (e.g. 4-year-olds), have a keen ability to use language in order to influence others (Owens, 1996).

Language of Preschoolers with Developmental Delays

The ability to express wants and feelings does not come easily for all children. Language difficulty can be associated with a lack of stimulating environment, cognitive delays, visual or hearing deficit, autism, speech disorders, or emotional disturbance (Lerner, Lowenthal, & Egan, 2003). If the child's intellect and environmental input fall within a sufficient range for language development, then problems in processing information may be the cause of a delay in learning and expressing new words (Rice, 1987). Preschoolers who demonstrate delays in the fundamental use of language are predisposed to future educational and social failures (Rice, 2002). More than 80% of preschoolers with a disability have a communication or language delay as a primary or secondary disability (Lerner, Lowenthal, & Egan). Difficulty in language leads to frustration and extensive poor communication skills that effect a child's future social and educational functioning (Goldstein & Strain, 1994). Children with language delay experience negative social interactions due to difficulty initiating and sustaining social interactions that require verbal turn-taking (Hadley & Schuele, 1995).

Teaching language skills increases the capacity of a child with language delay to socially interact and learn new academic skills (Power & Hubbard, 2002). Individualized

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assessment, planning, and targeting of specific linguistic skills need careful consideration

prior to implementing teacher directed instruction and meaningful classroom activities

(Fey, 1986). Teachers who facilitate varied experiences within the classroom and provide

opportunities for interaction between typical peers and children with disabilities, may

observe further enhancement of language development (Rice, 1987).

Language Development in Inclusive Settings

The Individuals with Disabilities Education Act 1997 (IDEA, 1997), requires each

state to provide a free and appropriate public education (FAPE), with any and all related

services necessary to children three through five years old with disabilities. IDEA (1997)

allows for a classification of developmental delay in the areas of cognitive, language and

communication, physical, and social/emotional on a child's Individualized Education

Plan (IEP). States use professional observation and developmental assessments

quantifying delay as a standard deviation (SD), either 1.5 SD or 2.0 SD below the mean

(Harbin, Danaker, Bailer, & Eller, 1991). The least restrictive environment (LRE)

required in IDEA (1997) emphasized that the placement of children with disabilities into

settings where typically developing peers are interacting and learning is beneficial and

appropriate (Lerner, 2000). Additionally, IDEA (1997) provides a continuum of

alternative placement offering placement options to preschoolers with disabilities that

include: (a) general preschool classrooms, (b) school resource rooms, (c) special classes,

(d) special schools, (e) child care facilities, and (f) community centers. If appropriate

resources and services can be provided for the individual needs in a classroom with

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typical peers, then special classroom settings are not necessary in order for learning to take place (Davis, Kilgo, & Gamel- McCormick, 1998).

Inclusion is a philosophy that emphasizes how children with disabilities have the right to receive an education and participate in a general education classroom, with typically developing peers, while receiving services within the classroom setting (DEC, 2000). Cook, Tessier, & Klein (2000) recommend consideration of the following questions when deciding placement and child success: (a) Does the recommended placement have qualified staff to provide the interventions needed with an age and developmentally appropriate curriculum? and (b) Is the environment culturally responsive to the family's values? Inclusive settings provide students with disabilities engaging social, cognitive, and language opportunities that build skills through practice and peer interaction (Demchak & Drinkwater, 1992). Students without disabilities demonstrate similar gains in social and academic benefits from inclusion, as typical peers who attend nonintegrated programs (Wolery & Wilbers, 1994). Increased knowledge in the area of acceptance and understanding of disabilities is evident in typical peers who are exposed to students with disabilities at an early age (Wolery & Wilbers).

Facilitating Language Growth with Peer Tutors

The ability to structure an environment to promote achievement in all learners is necessary for progressive student outcomes that abide with federal guidelines and regulations (No Child Left Behind Act, 2001; IDEA, 2004). When students are engaged with academic materials at their individual pace and level, skills improve (Greenwood, Delquadri, & Hall, 1989). Deciding which interventions are highly individualized and

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demonstrate positive results in language growth can be challenging for early childhood educators. Research indicates that typical peers in early childhood preschool settings are valuable resources as social and communicative tutors for students with disabilities (Kohler & Strain, 1999). Typically developing preschoolers can learn peer tutoring strategies to assist with the social and language development of students with language delay (Goldstein & Wickstrom, 1986). Teachers must provide strategies, training, materials, and practice time to typical peers prior to establishing peer tutoring sessions (Bricker, 1995; Kohler, Strain, & Shearer, 1996). Younger students require clear instruction and age appropriate materials that provide prompting for correct and incorrect responses (Fulk & King, 2001).

Kohler and Strain (1999) describe four characteristic guidelines to follow when implementing peer mediated interventions, such as peer tutoring. Interventions should be comprehensive and address skills that are applied across varied settings, times, and persons in order to achieve generalization. Instructional methods must be intensive and permit numerous practice sessions that are highly engaging. Strategies must be practical and acceptable to teachers, available for many children, and produce significant results. Outcomes must be reliably valid and effective when addressing changes that have occurred due to the intervention.

Embedding instruction in natural, inclusive environments with typical peers, where normally occurring activities and events are teaching specific skills for language development can be implemented by early childhood teachers with minimal direction (Peck, Killen, & Baumgart, 1989). Embedding is a procedure that allows for

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practice of skill objectives within a meaningful activity and expands that activity in order to maintain the child's interest (Bricker, Pretti-Frontczak, & McComas, 1998). Implementing peer tutoring as embedded instruction into an existing classroom routine can address individualized language objectives and provide a positive, functional result across settings (Davis, Kilgo, & Gamel-McCormick, 1998). Peer tutoring offers a specific time and task that can enhance previous teacher instruction and provide additional practice for young students while emphasizing the importance of repetition and practice to reach target levels (Rosenshine & Stevens, 1986). Peer tutoring during oral language activities develops vocabulary and pre-reading skills that are critical to the success of later reading performance (Snow et al., 1998).

Statement of the Problem

Studies show strong effects for the concept of peer teaching in elementary and secondary grades and the social effects of peer modeling in early childhood (Utley et al., 1997, Coe, Matson, Craigie, & Grossen, 1991; Odom et al., 1999). However, the need to investigate the effects of peer tutors on language growth in early childhood inclusive settings is warranted (Robertson et al., 2003). The primary purpose of this study is to investigate whether young students with disabilities who are native English speakers and who have language delay, improve their oral vocabulary in the classroom setting from a peer tutoring approach that is embedded into daily instruction and environmental arrangement.

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In order to address the implementation of vocabulary instruction to young students with language delay and maximize the potential of peer resources in this study, the following research questions were asked:

1. Do peer tutoring sessions in early childhood inclusive settings increase oral vocabulary in students with disabilities who have language delay, as measured by a single subject, multiple baseline, across subjects design in a vocabulary center and by the pre-test, posttest of the *Preschool Language Assessment Instrument (PLAI-2)?*

2. Do peer tutoring sessions generalize the use of learned vocabulary for students with disabilities in an application center where students verbally identify objects that match the new words, as measured by a frequency count of new vocabulary from videotaped recordings?

3. Does a balanced model of peer tutoring maintain new vocabulary use between the tutee and typical peers in an independent choice center following the tutoring sessions, as measured by the *Systematic Analysis of Language Transcription* (SALT) during interaction (Miller & Chapman, 2000)?

Significance of the Study

Because language growth is critical to the overall performance of students in academics and social areas, the need to study particular components, such as peer tutoring in a well defined setting, may provide educators with a clearer picture of implementing tutoring techniques that build language growth in early childhood. Providing special education that is inclusive in design may significantly support and

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promote individual language growth and the functional use of language with typical peers (Diamond & Carpenter, 2000). Designing inclusive preschool settings within school structures are appropriate due to the likelihood that young children accept differences without prejudice, discrepancy in developmental levels is minimal, and activities are not grouped by ability performance levels (Bailey, McWilliam, Buysse, & Wesley, 1998).

Studies indicate that positive developmental outcomes are not the result of merely placing young children with disabilities into an inclusive environment without appropriate instruction and support (Guralnick, 1976; Harris, Handleman, Kristoff, Bass, & Gordon, 1990; Odom & McEvoy, 1988). Specific instructional activities should be systematically planned, meaningful, and supportive of individual students with and without disabilities participating together in the inclusive environment (Filler & Xu, 2006). Identifying peer tutoring as one activity that builds a strong, inclusive classroom environment can be critical to the overall success of the individual student and the future concept of inclusion (Voltz, Brazil, & Ford, 2001). Additionally, there is increasing evidence that primary school- age students with disabilities need additional, specific, and intensive early interventions throughout their school day (Spear-Swerling, & Sternberg, 1996).

There is limited research on the use of peer tutoring to increase vocabulary for young children with disabilities (Warren, 2000). Research studies focus on peer initiation of social interactions of preschoolers with and without disabilities and the acceptance or rejection to play (Strain & Odom, 1986; Kohler, Anthony, Steighner, & Hoyson, 2001). Other studies recommend that providing a peer tutor and combining the teaching components of environmental arrangement, specific prompts, and positive reinforcements

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may increase oral language development and social, verbal interactions (Hemmeter, Ault, Collins, & Meyers, 1996; Diamond & Carpenter, 2000). Further investigation into the effects of peer tutoring on language development in an inclusive early childhood setting provides additional evidence for improving instructional program design that teachers can present as quality, inclusive, and specific to the young child in school and at home (Bricker, 1995).

The findings of this study contribute to the existing research base of effective peer tutoring strategies in early childhood. The study provided the opportunity for young students with disabilities to increase vocabulary and to incorporate functional use of acquired classroom language, naturally, within classroom learning centers. The effects from peer tutoring as an intervention to increase and use new vocabulary was examined.

The findings from this study add to the research concerning the generalization of interventions used in the preschool setting. Assessing the degree to which students with disabilities improve language in peer tutoring sessions may be beneficial and applicable to family centered practices. Determining the effects of peer tutoring in early childhood inclusive classrooms may offer additional input regarding strategies that teachers and parents apply in order to improve language for students with disabilities across settings. The ability to generalize specific instructional components, such as peer tutoring, may provide families the opportunity to assist their child with learning new words in different environments.

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Definitions

Application Center. The application center is a learning center in the classroom where participants verbally identify objects that match the new words from the previous vocabulary center.

Balanced Model. The individual academic and/or social benefit gained by the tutor and the tutee in the peer tutoring approach is balanced without negative effects to either party (Strain, 1981).

Califone Card Reader. The Califone Card Reader (Moffitt Audio Visual, 2006) is an audio recording machine that is used by teachers and students for the purpose of scanning vocabulary cards and repeating the word or sentence.

Children with Disabilities. Children with disabilities are eligible for special education services and an Individualized Education Plan (IEP) as required by the Individuals with Disabilities Education Act Amendments (IDEA (1997). P.L. 105-17.

Early Childhood Special Education (ECSE). ECSE are students (3-5 years old) who qualify for an Individual Education Plan with supports and services based on their disability.

Inclusive Classroom. The inclusive classroom is a classroom that includes typically developing peers and students with disabilities who receive instruction, services, and supports within the general education classroom setting.

Language Delay. Language delay is a delay in the knowledge and use of language that communicates meaning of wants and needs between persons (Lerner, Lowenthal, & Egan, 2003).

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Peer. A peer is an individual who has one or more common experiences with another individual (Kehayan, 1993).

Peer Tutoring. Peer tutoring is an intervention that involves early childhood typical peers who are partnered with students with disabilities modeling new vocabulary, after teacher instruction. The approach that provides a balanced tutoring concept is characterized by peer pairing (Greenwood, Carta, & Hall, 1988). The tutee is paired with one tutor who is capable of helping for a minimum time frame each day. The peer pairing is combined with teacher directed procedures that the tutor/tutee are trained to follow. The term "balance" refers to individual benefit gained by the tutor and the tutee in the peer tutoring approach (Strain, 1981).

Peer tutoring vocabulary session. A session is held between early childhood typical peers who have been instructed by the teacher to model new oral vocabulary to students who have developmental delays in language during a learning center activity.

Pre-School Students (Pre-K). Students are between three to five years of age and attend a public school program four days a week for five hours.

Reciprocal peer tutoring. Reciprocal peer tutoring, for the purpose of this study, involves a session where each student serves as a peer tutor and as a tutee while implementing age appropriate steps that require minimal training (Cooke, Heron, & Heward, 1983).

Tutoring. A tutor is providing remedial assistance to the tutee. (Maheady, Harper, Mallette, & Winstanley, 1991.)

Typical Peers. Typical peers are children without disabilities and typically developing for their age group.

Limitations

The limitations to this study are the following:

1. There is the inability to separate out growth due to maturation in young children and the intervention of peer tutoring that may have produced accelerated effects over 24 sessions in this study. However, establishing a baseline of oral vocabulary, implementing the intervention of peer tutoring, and observing the relationship between the intervention and the dependent variable negated any significant impact of maturation during the study.

2. The specific findings are limited to early childhood English speaking peers and may not apply to higher grade levels of education or Second Language Learners. Implementing a multiple baseline, across subjects design in order to analyze the intervention, can improve teachers' implementation of differentiated instruction based on individual needs (Kucera & Axelrod, 1995).

3. Different results may occur if the independent phase of this study is extended to provide additional time for maintenance. The intervention session was six weeks with a two week maintenance recording of data.

4. Using an oral input, visual display (Califone Card Reader machine and cards) during the peer tutoring center in early childhood may produce different results as compared to using only visual/oral input from a peer tutor without the aid of equipment.

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Summary

Early language intervention is critical to the development of academic and social skills in children with language delay (Warren & Yoder, 1996). The first four years of a child's life is the optimal time to develop language at a high rate (Hart & Risley, 1995). Implementing effective interventions that build vocabulary and involve typical peers can build a target competency level for students with language delay (Warren & Yoder). The purpose of this study was to examine the effects of peer tutoring for acquiring new vocabulary on children with language delay in an inclusive classroom setting. A contribution to the existing research on peer tutoring interventions in early childhood was demonstrated through this study.

CHAPTER 2

REVIEW OF THE RELATED LITERATURE

The purpose of this chapter is to review the literature that discusses three important

areas that relate to language development and instruction for young students with

disabilities. First, the impact of language development in early childhood is reviewed.

Next, providing an inclusive classroom environment with specific interventions is

discussed. Finally, the rationale that supports the intervention of peer tutoring as an

effective, supportive, and naturalistic strategy to increase basic oral vocabulary across

settings is considered.

Importance of Language Development

Researchers have investigated the importance of language development and

communication skills in early childhood (Dickinson & Tabors, 2002; Luze, Linebarger,

Greenwood, Carta, Walker, et al., 2001; Berko-Gleason, 1997; Bloom, 1993). Oral

language vocabulary is vital to the cognitive and social growth of young children (Bates,

O'Connell, & Shore, 1987; Kaisar, 1993). There are many factors of language that

influence human development (Bronfenbrenner, 1986). Typically, a child is exposed to

language acquisition daily from the time he or she is born. As the child develops,

language is geared to the developmental level of communication (Sokolov, 1993). The

early language exchange levels move through four areas of abstraction: matching

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perception (pre-linguistic), selective analysis of perception (emergence), reordering perception (combination of words), and reasoning perception (advanced) (Blank, Rose, & Berlin, 2003; Hoge & Parette, 1995; Owens, 1996). Matching perception is the ability to find, point to, or name a tangible object. Selective analysis involves responding to a simple question. Reordering perception is the next developmental level that requires the child to listen and be able to respond according to what is asked. Reasoning perception is more advanced and requires a thinking stage of answering a why or how question (Blank, Rose, & Berlin). It is well understood that receptive language skills are easier to grasp than expressive language modes (Roberts, 1983). The pragmatics of language involves "the appropriate, effective, structured employment of speech in interpersonal exchanges" (Ninio & Snow, 1996, p.4). How children use and respond to language discourse can be seen in their adequacy of response and any interfering behaviors that may limit or impede that response (Blank, Rose, & Berlin).

Dickinson and Tabor (2001) investigated the components in home settings and preschool settings that build a solid oral language foundation. The researchers studied 74 English speaking children on language and literacy growth from preschool through seventh grade. All children lived in a low socioeconomic area in eastern Massachusetts. The researchers assumed that rich language experiences early in life influence a child's later literacy achievement, and therefore, the types of interactions would also contribute to skill development (Dickinson & Tabor, 2001). Three components were identified in the study: (a) exposing children to a variety of vocabulary, (b) elaborating conversation and extending discourse, and (c) providing an environment that encourages language. Comparing the home and school environment on frequency of language experiences was

conducted through parent and teacher interviews. For example, a question such as: "How often do you read to your child?" was included (Dickinson & Tabors). Additionally, conversations were recorded in the home between child and caregiver. Adults using techniques such as comparing words or connecting language to a child's prior experiences were noted. School conversations between child and teacher across free play times, book reading, and meal times were taped and reviewed (Dickinson & Tabors). A battery of language and literacy tasks were administered yearly beginning in kindergarten. The researchers questioned what could be predicted about a child's later language and literacy achievement based on their kindergarten abilities after either their home-based learning or preschool program (Dickinson and Tabors).

Results indicated that children who had pretend talk (self-talk or imaginative talk) during choice time and a vocabulary rich environment across settings scored higher on receptive vocabulary and reading comprehension in fourth and seventh grades (Dickinson & Tabors, 2001). The researchers compared the high-home/low preschool language environments with the low home/high preschool language environments and found that children scored below the mean if their preschool environment was not enriching. When preschools had strong language support introducing new vocabulary, opportunities to hear and use new words, children later scored above the mean on kindergarten skills. The strong, supportive language home environment produced significant narrative results. However, a strong home and school language environment were predictors of higher receptive vocabulary levels (Dickinson & Tabors). The study results imply that an early childhood program with a focus on oral vocabulary and conversation is critical to future literacy success and may compensate for a low language home environment. The

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researchers discovered three critical experiences that are formulated in preschool and can be related to literacy growth in the upper grades: (a) opportunities to expand vocabulary, (b) practice in building conversations through extended discourse, and (c) experience in a linguistically strong home or school environment (Dickinson & Tabors).

Communication and Vocabulary

Interest in the 1970s and 1980s on providing strong curricula based on language development and communication paved the way to three decades of continued research in the field (Warren & Yoder, 1996). The power of engaging children combined with specific interventions was considered a critical component in prompting and facilitating language (Risley, 1977). MacLean & Snyder-MacLean (1978) moved from a traditionally structured approach of language syntax form to an increased, experiential, and basic communication function for students with disabilities. This movement from solely instructing specific skills to emphasizing a more naturalistic approach of adults facilitating oral vocabulary, supported the ongoing efforts by the Kennedy Center for Research and Human Development (Warren & Yoder, 1996; Kaiser, Yoder, & Keetz, 1992). Three basic principles guide and influence current research practices at the Kennedy Center: (a) effective communication and vocabulary will determine the success rate of an individual in school, social relationships, and later employment, (b) early intervention that builds vocabulary and communication is critical in the first 48 months of life when the brain is optimal for acquiring new language, and (c) quantity and quality of language input can be increased through an enriching environment (Warren & Yoder).

Instructional methods in early literacy that build on improving oral vocabulary are effective in establishing a strong base for future reading success (Snow, Burns, and

Griffith, 1998). The National Reading Panel (NRP, 2000) investigated the elements of reading instruction through a meta-analytic technique comparing effect sizes. No best method was identified for teaching vocabulary due to an incomplete research base (Foorman & Moats, 2004). However, the panel recommended further research on multiple teaching approaches for vocabulary development (NRP, 2000). Researchers agree that the best prevention against failure in school is early intervention with differentiated instructional practices addressing individual needs (Fuchs, Fuchs, Mathes, & Simmons, 1997; Greenwood, Delquadri, & Hall, 1989). Developmentally appropriate practices recognize the individual strengths and needs while providing an enriched, educational environment in early childhood that promotes strong communication (Bredekamp & Copple, 1997).

Early Intervention Applications

Children with language difficulty may demonstrate problems with the pragmatics, particularly in schools where social rules are in place for classroom discourse. If vocabulary that ensures strong communication between children and their peers, caregivers, and teachers is limited, then problems arise (McCathren, Yoder, & Warren, 2000). Researchers note that 70% of preschool children referred to special education services have problem behavior, weak development of social skills, early reading difficulty, and communication delays (Kaisar & Hester, 1997; Wetherby & Prizant, 1993; Casby, 1989). The risk for school failure is great without early, effective intervention services that improve language development (Dale, Jenkins, Mills, & Cole, 2005; Warren & Yoder 1996; Cole, Dale, & Mills, 1991). Providing effective teaching strategies that

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promote language development can ensure that students with limited or no language have the opportunity to be included in everyday social interactions.

Milieu strategies. Children without verbal language need intensive support combined with milieu teaching in order to expand their word approximations (McGee, Morrier, & Daley, 1999). Implementing the major components of incidental (milieu) teaching strategies may offer educators and parents effective techniques to build vocabulary in children with disabilities. The major components that increase spontaneous language production are: (a) model procedure, (b) mand model procedure, (c) naturalistic time delay procedure, and (d) environmental arrangement with peers (Kaczmarek, Hepting, & Dzubak, 1996). Modeling involves the act of the teacher presenting the student with a verbal model that is related to the student's interest in order to get the student's attention and to facilitate initial communication. The teacher then documents correct and incorrect responses from the student. The intent of the mand model is to provide generalization from the one-to-one instruction to a different setting. Presenting different materials and asking questions related to the student's want and needs encourages the use of functional language. The naturalistic time delay procedure may be used by pausing between steps of a task in order to allow the student time to initiate a question or response. By arranging the environmental setting, such as using a peer tutor to model, can encourage peer interaction and verbal response, naturally. All milieu strategy procedures include corrective response and positive reinforcement (Kaiser, 2000). Additional features of milieu teaching include: (a) gaining student attention, (b) direct teaching in short intervals embedded across learning opportunities throughout the day, (c) teaching meaningful content and purpose together, (d) targeting forms (parts of speech) of child's

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communication pattern, and (e) providing models, questions, and responses in order to improve communication (Warren & Yoder, 1996).

A study of language exchanges measuring vocabulary and communication while implementing milieu teaching strategies was conducted by Hart & Risley (1980). The exchange includes the child initiating the interaction and topic of discussion as the teacher responds to that interaction thus promoting strong self-reinforcement (Hart & Risley). The child's choice of material in the environment at that moment may prove to be a strong reinforcer when encouraging language (Hart & Risley). The researchers recorded language data in free play (children ages three to five years) that included: (a) an experimental program (Turner House) serving a predominantly African American, impoverished community in Kansas, (b) a Head Start Program in the same community, and (c) a university program (University of Kansas) attended by Caucasian, upper middle-class children (Hart & Risley). Children from Head Start and Turner House had comparable language rates at the beginning of the preschool year. Children who attended the University of Kansas preschool program had higher language scores at the initiation of the study (Hart & Risley).

Milieu teaching was introduced in the Turner House setting for one year during free play activity. Teachers would redirect children's requests for a play material to another child and praise both children when the request was asked and answered successfully. The results indicated that the Turner House children dramatically increased language pragmatics and the elaboration of complex sentences as compared to the Head Start children who received no intervention. The Turner House Children increased vocabulary at a rate equivalent to the level of the children from the University of Kansas. The milieu

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teaching that occurred in the classroom environment with typical peer interactions increased language rates (Hart & Risley, 1980). Therefore, considering peer tutors who can model, redirect and reinforce a specific language skill may result in expanded vocabulary and stronger communication for students with disabilities. Presenting students with a verbal model of new vocabulary, a picture card to match, and a monitoring system that is student friendly may be a formative model of milieu teaching that peer tutors could implement with students who have a language delay in early childhood.

A study completed by Kohler, Anthony, Steighner, & Hoyson (1998) supported milieu strategies that included: novel materials, choice of actions, placing items out of reach, comments and questions, and inviting interactions with typical peers. The researchers examined the social skill and communication development patterns of four children with autism who participated in a half-day preschool program with 35 typical peers (Kohler et. al.) A multiple -baseline across subjects design was implemented. A partial interval time sampling system was completed for data collection. Participants' social interactions (talking, touching, exchanging materials) were coded for peer and teacher interaction. Low levels of social interaction were noted for all participants during the baseline phase (Kohler et. al.). All 10 minute intervention sessions occurred during the 40 minute activity center time. After the teachers received training on naturalistic, milieu approaches, and daily support and feedback from the researchers, they were able to implement materials, encourage child response, and observe social interactions between the students with autism and their typical peers. The results of the study displayed an increase in social exchanges from the initial baseline report after the teachers received technical assistance. Increases in mean (1% to 17%; 18% to 30%) for

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social overtures occurred with no explicit teacher prompt and maintenance data indicated that social interactions continued to exceed baseline levels (Kohler, et. al.).

Enabling students with disabilities to become more active participants across settings, such as in the home, can be supported through the use of milieu strategies by siblings (Hancock & Kaiser, 1996). The researchers studied the effects of teaching siblings of students with disabilities modeling procedures to implement at home. A single subject, multiple- baseline across subjects design was used on three siblings. When older siblings applied milieu strategies of modeling during play sessions, an increase in targeted responses occurred. Generalizing the results across a different setting was successful in two out of three children with disabilities. Arranging the home environment with siblings as tutors may increase vocabulary and improve interactions in a social setting for students with language delays.

Establishing early measures. The development of accurate measures for assessing progress and growth in oral language is necessary in order to evaluate interventions and outcomes. Monitoring the growth of vocabulary and oral communication skills for students with disabilities is protected and required by Part C of the Individual with Disabilities Act (IDEA) of 1997. An initial evaluation followed by continued monitoring determines eligibility for continued intervention and measurement across domains (Luze, et al. 2001). Additionally, the Individualized Family Service Plan (IFSP) and the Individual Educational Plan (IEP) contain goals that are measured and reviewed, annually. The *No Child Left Behind Act* (2001) strongly emphasizes accountability of student test scores and the need for implementing strong instructional programs for developing early language and literacy skills (Dickinson & Tabors, 2002).

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High quality early childhood programs require accurate measures of language growth in order to predict future outcomes for literacy achievement (Dickinson & Tabors, 2001). Implementing a standardized language assessment tool that measures the abstraction of language discourse as well as pragmatics is helpful when assessing young children with receptive and expressive delays (Blank, Rose, & Berlin, 2003). Informal and formal assessment of the child's specific disability and its effect on language can determine the amount of adult or peer intervention that is necessary in order to increase vocabulary for active participation (Mills, Cole, Jenkins, & Dale, 1998).

A long- term study (Dale, Jenkins, Mills, & Cole, 2005) examined the immediate and lasting effects of the type of pre-school special education instruction (direct or mediated interactive approach) on students who performed with a low score in the developmental domain such as language, cognitive, or motor ability. Two hundred five children (3-year-olds to 7-year-olds) eligible for special education participated. Approximately 80% of the children had language delay. The preschool children were randomly selected to participate in a class with direct instruction method (task analysis of academic skills) from the teacher or a mediated learning method that is based on child interaction and problem- solving.

Following preschool, the two groups did not differ in language outcome. However, effects were noted between pretest and posttest that contradict previous views of Snow (1991), who indicated that children with lower function advance further with a direct approach and higher functioning children perform better in an interactive approach. The posttest scores after instruction demonstrated the reverse effects for both groups. The lower functioning children did better in the interactive, mediated learning approach and

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the higher functioning children performed better when instructed in the direct approach (Dale, Jenkins, Mills, & Cole, 2005). The researchers questioned: "How well do early measures of cognitive and language ability predict cognitive and academic measures later for 12- year-olds and 16-year-olds" (Dale et al.)? Interactions between student characteristics and curricula instruction were reported at one year post intervention and at age nine (Cole, Dale, Mills, & Jenkins, 1993; Mills, Dale, Cole, & Jenkins, 1995). Correlations from the preschool posttest on language ability to academic measures for 12-year-olds and 16-year-olds continued to be substantial. This study reported possible effects in later years when using aptitude pretest scores from preschool that included the Preschool Language Assessment Instrument (PLAI), McCarthy GCI, and the PPVT-R standard score (Dale, Jenkins, Mills, & Cole, 2005). Following multiple regression analyses, it was noted that: "significant interaction (difference) was demonstrated on the regression slopes of the posttest variable on the pretest variables for the two groups" (Dale et al.). The researchers' earlier measures from the preschool posttest that predicted student outcome of language ability were also present for nine-year-olds. No overall main effects for the kind of preschool program (direct or mediated instruction) implemented were noted for 9 year-olds, 12-year-olds, or 16-year-olds in language and cognitive growth (Dale et al.). The longitudinal study demonstrated the importance of establishing early measures and the consistency of early language measures over time in predicting outcomes for all three ages studied.

Importance of Inclusive Environments

Bricker & Bricker (1976) initiated work in early childhood education to include children with and without disabilities at the Kennedy Center at Peabody College (part of Vanderbilt University). The need to provide systematic, empirical research on the impact of an inclusive environment on specific skill areas remains constant (Holahan & Costenbader, 2000). Terminology on what defines inclusion changes as research evolves in early childhood (Odom et al., 1999). For the purpose of this literature review, the term *inclusion* or *inclusive* will be defined as preschool students with and without disabilities learning together in a classroom setting with no more than 50% of the students having an Individualized Educational Plan (IEP). A critical concern of inclusion advocates is that students with disabilities have a positive opportunity to improve social and academic skill levels by interacting and forming relationships with typical peers (Bricker, 1978; Odom, 2000; Brown, Odom, Li, & Zercher, 1999; Guralnick, Conner, Hammond, Gottman, & Kinnish, 1995). Federal legislation (IDEA P.L. 105-17, 1997) requires that students with disabilities are educated in the least restrictive environment (LRE) with their typically developing peers. A majority of the early childhood studies have focused on social and behavioral gains for students with disabilities when participating in inclusive classrooms (Buysse & Bailey, 1993; Strain, 1990; Guralnick, Conner, Hammond, Gottman, & Kinnish, 1995).

Buysse and Bailey (1993) reviewed 22 studies that met the criteria of age (ages 0-5 years with a disability), study design (integrated and/or segregated settings), and dependent measures (one measure of child outcome to compare effects of settings). Seven of the 22 studies reviewed developmental outcomes using group means when

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comparing groups. No study addressed the relationship between the onset developmental skill level and that level influencing the student's outcome. Overall, the mean level of student performance did not vary between students in integrated versus segregated settings (Harris, Handleman, Kristoff, Bass, & Gordon, 1990; Jenkins, Speltz, & Odom, 1985; Buysse & Bailey, 1993). Developmental gains in separate, segregated settings (with no typical peers) were attributed to probable weak designs, curriculum, teacher training, and teacher-child ratio (Buysse & Bailey). Student behavior outcomes from segregated and integrated settings favored integrated settings as providing appropriate social cues and strong opportunities to develop skills with toys and school materials (Guralnick & Groom, 1988). Overall, due to lack of randomization and threats to internal validity, Buysse and Bailey (1993) analyzed the studies based on strong versus weak designs.

The results indicated that social benefits may be gained from placing children with mild disabilities with typical peers, but that an active, consistent program must be implemented for students with moderate to severe disabilities (Odom & McEvoy, 1988). Placing typical peers and students with disabilities together in the same class will not be effective without strong teacher support and preparation (Odom & McEvoy, 1988; Sontag, 1997). The quality and extent of peer interactions require further investigation in order to examine gains in language and cognitive domains for the preschool child with disabilities (Odom & McEvoy).

Placement Effects on Language

Increases in vocabulary and communication for students with severe language delays may occur due to typical peers constantly supporting language across classroom

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experiences. Rafferty, Piscitelli, & Boettcher (2003) researched language development (receptive and expressive) in addition to the social competence of 96 preschoolers with disabilities. One component of their study was to investigate whether placement (inclusive vs. segregated) and severity of disability (mild vs. severe) had an effect on language development from pretest to posttest. Expressive and receptive skills were measured by the *Preschool Language Scale-3 (PLS-3)*, a standardized, norm-referenced tool (Zimmerman & Steiner, 1970). Both inclusive and segregated classrooms followed developmentally appropriate curriculum based on individual needs. Between 53% and 75% of the children in inclusive classrooms had disabilities and 38% had severe disabilities. The classes were taught by one special education teacher and one early childhood teacher. The segregated, special education classes had six students (75% with severe disabilities) with one special education teacher and one assistant. The researchers noted that traditionally, students with mild to moderate disabilities (those who scored at or below two standard deviations from the mean in verbal or performance IQ) were more likely to be placed in segregated, self-contained classrooms, whereas, students with less severe disabilities were typically placed in least restrictive settings, such as the inclusive classroom. At posttest, the effect sizes of language ability and social competence were comparable in both settings for students with less severe disabilities (Rafferty, Piscitelli, & Boettcher). However, students with severe disabilities participating in inclusive classrooms demonstrated greater gains in auditory comprehension and expressive language than students with severe disabilities placed in segregated self-contained classrooms.

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Additional support for improvement in developmental areas, such as language vocabulary, for students with severe disabilities in inclusive settings, is noted by Hundert et al, (1998). Evaluating specific strategies that simultaneously build peer interactions and improve vocabulary for students with severe disabilities, can provide support and guidance for inclusive placement. Students with little or no spoken language can be socially isolated, despite their placement in an inclusive setting, without appropriate interventions modeled by teachers and peers.

Harper and McCluskey (2002) studied 24 preschool students who had independent gross motor ability, but limited language. An additional group who had gross motor difficulties with varying degrees of language ability was also considered. Students were divided and placed in three separate classrooms with eight typically developing peers. Varying social interactions were monitored and recorded in all groups. Cognitive levels and underlying medical diagnosis were not considered as part of the study. The researchers hypothesized that despite any medical or cognitive condition, students who lack language or have severe motor impairments would be isolated to a greater degree than students who have limited, productive language or some independent mobility. Results of the study indicated that students with some language ability experienced greater social interaction closer to that of typically developing peers. Additionally, results demonstrated that adults initiated interactions with students with limited or no spoken vocabulary to a greater degree than with typical peers or with students who had some language capability. Adults had initiated interactions with students with severe locomotion problems, as well. The ability to move independently and closer to typical peers tends to increase social communication (Harper & McClusky).

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Providing an environment that encourages and promotes students with disabilities to interact with typical peers needs to be planned and modeled by the teacher. The first step may need to include the arrangement of activity centers that promote peer interaction.

Social Responsibility

The social, moral right for students with disabilities to participate in classrooms with their typical peers is a strong, well supported impetus in special education (Diamond and Carpenter, 2000). The researchers examined the sensitivity and responsiveness of 63 typical young peers to the needs of students with disabilities. Specifically, attention to children's ideas of helping others and pro-social behavior were evaluated. Helping behaviors included empathy and assuming a role that could be independent of teacher request or prompt. The researchers hypothesized that students without disabilities in inclusive classrooms would have a greater amount of helping strategies (dependent variable) for students with disabilities than students without disabilities who attended preschool classes with their typically developing peers only. Additionally, it was suggested that girls would have higher pro-social behavior scores than boys in either setting (Diamond & Carpenter). Interview sessions with typical peers were conducted and a teacher survey on pro-social behavior of the typical peer was collected. The researchers implemented short scenario interviews using dolls with disabilities to assess student response for helping. Cues ("How would you help?") were provided if the student avoided participation or remained silent. All helping strategies were coded with high interobserver agreement (96%). Results indicated that students who attended inclusive settings had a significantly higher score of helping students with disabilities than those who only attended classrooms with their typical peers (Diamond & Carpenter, 2000).

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Teachers rated students from inclusive classrooms with higher pro-social behavior scores than the teachers from non-inclusive classrooms who rated their students lower. Girls were rated higher than boys on pro-social behavior in each classroom.

Diamond and Carpenter (2000) concluded that children attending inclusive classrooms may have an increased amount of experience and modeling of strategies for helping others. The pro-social behaviors of students who are enrolled in inclusive classrooms may be influenced by family background and views on classroom diversity and may effect how their children interact with students with disabilities (Diamond & Carpenter). The implications of this study may influence the practice of peer tutoring in early childhood by: (a) establishing the importance of positive sensitivity and the increased desire to help others (Peck, Carlson, & Helmsetter, 1992), (b) improving the pro-social behaviors of students with disabilities, (c) recognizing mutual academic benefit for typical peers and students with disabilities (Stanhope, Bell, & Parker- Cohen, 1987).

Peer Mediation and Tutoring

Peer mediation, for the purpose of this review, is defined as typically developing children who model and/or tutor developmental skills for students with disabilities and who are considered effective instructional resources (Kohler & Strain, 1990). Investigating and understanding the important factors that optimize peer mediated interventions is critical to the overall success of students with disabilities in inclusive classrooms (Kohler & Strain, 1999). The factors include: (a) comprehensive to the specific skill needed, (b) intensive in application, (c) approved by teacher and easy to implement, and (d) demonstrate effective outcomes. Peer- mediated interventions may

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be an excellent resource that is available on a daily, consistent basis in inclusive classrooms (Heron & Harris, 2001). Peers can be trained effectively as an instructional support at an early age through a highly structured peer tutoring program that emphasizes review and repetition (Cooke, Heron, & Heward, 1983).

Peer tutoring, for the purpose of this review, is more specifically defined as "one child teaching a skill to another child of the approximate same age and range of skill level" (Cooke, Heron, & Heward, 1983, p 1). Alternative tutoring formats with variation (e.g. small group, multiple groups, class-wide, reciprocal, peer pairing) for instruction have been in practice for many years. One-to- one individualized instruction allows for additional practice and feedback for students with disabilities who may need vocabulary development. Tutors and tutees benefit from peer tutoring by reviewing and strengthening academic skills together and by their social skill interaction (Cooke, Heron, & Heward). Connecting teachers with experts or mentors in tutoring systems assures a thorough and complete training that can produce a strong peer tutoring program (Heron, Welsch, & Goddard, 2003).

Evaluating Tutoring Programs

Although a variety of tutoring programs have existed for centuries (Osguthorpe & Scruggs, 1986), there continues to be a need for evaluating tutoring arrangements that are specific to student need (Miller, Barbetta, & Heron, 1994). Research studies support the use of peer mediated tutoring interventions that include: (a) peer modeling of social response, (b) peer response of support for appropriate behavior, (c) peer tutoring for academic instruction, and (d) peer participation in classroom activities (Kohler & Strain,

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1999; Strain & Cordisco, 1993). Peer mediated interventions have been successful for students with disabilities who required intervention for appropriate social response (Kohler & Strain, 1990; Kohler & Strain, 1999). One component of peer mediated intervention is for the adult to reinforce the tutor each time the tutor provides an intervention session and the student with a disability exhibits appropriate response. The adult may monitor the intervention, but does not intervene with the reinforcement that the tutor supplies after training. The teacher target after training is the reinforcement to the tutor for appropriate intervention (Kemple, Duncan, & Strangis, 2002). The procedures for peer mediated interventions in a natural play environment consist of: (a) the selection of a socially competent peer, (b) the training of a selective peer to model skills for a student with a disability, and (c) the reinforcement given to the peer tutor for eliciting appropriate response from a student with a disability (Kemple, Duncan, & Starngis, 1999). A positive outcome of the peer mediated strategy is that reinforcement is natural and no fading of reinforcement by the adult is necessary for the student with a disability.

Robertson, Green, Alper, Schloss, & Kohler, (2003) investigated the impact of peer mediated procedures that are easy and natural to implement in a preschool setting. On task behavior, interactive play, and appropriate participation in circle time were measured as dependent variables in a multiple baseline design across behaviors of two children with developmental delays. Baseline data were collected in the child-care program of 3- 4 year-olds over several weeks for 10 minutes daily. Normative levels were established for the targeted skills by observation and teacher input of a comparison group of peers in the same classroom. Two typical peers were selected for training. The independent variables included peer-mediated songs, finger plays, and attention to social behavior

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photographs. The two peer trainers were able to have practice sessions with classmates not involved in the experiment prior to implementing with the target student.

The target students' responses to intervention were recorded on a frequency basis of every 5 sec. for on task behavior and interactive play during a 30 minute play session. Appropriate participation in circle time (sitting, attending, responding) was recorded during a 10-20 minute circle time activity. Observers collected data daily for the two students with disabilities and the two typical peers. The interobserver reliability data collected across 33% of the sessions ranged from 91% to 100% across the experimental phases. The results demonstrated that the two students with disabilities increased on task behavior and attention when the peer-mediated interventions were implemented. The two peer trainers followed directions and had high performance rates for successfully maintaining student attention with minimal adult assistance. The peer trainers provided directions, verbal cues, or pictures when needed. The interventions were easy to implement, obviously non invasive, and occurred naturally during the observed activities. The peer trainers received positive verbal supports from the teacher as they completed each session. Collecting data from the socially competent peer group provided the researchers with an effective, comparative measurement.

One limitation of the study was the use of the same peer trainer for the entire time frame. The researchers recommend that multiple peers be trained in order to avoid burnout over time (Robertson et al.). Combining components of peer mediated interventions with traditional peer tutoring and strong teacher support can provide a strong model for skill development of preschoolers with disabilities (Bricker, 1995; Kohler, Strain, & Shearer, 1996).

Craig-Unkefer and Kaiser (2003) studied the effects of teaching specific vocabulary and activities to six children at risk for language delay and decreased child interactions. Participants attended a federal program for childcare and were between the ages of 3 years 5 months and 3 years 11 months. The at risk status required: (a) at least one standard deviation below the mean for expressive and receptive language scores and / or aggressive, problem behavior (Craig-Unkefer & Kaiser). A multiple baseline across dyads (Kazdin, 1982) measured the baseline and intervention effects of peer interaction related to language. Baseline sessions involved observation of vocabulary use in requests and comments three times per week until the dyads entered intervention phase.

The researchers implemented play sessions for students that were organized to increase specific verbal responses related to a play theme (e.g. house or store). Play materials (clothes, toys, objects) were used during the play session. Intervention sessions were conducted three times a week for 20 minutes in a separate small group setting and included: (a) time to discuss and organize the play theme for the day between the teacher and students, (b) an actual 10 minute play session between students with the teacher watching out of the play area and offering redirection, and (c) a review period of discussing the activities that occurred during the play session (Craig-Unkefer & Kaiser). All sessions were videotaped and information was entered into the *Systematic Analysis of Language Transcripts (SALT)* for analysis (Miller & Chapman, 2000).

The results indicated that the child talk of the six participants increased and became more complex during play after the intervention sessions as measured by total words and number of different words used by the six participants (Craig-Unkefer & Kaiser, 2002). The researchers recommended that the intervention of planning play sessions to improve

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language and social communication be directed into more natural classroom settings to check systematic generalization across settings (Craig-Unkefer & Kaiser)

Heron, Welsch, & Goddard (2003) reviewed 15 specific program formats in specialized areas (curriculum or specific non- academic skills) where peer tutoring was the independent variable. The researchers noted that all studies that met criteria had been conducted within the last 24 years with 73% being published within the last 12 years. The capability of peer tutoring as an instructional strategy is realized as a valid practice when procedures are in effect. The researchers reviewed varied studies related to tutoring that used a one-to-one peer tutoring format for targeted social skill responses for students with disabilities (Heron, Welsh, & Goddard). Important factors in peer tutoring that include peer modeling, edible reinforcement, and tokens for correct response were studied (Lancioni, 1982). The tutoring procedures included: (a) tutor modeling skill for the tutee, (b) the tutee responding, and (c) the tutor providing a reinforcement that included praise with food or tokens. Students with disabilities improved in social responses across settings when the same tutor and tutee dyad were in different settings, together (Lancioni).

Evidence of a clear relationship between one- to- one peer tutoring and improved behavior performance was strengthened in a reversal design (ABA) study on aggressive student behavior from an 11 year old student with mild disabilities (Weinbaum, 1996). The tutor implemented praise for appropriate behavior and modeled the correct alternative behavior with verbal redirection if behavior was inappropriate. Results indicated that the tutoring intervention was necessary in order to maintain successful

positive classroom behavior. When tutoring was withdrawn, aggressive behaviors escalated.

Long Term Outcomes

Reviewing studies that produce positive long term outcomes in the primary grades and support early implementation of proven strategies can be critical to the success of early intervention. A three year longitudinal study initiated in a predominantly White/Euro-American (90%), Title 1 (40% receive free or reduced lunch) school, measured the reading growth of 36 targeted students considered at risk for school failure (Greenwood, Tapia, Abbott, & Walton, 2003). Students from inclusion classrooms were leveled as high, medium, and low risk. Students with disabilities and limited English were classified as high risk. A strong, collaborative, problem solving process for 16 teachers and five researchers included professional development on instructional strategies and preceded the implementation of the project. The goal of the collaboration was to maintain intense high quality literacy and language practices that would evaluate the outcomes for early readers over a three year period. Teachers were observed and measures were collected on the implementation of new strategies such as: shared books, partner reading, peer tutoring, and reciprocal teaching.

The hypothesis at the outset of the study included that: (a) building based collaboration between faculty and researchers would exhibit positive reading outcomes for students in grades K-3 over a three year period, (b) teachers would decide to implement instructional practices that were research supported, (c) groups of students in grades K and 1 would have higher trends of reading improvement than those in grades 2 who had less exposure during the study, (d) high risk students with disabilities and lower

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language ability would show similar progress trends to that of lower risk students, and (e) instructional practices such as one -to-one, peer tutoring, and small group, would demonstrate stronger oral reading behavior in students than whole class approach (Greenwood et al.). The results included Curriculum Based Measurement (CBM) of reading fluency with interobserver agreement (97.4, SD=1.0, minimum=95.4, maximum=99.1).

The results supported the hypothesis of collaboration with an increase in reading practice, behavior, and oral fluency. The implementation of instructional strategies, such as peer tutoring, increased overall outcomes for students. The progress performance rates and engagement in reading for high risk students equaled that of low risk students in reading aloud and silent reading. The younger groups who had more exposure did not exceed the CBM reading performance rates of the group who had one year exposure. The linear growth in CBM reading fluency over three years was a mean of 3.1 new words per month of schooling (Greenwood et al.) Students with disabilities showed growth in reading aloud and silent reading equivalent to typical low risk students over the three year period. However, CBM reading fluency did not show improved results within the time frame. Additional results supported that professional development and classroom consultation on instructional practices can increase reading behaviors. Students with disabilities and English Language Learners (ELL) gained equal benefits as typical peers in the inclusion reading program. Peer tutors and small instructional groupings with peer tutors supported the researchers' hypothesis for improved oral reading.

A limitation in this study was the inability to separate out growth due to maturation and the instructional practices that may have produced accelerated effects. The continued

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need to study inclusive, instructional practices that produce strong effects in accelerating young readers is recommended (Greenwood, Tapia, Abbott, & Walton, 2003).

Elbaum, Vaughn, Hughes, and Moody (1999) conducted a meta-analysis that reviewed grouping formats for reading instruction and the outcome effects on students with disabilities who received paired instruction compared to students with disabilities who received instruction in a whole class setting. The operational definition used for pairing included students working together in tutor-tutee roles. The participants were enrolled in Grades 1 through 6 and included both students with and without disabilities who spoke English as their primary language (Elbaum et al.). The studies reviewed met the requirements set by the researchers to include: (a) group reports, (b) quantitative results, (c) comparison/control groups, (d) contrast of grouping formats, and (e) sufficient data in order to compute an effect size (Elbaum et al.). Nineteen studies were included and reported outcomes for intervention and grouping formats. The researchers analyzed how effect size was impacted by length of intervention, instruction, and outcome measures. Additional investigation on the relation of effect size to grouping formats was completed. Variation in effect size as it related to the role of the student (tutor, tutee, reciprocal tutor-tutee) was also reviewed in studies that included peer tutoring as an intervention (Elbaum et al.).

Results indicated that the length of intervention had no reliable association to the effect on reading outcomes. Longer interventions did not produce more positive outcomes (Elbaum et al., 1999). Word recognition as a focus of instruction resulted in a lower effect size as compared to general reading or reading comprehension. However, the researchers cautioned that the representation of instruction focus did not represent all

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samples (Elbaum et al.). Outcomes varied by type of reading measure used across studies. The researchers' findings indicate that student pairing (tutor-tutee) represented an effective strategy to implement for improving reading outcomes in students with disabilities. Peer mediated instruction that includes tutor/tutee sessions is feasible for teachers to implement in a classroom setting and is engaging for students (Fuchs, Fuchs, Mathes, & Simmons, 1997). According to Elbaum et al. (1999), engaging in the role of reciprocal tutor or tutee during the sessions did not significantly effect the outcomes of peer tutoring. Using a form of reciprocal tutoring improves the self esteem of students with disabilities without losing any positive gains from peer tutoring and allows for more pairing possibilities in an inclusive classroom (Elbaum et al.). The findings from this meta-analysis conclude that peer tutoring is a strong practice to implement for students with disabilities who need additional skill instruction.

Previous research has shown the benefits of peer modeling in early childhood inclusive settings on social growth for students with disabilities (Diamond & Carpenter, 2000; Bricker, 1995; Evans, Palombaro, & Goldberg, 1994; Ivory & McCollum, 1999). Reviewing the benefits of peer tutoring on academic skill performance in the elementary grades demonstrates the potential effects that peer tutoring could have in early childhood education programs. Specifically, how typical peer tutoring after teacher instruction affects language and new vocabulary acquisition in young students with disabilities requires further investigation (Kontos, Moore, & Giorgetti, 1998).

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Summary

Coordinating typical peer tutors and students who have language delay in the early childhood setting for the purpose of developing oral classroom vocabulary may offer educators an available and productive resource. Providing opportunity for practice and arranging the environment will support language learning in early childhood (Thiemann & Warren, 2004). Emphasis on early intervention services for young students with language delay that are empirically supported and implemented during a routine part of the student's day can further support the investigation of available and appropriate individual treatments (Thiemann& Warren). Facilitating peers to assist as tutors allows for a level of direct instruction that is interactive and skill related.

This study supports the existing research that encourages further investigation into training young peers as effective tutors and the meaningful outcomes for language development that support students with disabilities.

CHAPTER 3

METHOD

Overview

Research studies in early childhood education typically focus on teachers facilitating

social and language skills through direct instruction, adult prompts, and positive

reinforcement (Kohler & Strain, 1999; Kohler & Strain, 1990; Strain & Odom, 1986).

With the increased amount of time needed by teachers for implementing these

interventions, they may not be the most practical in an early childhood setting (Kohler &

Strain, 1999). The difficulty of children with disabilities to generalize and maintain

teacher- delivered interventions may indicate that alternative strategies, such as peer

tutoring, may improve specific language skills for children with language delay across

settings (Chandler, Lubeck, & Fowler, 1992). Additionally, understanding the

interventions that prompt talking and the environmental arrangements that facilitate oral

language is needed by classroom teachers (Risley, 1977).

This study examined the effects of peer tutoring on the number of correct vocabulary

responses for students with language delay in an early childhood inclusive classroom.

The expressive and receptive vocabulary levels were assessed pre-intervention and post-

intervention through the *Pre-School Language Assessment Instrument* (PLAI-2), (Blank,

Rose, & Berlin, 2003). Vocabulary from the *PLAI-2* was cross-matched with classroom

vocabulary from the *Trophies* (Harcourt, 2005) reading program in order to form a list of

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vocabulary words from *Trophies* and matched 30 words that were either a receptive or expressive answer for questions on the *PLAI-2*. The words selected were listed as possible student responses and identified in the *PLAI-2* assessment teacher manual and test booklet. The target words for this study were recognized by *Trophies* and the *PLAI-2* as age appropriate vocabulary for early childhood settings.

The study emphasized the importance of training adults and students in the steps of peer tutoring in order to observe reliable results. Cooke, Heron, & Heward, (1983) recommend that training effective peers is an essential component that should be completed one to two weeks prior to intervention. The peer training was conducted in an after school session to four students without disabilities who tested above the 50% ranking (.92, .58, >.99, .97) on the *PLAI-2,* and four students with disabilities who have an Individualized Education Plan (IEP) noting language delay and who scored in the lower 25% (.02, <.01, .02, <.01) of the *PLAI-2.* Training the participants as tutors and tutees during the training sessions offered a balanced approach to the intervention for the designated tutor as well as the tutee (Greenwood, Delquadri, & Hall, 1989). Students with disabilities in the dyad were able to review new vocabulary that was individually assigned from the intervention word list. Students without disabilities were given vocabulary cards that were generated from a kindergarten to second grade common word list. No data on vocabulary gains were collected on students without disabilities in this study.

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Research Questions

The following questions were asked and evaluated:

1. Do peer tutoring sessions in early childhood inclusive settings increase oral vocabulary in students with disabilities who have language delay, as measured by a single subject, multiple baseline, across subjects design in a vocabulary center and by the pre-test, posttest of the *Preschool Language Assessment Instrument* (PLAI-2)?

2. Do peer tutoring sessions generalize the use of learned vocabulary for students with disabilities in an application center where students verbally identify objects that match the new words, as measured by a frequency count of new vocabulary from videotaped recordings?

3. Does a balanced model of peer tutoring maintain new vocabulary use between the tutee and typical peers in an independent choice center following the tutoring sessions, as measured by the *Systematic Analysis of Language Transcription* (SALT) during peer interaction (Miller & Chapman, 2000)?

Participants

The participants in this study were selected from two inclusive early childhood preschool programs at a professional development school in the Clark County School District (CCSD), Las Vegas, Nevada. The programs included Early Childhood Special Education (ECSE three to five year olds) and two Pre-K classes (four to five year olds). The Pre-K program registered 30-38 students from the surrounding urban community under the federally funded *Title 1 Grant for Early Intervention.* The ECSE program was

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designed for children 3-5 years old with disabilities, who qualify for an Individualized Education Plan (IEP) in special education. Nine students were enrolled in the ECSE program. Seven students were included in one Pre-K classroom (Classroom A) for a total of 24 students. Two students in ECSE were included in the second Pre-K classroom (Classroom B) for a total of 17 students. The students' ages ranged from 38-months to 58- months (see *Participant Criteria*, Table 1). The maximum ratio of students to adults was 8:1. The maximum ratio permitted of students with disabilities to students without disabilities was 1:2. Three teachers and three assistants planned instruction together for typical peers and students with disabilities. The teachers followed age appropriate practice addressing language skills for young children (Berliner, 1984; Christianson, Ysseldyke, & Thurlow, 1989) in combination with developmentally appropriate practices for early childhood (Bredekamp & Copple, 1997). Students with disabilities received all IEP services in the general education classroom setting.

Informed written consent was obtained from the legal guardian for each participant prior to the research study (see Appendix A). The participant demographic information is displayed in Table 1. The participants, ranging in age from 44- months to 58- months, included four students with disabilities recognized as having a language delay in their IEP, scores below the 25% rank on the *PLAI-2*, indicative of the percentage of normative scores occurring at or below a raw score. The four students with disabilities were English speaking physically able to articulate speech sounds and no speech impediment was present that could interfere with the study results. Students with disabilities were paired with four typical peers (students without disabilities) who scored at or above 50% ranking on the *PLAI-2*, English speaking, and without disability. Results of random

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assignment for tutoring dyads included (a) three students with disabilities and three typical peers from Classroom A and (b) one typical peer and one student with disabilities from Classroom B. Additionally, all participants were scored on classroom vocabulary from the *Trophies* (Harcourt, 2005) reading program (Appendix B). Students without disabilities (tutors) scored above 80% on the *Trophies* vocabulary check. Students with disabilities (tutees) scored below 60% on vocabulary.

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Table 1.

Demographics of Student Participants with and without Disabilities

Characteristics	Students with Disabilities (A, B, C, D)	Students without Disabilities (A1, B1, C1, D1)
Gender		
Male	1	2
Female	3	2
Total	4	4
Age in months		
Mean	45	53
Range	44- 49	48-58
Ethnicity		
Caucasian	2	3
African American	2	0
Asian Pacific Islander	0	1
Total	4	4
Disabilities		
Developmental Delay	2	0
Orthopedic Impairment	2	0
Total	4	0

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Characteristics	Students with Disabilities (A, B, C, D)	Students without Disabilities (A1, B1, C1, D1)
Qualifying percentile scores		
PLAI-2		
A, A1	.02	.92
B, B1	< .01	.50
C, C1	.02	>.99
D, D1	< .01	.97
Trophies		
A, A1	.50	.93
B, B1	.40	.90
C, C1	.33	.96
D, D1	.46	.93

Participant Criteria

Demographic information for students with and without disabilities is provided for all participants in this study (see above Table 1). In order for students with disabilities to participate in this study, the following qualifications were required:

1. Students were qualified as having at least one disability (e.g. developmental delay, speech and language disorder, mental retardation, orthopedic impairment, visual impairment, hearing impairment, deafness, deaf-blindness, traumatic brain injury, emotional disturbance, specific learning disability, autism, multiple impairments, or other health impairments) according to IDEA (1997) for evaluation and determination

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for special education services.

2. The student's Individualized Education Plan (IEP) identified from an initial, formal, evaluation that the child had a language delay and that the goals and objectives state a need for increasing vocabulary and encouraging verbal interaction with others.

3. The student was identified with English as the primary language spoken at home and at school.

4. The students with disabilities and language delay (age 44-49 months) scored below <25% on the percentile rank of the *PLAI-2* Discourse Ability Scale, measuring receptive and expressive language scales and scored <51 % on the classroom *Trophies* vocabulary check (see Table 1).

5. The four typical peers who participated in this study (age 48-58 months) participated in the same classroom activities for the day as the four students with disabilities and were selected as peer tutors based on the following: (a) their ability to speak English, (b) test scores above > 50% on the Discourse Ability Scale of the *PLAI-2*, and (c) a score >80% on the classroom *Trophies* vocabulary check (Table 1).

Typical peers were assigned to students with disabilities, randomly, by placing four red name cards (students with disabilities) and four blue name cards (typical peers) into a container and having one adult from the training draw the choices for each dyad. Teachers and assistants reviewed the four dyads and agreed upon the selection as appropriate matches for ability and personality.

Participants were observed and videotaped for the purpose of collecting and analyzing data from each session. Data were collected using a frequency count sheet (Appendix C) of correct response to new vocabulary words from students with disabilities (tutee) and the

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four steps implemented by students without disabilities (tutor) during intervention.

Teachers and Assistants

Two preschool teachers and three teacher assistants participated in this study. Prior to the study, the teachers and assistants received two, one- hour training sessions on the peer tutoring process and data collection. Teachers and assistants signed an informed consent to participate in the study (see Appendix D). One teacher had a Bachelor's Degree and was certified in early childhood by the State of Nevada, with one year of teaching experience in early childhood. The other teacher had a Master's Degree in Special Education with seven years of teaching experience.

The three teacher assistants each had a minimum of 55 college credits, an Associate Degree, or Bachelor's Degree from an accredited college. Two assistants had experience working with children from diverse backgrounds and children with disabilities. Complete demographics for the adult participants are provided in Table 2.

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Table 2.

Demographics of Preschool Teachers and Assistants

Classroom A		
Characteristics	Teacher	Assistants
Gender	Female	Female, Female
Age	39	37, 40
Ethnicity	Caucasian	Hispanic, African American
Education/ Degree	Masters of Science	55 credits, Associate of Arts
Years Teaching	7	7, 2

Classroom B		
Characteristics	Teacher	Assistants
Gender	Female	Female
Age	25	24
Ethnicity	Hispanic	Hispanic
Degree	Bachelor of Science	Bachelor of Arts
Years Teaching	2	1

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Researcher

The researcher for this study served as the teacher trainer and peer tutor trainer for the students in the intervention group. The researcher had 25 years of teaching experience with children birth to eight years of age, with and without disabilities. The researcher had a Master's Degree in Elementary Education, Endorsement in Early Childhood, and was enrolled in a Special Education doctoral program with an emphasis in Early Childhood and Mental Retardation at the University of Nevada, Las Vegas. The researcher taught in the ECSE/Title 1 Pre-K inclusion program at the school. For the purpose of this study the researcher provided direct training for two teachers, three assistants, and the eight student participants for the peer tutoring sessions. The researcher monitored, recorded and collected data during this study.

Interrater Observer

In order to check reliability of data collection, one doctoral student in Special Education was trained as an interrater observer for the purpose of the study, operation of the video camera, and the scoring of the frequency count for the tutee's response and tutor's steps for intervention. Data were checked for reliability between the researcher and the observer over 25% of the intervention sessions. The observers achieved 90% accuracy agreement ([Agreements / agreements + disagreements] X 100= percent of agreement).

Setting

The study was conducted in two early childhood classrooms at Paradise Professional Development School on the University of Nevada, Las Vegas (UNLV) campus. The inclusive early childhood classrooms included Early Childhood Special Education (ECSE)

with Title 1 Pre-K. The public elementary school enrolled students from early childhood through fifth grade. It is one of two professional development public schools that coordinate academic programs, teacher training, and community related projects with UNLV and is one of 198 elementary schools in the Clark County School District. The school is located in an urban, low socioeconomic, and culturally diverse area. The student population is 619 students for 2006-2007 school year. School demographics are provided in Table 3. Current school year demographics had not been published as of this study date. Demographics from 2004-2005 school year were compared to those from 2005-2006. Due to school zone change for the current year 2006-2007, the 2004-2005 school year demographics were considered more comparable to the current school year population.

The study was conducted in two preschool classrooms at Paradise Professional Development School. Classrooms A and B contained students who ranged in age from 38 months to 60 months. The ratio of students to adults was 8:1. Classroom A had seven students with disabilities and 17 typical peers. The second class (Classroom B) had two children with disabilities and 15 typical peers.

The Professional Development School concept considers Professional Learning Communities (PLC) and structured teaching planning time as an important consideration when planning, implementing, and assessing instructional strategies. Professional Learning Communities meet within grade levels to coordinate lessons and evaluate outcomes related to individual students and the grade level as a whole. The Early Childhood Department PLC was updated weekly on the progress of this study.

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Table 3.

School Demographics

Students	Enrollment	Percent	Average Daily
Attendance			
Total	599	100.0%	93.9%
Male	321	53.6%	NA
Female	278	46.4%	NA
Ethnicity			
American Indian/Alaskan	2	0.3%	91.9%
Asian Pacific	59	9.8%	93.4%
Hispanic	334	55.8%	94.3%
Black/African American	86	14.4%	93.4%
White/ Caucasian	118	19.7%	93.5%
IEP	65	10.9%	91.9%
LEP	278	46.4%	94.6%
FRL	599	100.0%	93.9%

Note. IEP = Individual Education Plan for students with disabilities; LEP= Limited English Proficient students; FRL= Free/Reduced Lunch program; NA = Non- applicable population in report.

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Instrumentation

The *Preschool Language Assessment Instrument,* (PLAI-2) (Blank, Rose, & Berlin, 2003) was administered to eight English speaking students (four students with disabilities and four students without disabilities) in order to obtain an initial placement score. The *PLAI-2* is a standardized instrument that measures expressive and receptive language abilities and is useful in determining vocabulary strengths and weaknesses in classroom discourse. Classroom discourse involves the verbal exchanges and communication patterns associated with the classroom activities. The receptive mode of the test can be administered independently, allowing for appropriate testing children who have limited expressive language (Blank et al.).

The *PLAI-2* is designed to minimize bias and differences among racial, cultural, and ethnic groups (Blank et al., 2003). Comparisons, totaling 210, between three groups: (a) male versus female, (b) African American versus non-African American, and Hispanic American versus non-Hispanic American, in addition to a logistic regression procedure applied to the PLAI-2 items demonstrated a non-bias in regard to race, gender, and ethnicity (Blank, et al). The total normative sample characteristics are the same as the U.S. population reported in the *Statistical Abstract of the United States* (U.S. Bureau of the Census, 1999) and includes factors related to: socioeconomic status, disability, gender, and race (Blank, et al.).

A summary of reliability for the *PLAI-2* (Appendix E) using Cronbach's co-efficient alpha method demonstrated how item responses correlated with one another at three age intervals. Results demonstrated an acceptable .80 and above for Receptive and Expressive subtests and Discourse Ability (Blank et al., 2003).

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Anastasi & Urbina (1997) relate that the validity of the instrument is determined by content-description (covering a representative sample of what is to be measured), criterion-prediction (how effective a test is in predicting performance in specific areas), and construct-identification (extent a theory or trait is measured). The *PLAI-2* describes the content through a rationale for test design and the results of an item analysis for the items used. A differential item functioning analysis confirmed the validity of the test and demonstrated the absence of bias in test items (Blank, et al., 2003). The item-total- score Pearson Correlation index was used to select test items. Item discrimination is "the degree to which an item differentiates correctly among test takers in the behavior that the test is designed to measure" (Anastasi & Urbina, 1997, p. 179). Acceptable percentage score of test items is .20 and above (Anastasi & Urbina) (Appendix E). Item difficulty (determines easy to difficult items and places them in order) were reviewed and determined within an acceptable range between 15% and 85%.

Criterion-prediction validity was conducted with a correlation between the standard scores of the *PLAI-2* and the *Test of Early Language Development- Third edition* (TELD-3; Hresko, Reid, & Hammill, 1999). Both instruments measure expressive, receptive, and discourse language in young children 3-5 years old. The high correlations (greater than .80) between the standard scores of the two instruments demonstrate validity of the PLAI-2 (Blank, et. al, 2003).

A vocabulary frequency count data sheet (Appendix C), was used to analyze the videotaped vocabulary sessions during intervention and across an additional classroom center. A positive or negative count was recorded when the tutor used the peer tutoring steps during intervention and when the tutee expressed a new vocabulary word. An

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additional frequency count sheet of vocabulary was recorded in order to measure if the tutee (student with disability) used the new word across an additional classroom setting. The recorded information evaluated whether specific oral vocabulary was acquired and then maintained due to the peer tutoring intervention. The researcher and doctoral student collected data simultaneously over 25% of the sessions in order to check for interobserver agreement of new oral vocabulary and implementation of peer tutoring steps.

The *Systematic Analysis of Language Transcription* (SALT) (Miller & Chapman, 2000) was used to analyze the recorded transcriptions of conversation on videotape that occurred between students with disabilities and typical peers during sessions 22 to 24 (independent choice center). The researcher viewed videotapes and recorded transcriptions which were entered into the SALT and coded as Number of Different Words (NDW) spoken in the language sample.

Materials

The training materials used in this study were adapted from *Peer Tutoring: Implementing Classwide Programs in the Primary Grades* (Cooke, Heron, & Heward, 1983). The text provided specific peer tutoring steps that could be adapted for young students: (a) prompting, (b) testing, (c) charting, and (d) praising (Appendix F). The steps were practiced during all training sessions for adults and children.

A tutor folder (Appendix G) for each student contained three vocabulary cards, matching pictures or classroom play items related to the words (e.g. spoon), scoring game card, and a sticker praising chart with student name. Teacher-made vocabulary cards with pictures and words specific to the student's vocabulary level based on the *PLAI-2* results

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and the Pre-K *Trophies* (Harcourt, 2005) reading program were used during the intervention sessions (Appendix H). Vocabulary cards had a teacher recorded audio strip of the word. The Califone Card Reader (Moffitt Audio Visual, 2006) scanning machine and vocabulary cards were used as a student check for verbal accuracy. A *SONY* video tape player was used to record baseline, tutoring, and maintenance sessions of oral vocabulary in the vocabulary center and across an additional classroom center over a six week period. A timer was used to signal a five minute recording maintenance session. Frequency recording charts on clipboards were prepared for use during the study. A training manual (Appendix I) for the adults and 11"X 18" chart paper displaying the four peer tutoring steps were implemented across training sessions. A basket containing items that matched the vocabulary words was placed in the application center for peer tutoring intervention session.

Training

Two teachers, three teacher assistants, four students with disabilities, and four students without disabilities were trained for this study. The peer tutoring steps were reviewed and implemented after tutoring practice time that included specific instructions for students and age appropriate materials (e.g. folder, crayons, star chart) for scoring (Cooke et al., 1983). Students in each classroom, who were not participants in the study, had the opportunity to participate in the same vocabulary learning center activity after the four tutoring dyads each day.

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Adult Training

The consent for adult training on the rationale and steps of peer tutoring were collected from the teachers and teacher assistants prior to training. Training was provided in the classroom setting for two sessions. In the first session, two teachers and three assistants received one hour of training on: (a) the research and rationale for peer tutoring with young students in inclusive classrooms, (b) the teacher's role during intervention, and (c) the specific steps for successfully implementing peer tutors for vocabulary practice (Cooke, et al., 1983). Teachers and assistants received and reviewed the manual that included: (a) research articles on peer tutoring, (b) rationale for use of peer tutors in early childhood, and (c) the teacher and student roles in peer tutoring.

In the second one hour session, specific examples of peer tutoring steps for young students were outlined and visually presented by the researcher. The role of the adult in the peer tutoring intervention was to: (a) reward children for their efforts of staying on task, (b) monitor the vocabulary center and equipment, and (c) remediate errors in procedures of the peer tutoring steps. The adults received training on the specific steps that the student tutor followed when prompting the new word, testing for accuracy, charting progress, and praising the tutee for a job well done (Cooke, et al., 1983). Adults participated in a practice session of prompting for vocabulary that required the tutor to: (a) show the word, (b) scan the word through a Califone Card Reader and repeat the vocabulary word for the tutee, (c) ask the tutee to say the word, and (d) offer encouragement to "try again" when incorrect, or praise "good talking" when correct. After a five minute practice session, the tutor and tutee exchanged roles and continued for another five minutes of practice.

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Next, adults practiced the tutor and tutee roles of testing for accuracy. Cards from the front pocket of the folder were moved through the Califone Card Reader by the tutor. The tutor repeated the word and told the tutee that it was his or her turn. If the tutee pronounced the word, then the card was placed in the pocket with a checkmark. If the word was not said after a prompt, then the card was placed in the X pocket. The word needed to be spoken loud enough in order to be heard by the tutor.

Finally, practice in charting the tutee's progress was conducted after meeting the criterion of two consecutive sessions of three correct vocabulary responses. When a word was orally repeated and heard by the tutor three times, it was placed in a "STOP" pocket of the folder. When tutors counted three STOP cards, tutees colored in a star to show that three words were learned and spoken during intervention. New vocabulary word cards were added by the researcher to the "GO" pocket, as needed.

Praise, in the form of "good talking" was spoken by the tutor to the tutee each time a word was repeated after the Califone Card Reader. Adults were reminded to reward children in the class who participated in the vocabulary center with a daily sticker. Additionally, the adults planned a family breakfast celebration at the end of the study for the classes.

The second hour of training involved the random assignment of students with disabilities to four typical peers in order to create four dyads for peer tutoring. One adult practice session of the four tutoring steps: prompting, testing, charting, and praising was conducted. A question and answer session followed at the end of the adult training for further clarification of the study components.

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Student Training

Student training was conducted separately, in four 15 minute sessions (one session after school), and included 30 minutes of practice time during daily learning center activities one week prior to intervention. Four students with disabilities and four students without disabilities, who qualified under the participant guidelines, were randomly assigned as dyads prior to training through a color card random choice of pairs. Participants were trained to use reciprocal, peer tutoring during a language vocabulary center in the classroom. Reciprocal, peer tutoring, for the purpose of this study, involved a session where each student served as a peer tutor and as a tutee while implementing age appropriate steps that required minimal training (Cooke et al, 1983). The student training was divided into four phases (see Table 4) and implemented after a baseline oral vocabulary score was completed for students with and without disabilities.

Phase I. The researcher introduced Phase I (15 minutes) by discussing how students learn by working and playing together. After a five minute introduction and discussion about helping each other, the researcher displayed and explained the steps for peer tutoring (see Appendix F). Associating a simple word to match each step that is age appropriate and understandable was reviewed. The review of the students' four steps was displayed on 11" X 18" cards as follows: (a) prompting (helping), (b) testing (checking), (c) charting (coloring), and (d) praising (good talking). The researcher explained the 11" X 18" cards of each step and posted them in the classroom at the language center. The student participants reviewed the cards during each phase of training.

Phase II. During the second phase of 15 minutes, the purpose of peer tutoring was explained as well as the expectation that new words would be learned by all students.

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Picture cards of peer tutors in the different steps were used to promote discussion and questions. There was a review and demonstration of the sample tutoring folders (e.g. set of three vocabulary cards with picture, two scoring pockets (X and √), score sheet, praise chart, crayons) and the Califone Card Reader equipment. The students practiced moving cards accurately through the equipment and repeating the word. Tutors were assigned individual vocabulary words that were new and appropriate to their level.

Phase III. The third phase of 15 minutes focused on introducing the picture to match the four steps of peer tutoring: prompting (helping), testing (checking), charting (coloring), and praising (good talking!) The four steps were modeled using a teacher or assistant as a peer and the 11" X 18" cards as a visual representation of each step during the demonstration. Correct and incorrect modeling pictures were demonstrated while presenting questions to students. For example: "What's wrong with this practice picture?" The adults modeled a typical peer session and allowed time for students to practice with an adult during the four step session. Students practiced the tutor and tutee role with their assigned partner using sample folders and words for 10 minutes. Teachers monitored and corrected students during the implementation of steps during Phase III. Students' comprehension of the steps was checked through a final practice session where the researcher observed the dyads and gave a score of 1-4 for readiness (1= low, 4=high). The four designated tutors (A1, B1, C1, and D,1) implemented the steps correctly and received a score of four. Tutees (A, B, C, and D) were not scored on implementing the steps correctly in reciprocal tutoring practice. However, tutees were considered ready to begin when they were observed as attentive, engaged, and able to operate the Califone Card Reader equipment.

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Phase IV. All participants practiced operating the equipment and checked folders for

10 minutes daily during learning center activities for the following three days after

training. The researcher monitored the vocabulary center during the practice sessions.

Table 4.

Student Training Sessions

Phases	Adult Role	Student Role
I.	Introduction and picture cards of four steps	Re-telling names of four steps
II.	Purpose and tutoring folders	Explore tutoring folders
III.	Model steps, Monitor practice, correction	Matching pictures, practice
IV.	Monitor	Practice for 10 minutes

Interrater Observer Training

The observer in this study was a doctoral student in education who was familiar with

early childhood, the purpose of this study, and the process for the frequency count of

observable vocabulary use and peer tutoring steps. A question and answer session was

conducted for the observer prior to coding any video recording sessions of peer tutoring.

The observer and trainer reviewed three correct sessions of peer tutoring and three

incorrect sessions of peer tutoring as a practice drill for collecting sample of

positive/negative data on the use of peer tutoring to increase vocabulary. The observer

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achieved at least 90% accuracy ([Agreements/ agreements + disagreements] x 100=

percent of agreement) comparing frequency counts with the trainer before compiling data

on the actual intervention.

Tutoring Sessions

The students in the class were verbally prompted daily by the teacher to visit the

vocabulary center during the one hour center activity time over 24 sessions. Students

visited the vocabulary center at least one time during the four day school week. Students,

who were not trained participants, engaged individually or in pairs at the center.

Participant tutoring sessions were defined as the tutor and the tutee sitting together at

the vocabulary center located in a quiet corner of the classroom with individual tutoring

folders and practicing the new vocabulary words for oral language response. All tutoring

dyads completed the assigned list of new vocabulary within the six week period using the

Califone Card Reader audio equipment with vocabulary cards that displayed the word

with a picture and audio strip. Vocabulary responses from four students with disabilities

and the implementation of the peer tutoring steps from typical peers were collected on

videotape. Peer tutoring folders (with individualized vocabulary cards) were assigned to

each participant and the peer tutoring steps were initiated by the tutor: (prompting)

helping, testing (checking), charting (coloring), and praising (hooray). Steps were

repeated for reciprocal tutoring by the tutee during each session.

After completing the vocabulary center, the tutor and tutee moved to an application

center where a second peer tutoring session occurred. Peer tutoring at the application

center involved the tutor (student without disability) choosing up to 20 objects from a

basket matching the vocabulary list and asking the tutee (student with disability) to

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verbally identify the object (e.g. "What's this?"). The purpose of the application center was to investigate whether the tutee could verbally identify the objects with the tutor prompt and without the assistance of the equipment or vocabulary cards with picture match. All objects at this center matched the vocabulary words presented during the vocabulary center. Two application centers for each dyad were video-taped for accuracy of tutee response and checked off the vocabulary list by the researcher (Appendix H). After the tutoring session was complete at the vocabulary center and application center, the tutee and tutor chose a different classroom learning center together or independently. For example, the tutor and tutee chose the housekeeping center where items related to the vocabulary words were visibly present. The researcher observed and videotaped verbal responses that were generalized to the new center. Verbal responses between the four students with disabilities and their classmates or their teacher were transcribed by SALT in sessions 23 and 24 at the end of the study.

Design and Procedures

All student training sessions were implemented as four, 15 minute sessions during the week prior to the scheduled intervention phase. Students were assigned as tutor or tutee participants based on the *PLAI-2* scores, *Trophies* (Harcourt, 2005) vocabulary score, and the IEP for students with disabilities. Additionally, four dyads (A, B, C, and D) were randomly assigned after scores were established. Students from the Pre-K classrooms, who were non- participants, engaged in the vocabulary center activity with no formal training in peer tutoring at least one time each week for six weeks.

All eight participants in the study rotated through a daily 10 minute (maximum) vocabulary activity center for an individual total of 40 minutes (maximum) per week for six weeks. An audio/ visual (Califone Card Reader) recording device was used to pronounce the new word while displaying the picture and word as the card slid through the equipment. The Califone Card Reader provided correct word identification and pronunciation of vocabulary prior to the tutor and tutee response.

This six week study required five phases of implementation: (a) baseline, (b) pre-testing, (c) intervention, (d) maintenance, and (e) post-testing. The study included four students with disabilities and language delay and four typical peers. Consent forms for each participant were collected prior to implementing the first phase. Eight students (four students with disabilities and four students without disabilities) were randomly assigned to peer tutoring intervention dyads after pre-testing. A single subject, multiple baseline design across four participants (Barlow & Hersen, 1984) was implemented in order to evaluate the effects of peer tutoring on oral vocabulary development for students with disabilities. The dependent variable for this design was the number (frequency) of correct vocabulary responses given orally when peer tutoring (independent variable) was provided. Additional information on students with disabilities was compiled using a comparison of pretest/ posttest scores on language ability from the *PLAI-2* and the *Trophies* vocabulary word list. A frequency count of the peer tutoring steps initiated by the tutor was collected during the vocabulary center (Phase I).

Baseline Phase

Baseline data of 30 picture card vocabulary words (Appendix H) randomly selected from the *PLAI-2* and matched to the *Trophies* vocabulary list for Pre-K were collected on

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three separate occasions for the four students with disabilities after formal consent was signed and returned. The selected vocabulary for baseline included words students are expected to speak naturally in center activities at school (e.g. crayon, fork, plate, scissors). Students with disabilities were asked to look at 30 vocabulary cards with a picture and the matching word. When asked: "What's this?" by a student without disabilities, the student responded or did not respond. Data collected for baseline was recorded as stable and presented reliable information that the student performance was accurate without an intervention (Neuman & McCormick, 1995). Additionally, the researcher observed students with disabilities during two classroom learning centers on two separate occasions for 10 minutes and collected a count of words spoken and exchanged during each center (Table 5). Students with disabilities who remained in baseline during the multiple baseline phase of the study continued to score a limited count of oral vocabulary during the session.

Pre-testing Phase

The *Preschool Language Assessment Instrument* (PLAI-2) was administered individually as a pretest for vocabulary and language development to eight English speaking students in Early Childhood. The standardized assessment measures the receptive and expressive vocabulary levels of preschool children. Following the results of the *PLAI-2* and the *Trophies* vocabulary check, students with disabilities were assigned as tutees (A, B, C, and D) based on their IEP goal to improve oral language, *PLAI-2* scores, *Trophies* vocabulary scores, and two 10 minute oral language observation when participating in learning centers with typical peers (Appendix J). The oral language observation for students with disabilities was rated as high (>20), medium (> 10), or low

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(>0) for number of words spoken during that time (Table 5). Students without disabilities were assigned by their teachers as tutors (A1, B1, C1, D1) for the study. Four peer tutoring dyads were randomly assigned through matching color cards for typical peers and students with disabilities. Dyads were assigned as the following: A and A1, B and B1, C and C1, D and D1.

Non- participants in the class were encouraged to visit the vocabulary center to practice 30 new vocabulary cards that were not included in the study. Separate vocabulary was used for non-participants in order to maintain the procedural fidelity of students with disabilities learning new vocabulary as a result of peer tutoring sessions.

Table 5.

Oral Language Observation: Number of words spoken by students with disabilities

Student	Observation #1	Observation #2
A	10	8
B	7	9
C	4	5
D	6	7
Descriptive Score	low	low

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Intervention Phase

   The researcher implemented a multiple baseline across subjects design examining the impact of peer tutoring on vocabulary response. The 10 minute intervention of peer tutoring was applied to one student (A) with a disability following baseline and pre-testing phases. The other three children with disabilities (students B, C, & D) remained in baseline until three new vocabulary cards were mastered for two consecutive days by student A and the peer tutor (student A1). Student B and peer tutor (student B1) began intervention after Student A gained three new words. The same conditions applied to the next two student dyads. Participants were videotaped during intervention. The intervention was divided into two phases and included a vocabulary center (Phase I) and an application center (Phase II).

   Phase I. Intervention sessions began with the tutor and tutee finding his or her assigned tutoring folder for the vocabulary center and sitting together at the center. The tutoring steps were posted with a picture in order to guide the tutor through the steps: (a) prompting, (helping), testing (checking), charting (coloring), and praising (good talking!) Vocabulary cards for the session were visibly placed in the front "Go" pocket for quick accessibility. Tutors took the first card and slid it through the Califone Card Reader audio strip. Tutors repeated the vocabulary word and initiated a tutee response by saying: "Your turn" (prompting step). The tutee would independently, or with tutor assistance, slide the card, listen to the word, and repeat the word. If the tutee responded correctly the tutor said: "Good talking" If the tutee did not reply or incorrectly repeated the word, the tutor said: "Try again. Following two consecutive incorrect attempts, the tutor replied:

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"That's O.K." Cards were placed in the checkmark pocket if repeated correctly. Cards were placed in the X pocket if repeated incorrectly (checking step). After three words were repeated correctly in two consecutive sessions, the tutor placed the cards into the "Stop" pocket. The tutee was directed by the tutor to color in a star on the scoring chart (coloring step). Tutors were reminded to say: "good talking" as positive praise for any correct response throughout the session (praising step). A frequency count of words repeated correctly by students with disabilities was recorded after reviewing the daily videotaped sessions. New vocabulary words were assigned and placed into the "Go" pocket.

Tutors and tutees exchanged roles for the reciprocal session each time. Tutors were assigned higher level vocabulary cards for each session. No specific data on word frequency were collected on the reciprocal sessions with the students without disabilities at the vocabulary center. Tutors followed the same charting practice of coloring in a star for completing three new cards. Tutees followed the tutoring steps in the reciprocal tutoring sessions. However, no data was collected on the accuracy of tutees following the tutoring steps during intervention. Peer tutoring sessions for Phase 1 occurred over six consecutive school weeks during morning center activities. Peer tutors and tutees remained in the same dyad throughout the intervention phase. Interobserver agreement was initiated and established during Phase I.

Phase II. Following the vocabulary center sessions needed for completing the assigned words, the tutor and tutee moved to an application center where items matching the words from the vocabulary cards were placed in a basket. Audio cards for the Califone Card Reader were not included at this center. The tutor picked one item at a

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time from the basket, presented it to the tutee, and asked the tutee: "What's this?" If the tutee responded correctly, the tutor praised the tutee by saying: "Good talking" and placed the item back into the basket. If an incorrect response was heard, the tutor replied: "That's O.K." and the item remained on the table or floor. The application center sessions were videotaped and the researcher counted the basket items at the end of each session. Interobserver agreement was established during Phase II on two application sessions (5, 10) during intervention.

Maintenance Phase

In order to determine the effects of peer tutoring on new vocabulary development, a maintenance phase was conducted with videotape and a frequency check of new vocabulary used by students with disabilities across two independent, choice centers for 15 minutes. Observing students in a different center using vocabulary to identify items supported answering the research question: Do peer tutoring sessions maintain use of learned vocabulary by students with language delay in an independent classroom center? Additionally, the amount of verbal exchanges with typical peers was recorded in order to substantiate the use of new words.

Posttest Phase

In addition to the multiple baseline results, students with disabilities received the *PLAI-2* posttest and a final *Trophies* vocabulary check at the end of the six weeks in order to support findings from the multiple baseline study when answering the research question: Do peer tutoring sessions in early childhood inclusive settings increase oral language vocabulary in students with disabilities who have language delay?

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Data Analysis

Interobserver reliability was conducted by the observer and the trainer on comparisons of the frequency counts from videotape recordings and the observation frequency count checklists of vocabulary use. Interobserver reliability on the frequency counts was calculated by [agreements/(agreements + disagreements)] x 100= percent of agreement achieving 95.5% accuracy. Data were analyzed in order to determine the effects of peer tutoring on vocabulary development and answer the proposed research questions for this study:

1. Do peer tutoring sessions in early childhood inclusive settings increase oral vocabulary in students with disabilities who have language delay, as measured by a single subject, multiple baseline, across subjects design in a vocabulary center and by the pre-test, posttest of the *Preschool Language Assessment Instrument (PLAI-2)?*

2. Do peer tutoring sessions generalize the use of learned vocabulary for students with disabilities in an application center where students verbally identify objects that match the new words, as measured by a frequency count of new vocabulary from videotaped recordings?

3. Does a balanced model of peer tutoring maintain new vocabulary use between the tutee and typical peers in an independent choice center following the tutoring sessions, as measured by the *Systematic Analysis of Language Transcription* (SALT) (Miller & Chapman, 2000) during interaction?

Participants completed a student survey (Appendix K) that included the likes and dislikes of student participation. Adults completed a separate satisfaction survey

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(Appendix L) on implementing peer tutors. The adult survey addressed the interest in peer tutoring and the feasibility of implementing further study. Individual conferences were held with parents of student participants informing them of the study results and providing recommendations for initiating a peer tutoring approach for oral language development at home.

CHAPTER 4

RESULTS

The purpose of this study was to examine the effects of peer tutoring on the number

of correct vocabulary responses for students with disabilities, who have a language delay,

in early childhood inclusive classrooms. Thirty vocabulary words combined from the

Preschool Language Assessment Instrument (PLAI-2) (Blank, Rose, & Berlin, 2003) and

the *Trophies* (Harcourt, 2005) reading program were selected as the target word list for

the study (Appendix H).

The *PLAI-2* pretest and the *Trophies* vocabulary check were administered in order to

determine qualifying scores for participation in this study. Data were collected on four

students with disabilities during baseline, vocabulary and application intervention, and

independent centers in the classroom. A multiple baseline across participants with

disabilities was used to evaluate baseline, intervention, and independence during this

study. The *Systematic Analysis of Language Transcription* (SALT) was used to check

and validate vocabulary during the independent maintenance session. Eight students (four

students with disabilities and four students without disabilities) participated in a total of

24 sessions after completing one hour of training and 30 minutes of practice using the

audio equipment in the vocabulary center. Data were collected (using a frequency count

sheet) on the peer tutoring steps. The tutor implemented four steps during the vocabulary

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intervention center (Phase I). No other additional data were collected for peer tutors in this study.

Vocabulary responses of students with disabilities were observed and videotaped during baseline, intervention, two of the application sessions, and two of the independent center activities (e.g. dress-up, house, farm, cars, and computers). Verbal responses of students with disabilities were videotaped and recorded using a frequency count during peer tutoring at the vocabulary center (Phase I). An additional vocabulary frequency count of the designated words from Phase I was videotaped and collected in two of the application centers (Phase II) for each dyad. Application center data were collected during the fifth and tenth intervention session for each dyad. The purpose of the application center was to determine an authentic vocabulary response from the tutee without the following support: (a) visual prompt of the picture card, (b) audio prompt of the word card by the Language Master, and (c) tutor modeling the oral response. The tutor showed the tutee toy objects from the classroom center activities that matched the learned vocabulary from Phase I and waited for a response by silently counting five fingers.

During the independent maintenance phase, vocabulary responses and interaction between the tutee and another classmate were recorded at centers using the *Systematic Analysis of Language Transcription* (SALT). Conversations between students with disabilities and typical peers were observed and videotaped for the purpose of measuring expressive vocabulary and any learned vocabulary from peer tutoring. The purpose of recording two, 15 minute sessions for each dyad was to determine if peer tutoring

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supported the acquisition and maintenance of new vocabulary use away from the vocabulary center.

The *PLAI-2* posttest was administered to students with disabilities at the end of six weeks in order to assess gains by tutees in vocabulary words. Receptive and expressive measures were obtained and then combined to produce a language discourse ability score that was compared to the *PLAI-2* pretest score.

Students with and without disabilities completed a peer tutoring survey of five questions, answering yes, no, or I don't know as a response to their experiences during the study (e.g. liking peer tutoring, learning new words, learning the steps). Two teachers and three teacher assistants also completed a separate adult survey (Likert scale 0-5) related to ease of implementing the intervention, time involved, and interest to initiate future peer tutoring.

Inter-observer Reliability

Vocabulary responses of students with disabilities and the peer tutoring steps of students without disabilities were videotaped during intervention and reviewed by two observers in order to check for scoring accuracy. Both observers were doctoral students in special education. Observer A was the researcher for this study and observer B was recruited as an inter-observer to check for data reliability across 25% of the intervention sessions. Both observers performed frequency counts of vocabulary responses from the tutee and the completion of the four tutoring steps from the tutor. Sessions were videotaped, viewed, and independently scored by observer A and observer B. The inter-observer reliability for vocabulary responses from the tutee during intervention (Phase I

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and Phase II) was computed by using the formula: [agreement / (agreement+

disagreements)] X 100 = percent of agreement]. Results of inter-observer reliability for

vocabulary response in this study overall was (M = 95.5%, range = 88-100%). Reliability

scores were calculated individually and presented in Table 6.

Table 6.

Interobserver Reliability for Vocabulary Responses

Condition	Percentage of Total Sessions	Students with Disabilities				Mean
		A	B	C	D	
Phase I (Vocabulary Center)	α (6/24) 25.0	95.5	88.0	100.0	91.5	93.8
Phase II (Application Center)	(6/24) 25.0	100	100	88.9	100	97.2
Grand Mean	(12/48) 25.0	97.8	94.0	94.5	95.8	95.5

Note. α Numbers in parentheses of Interobserver Agreement (IOA) sessions show a ratio of total sessions within the condition.

The peer tutoring steps (prompting, testing, charting, and praising) conducted during

Phase I of intervention were scored by both observers and rated for inter-observer

reliability (Table 7). Overall inter-observer agreement for the implementation accuracy of

peer tutoring steps by the typical peer tutor was 92.8%.

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Table 7.

Interobserver Reliability for Peer Tutoring Steps

Condition	Percentage of Total Sessions	Students (Tutors)				Mean
		A1	B1	C1	D1	
Phase I Steps (Vocabulary Center)	α (6/24)	100	87.1	94.1	90	92.8

Note. α Numbers in parentheses of Interobserver Agreement (IOA) sessions show a ratio of total sessions within the condition.

Preschool Language Assessment Instrument (PLAI-2)

The *PLAI-2* (Blank, Rose, & Berlin, 2003) was conducted as a pretest in this study in order to establish language ability levels for preschool students and support eligibility as a participant for this study. Additionally, vocabulary used in the *PLAI-2* was included in the list of vocabulary words for intervention. The *PLAI-2* posttest was conducted only on students with disabilities in order to answer the following question:

1. Do peer tutoring sessions in early childhood inclusive settings increase oral

    vocabulary in students with disabilities (A, B, C, D) who have language delay?

    A summary of the conditions and student performance on pretest and posttest is

    presented in Table 8.

Table 8.

Preschool Language Assessment Instrument (PLAI-2) Pretest/Posttest Scores

Students with disabilities	Condition: P- Pretest Po- Posttest	Scaled score: P/Po	Percentage rank P/Po	Descriptive rating P/Po
Tutee				
A	P/ Po	10/ 25	.02/.84	Poor/ above average
B	P/ Po	7/ 14	.01/.16	Very poor/ below average
C	P/ Po	10/ 14	<.02/.14	Poor/ below average
D	P/ Po	8/ 18	<.01/.35	Very poor/average

Students without disabilities	Condition: P= Pretest only	Scaled score: P	Percentage rank P	Descriptive rating P
Tutor				
A1	Pretest	27	.92	Superior
B1	Pretest	21	.58	Average
C1	Pretest	33	>.99	Very superior
D1	Pretest	29	.97	Superior

Results of a paired samples *t* test on pretest and posttest scores demonstrated a statistically significant difference between pretest and posttest with a two tailed *p* value of 0.0312 (t= 3.837, df =3) with a mean of -9.00 at the 95% confidence interval of the difference: (-16.46 to -1.54). A summary of the results is presented in Table 9.

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Table 9.

Paired Samples Test- Paired Differences: (n=4)

Condition	Mean	Standard deviation	Standard error mean	*t*
1 Pair				
Pretest – Posttest	-9.000	4.690	2.34521	3.837

It was predicted that students with disabilities would improve *PLAI-2* scores if specific vocabulary used in measuring receptive and expressive levels was introduced during peer tutoring sessions. Four students with disabilities improved at posttest across descriptive score ranges that increased and included: (a) poor to above average, (b) very poor to below average, (c) poor to below average, and (d) very poor to average.

Multiple Baseline Across Participants

A multiple baseline design using replication was used to demonstrate a relationship between the independent and dependent variables in this study (Kazdin, 1984) and answer the research questions:

1. Do peer tutoring sessions in early childhood inclusive settings increase oral vocabulary in students with disabilities who have language delay, as measured by a single subject, multiple baseline, across subjects design in a vocabulary center.

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2. Do peer tutoring sessions generalize the use of learned vocabulary for students with disabilities in an application center where students verbally identify objects that match the new words, as measured by a frequency count of new vocabulary from videotaped recordings?

Recognizing individual variation over time was an important consideration when choosing the multiple baseline design. Interobserver agreement on each participant was used to control the threat of instrumentation to the internal validity of the study. The research study was implemented over 24 sessions and repeated measures across participants were concurrently evaluated. The baseline continued until the intervention phase of peer tutoring was introduced as the independent variable. Intervention occurred for sequential dyads after three correct vocabulary responses by the tutee from the previous dyad session. The dependent variable for this study was the number of new vocabulary learned during peer tutoring intervention. Two separate scorings were taken from videotaped recordings during application (Phase II) from students with disabilities. Visual inspection of the multiple baselines across the four participants indicates that a relationship existed between intervention and the dependent variable (see Figure 1). The relationship was replicated and verified across participants without interfering with participants who remained in baseline.
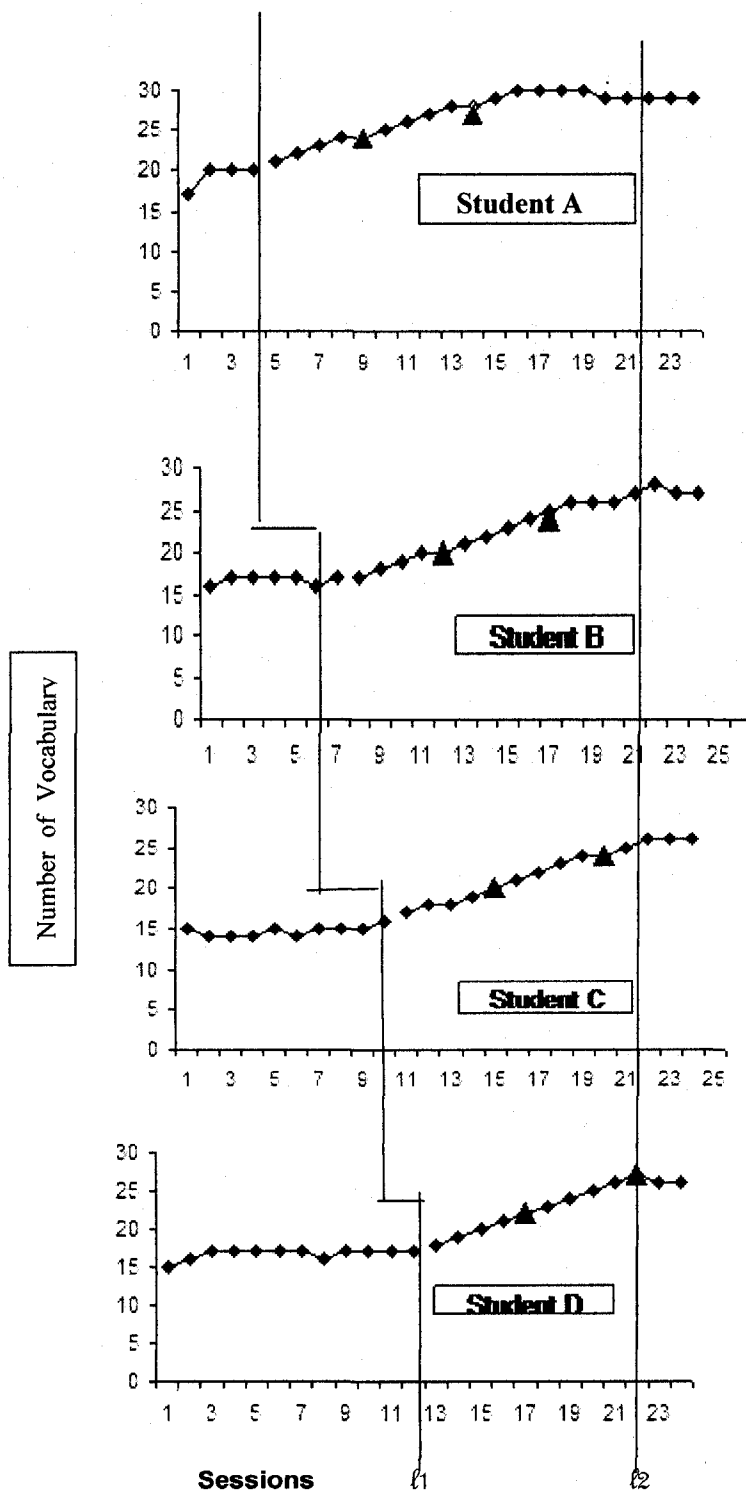
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Figure 1. Multiple Baseline Across Participants for New Vocabulary

ℓ1 Baseline　▲ Application　ℓ2 Independent

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Experimental conditions were manipulated three times: baseline (ℓ 1), intervention, and independent (ℓ 2) for each participant (N=4), totaling 12 study conditions. Effects were analyzed by visually inspecting each condition on the graph (Parsonson & Baer, 1992) and by calculating the average increase from baseline through intervention (Phase I) for participants. The average increase in vocabulary from baseline through intervention was (M= 37.5%) across participants with a range of 33.4 % for student A, 40% for student B, 40% for student C, and 36.7 % for student D.

The level, trend, and variability were analyzed within each condition of baseline, intervention, and independent. In the initial baseline condition, the level of each participant was noted to range between 15 and 20 vocabulary picture-word identifications out of a possible 30 common pre-k words. Baseline data demonstrated a trend of stabilizing by the third session across participants. When the intervention phase occurred for each tutee participant, an immediate increase of three new vocabulary words resulted as a trend in the first three sessions for participants A, C, and D. The changes that occurred across conditions were equal to the changes that occurred within conditions. Results indicated that tutees (A, B, C, and D) increased vocabulary during the intervention phase and maintained their vocabulary level within a two point range at the application checkpoints during sessions five and 10 of intervention. The independent condition maintained a level within a one point range when measured by the *Systematic Analysis of Language Transcription.*

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Systematic Analysis of Language Transcription

It was predicted that students with disabilities (tutees) would maintain and use new vocabulary across another independent center while participating in the research study. The *Systematic Analysis of Language Transcription* (SALT) transcribes, analyzes, and compares language sample narratives to age or grade matched peers. The *SALT* was used to transcribe conversation that was videotaped by the researcher between the tutee and another classmate in an independent choice center (maintenance) of this study. The *SALT* provided an overall summary of language performance on each participant for the independent center and identified new vocabulary words that were introduced in Phase I and repeated by the tutee during the independent choice center.

The results of the *SALT* indicated that the tutee spoke the vocabulary words learned during intervention. However, the amount of interaction and verbal exchange was limited for students B, C, and D. The comparison of the new words to complete words indicated that the students generalized the vocabulary to an independent center when holding the object and naming it aloud. Additionally, students A, B, C, and D would engage in self-talk during play and verbal exchanges, but were unlikely to initiate conversation with a typical peer during the two recorded sessions. Verbal exchanges were initiated by typical peers during 11 out of 12 total interactions (Table 10).

The independent centers contained objects for play that were related to the new vocabulary words. For the purpose of this study, the Number of Different Words (NDW) from the *SALT* (2005) was used to count the number of different words in the language sample. The number of vocabulary words from peer tutoring was extracted from the total numbers of different words spoken. Additionally, the description for interaction of the

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tutee with a typical peer was included in Table 10 and described as one of the following: (a) no interaction, (b) some interaction, (0 to 3 verbal exchanges), and (c) strong interaction (> 4 verbal exchanges). The data from *SALT* were used to analyze the following question:

3. Does a balanced model of peer tutoring maintain new vocabulary use between the tutee and typical peers in an independent choice center following the tutoring sessions, as measured by the *SALT* during interaction?

Participants immediately chose an independent center after completing peer tutoring and application during each session. Tutors and tutees were not required to choose the same center. Objects related to the vocabulary words were present at the centers for the purpose of motivating the tutee to express the word in conversation with another student or at minimum, independently out loud while playing with the object.

Table 10.

Systematic Analysis of Language Transcription: Average of two recorded sessions

Student	New Vocabulary	Number of Different Words	Interaction / # Verbal Exchanges
A	29	35	strong / 4
B	27	50	some / 3
C	26	45	some / 3
D	25	35	some / 2

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Peer Tutoring Steps

Implementing the peer tutoring steps correctly was an important consideration during this study. Gains in new vocabulary by students with disabilities were directly impacted by the typical peer tutor following the four steps during Phase I of intervention that included: (a) prompting, (b) checking, (c) charting, and (d) praising. The effective data results demonstrated that when peer tutors remembered the four steps, students with disabilities increased vocabulary. Table 11 displays the number of vocabulary words, out of a total of 30 words, that the tutee knew during baseline and the number of new words achieved during intervention (Phase I). The percentage of time that peer tutors correctly implemented the four steps during a session was recorded and evaluated during this study. It was predicted that when peer tutors implemented the steps correctly during each session, the tutee would gain a new word.

Table 11.

Percentage of Peer Tutoring Effectiveness in Intervention (Phase I)

Tutee	New vocabulary T=30			Tutor	Percentage of correct steps
	Baseline	Number of sessions	Gains		
A	20 / 30	17	10	A1	98%
B	16 / 30	15	13	B1	90%
C	15 / 30	12	10	C1	90%
D	17/ 30	10	10	D1	96%

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Student Satisfaction Survey

Eight student participants completed a teacher generated satisfaction survey

(Appendix K) on implementing peer tutoring in the classroom. The survey included five

questions on the likes and dislikes of participation with the choice of response that

included: yes, no, or I don't know. The oral survey was conducted by the researcher after

the peer tutoring sessions had ended. The results indicated that the eight participants were

satisfied with the peer tutoring sessions and the training they received (Table 12).

Participants understood the implementation steps and would continue to practice new

words at the vocabulary center as a choice.

Table 12.

Student Satisfaction Survey

Question	Percentage agreement
1. like peer tutoring	100% yes
2. difficult steps	88% no
3. learn new words	100% yes
4. did tutor help	100% yes
5. tutor again	100% yes

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Adult Satisfaction Survey

The five adults who were trained on peer tutoring for the purpose of this study were asked to respond in writing to five statements on the impact of peer tutoring on oral language vocabulary in the classroom (Appendix L). Adults (two teachers and three assistants) were present during baseline, intervention, and independent measures. The adult role in this study was minimal and included: (a) training on the research and rationale of peer tutoring, (b) training on the peer tutoring steps in order to remediate error, and (c) monitoring the vocabulary center and equipment. Adult responses were scored on a Likert scale (0-5) and included a comment section. The scale range specified satisfaction as: 0= not at all, 1= very little, 2= below average, 3= average, 4= above average, and 5= outstanding. Results indicated that adults were satisfied (5= outstanding) with the time spent by students in the vocabulary center and the comfort in learning the steps (5). Adults were satisfied with learning about peer tutoring (5) and were inclined to initiate the practice in the future (5). Five adults were satisfied (5) with sufficient training in order to begin students with peer tutoring. One adult rated satisfaction as above average (4) for sufficient training. Comments from the survey included:

"I believe that the participants and non participants gained from this research project. The classroom setting created a relaxed environment for the tutee, enabling him to easily transition into a preferred center activity."

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Summary

The results of this study indicated that students with disabilities who have language delay increased new vocabulary through peer tutoring that was effectively implemented by typical peers in early childhood inclusive classrooms. Typical peers who were trained in the peer tutoring steps demonstrated effective implementation in Phase I that supported the gains in new vocabulary for students with disabilities. Students with disabilities increased percentage ranking scores for receptive and expressive language scales as demonstrated by the *PLAI-2* pretest and posttest results. Participant satisfaction with learning and implementing the peer tutoring steps was rated at 97.6%. Adult satisfaction for learning a new strategy and the feasibility of implementing peer tutoring in early childhood classrooms was rated high (5) on a Likert scale 0-5.

CHAPTER 5

DISCUSSION

Introduction

The purpose of this final chapter is to summarize the findings on peer tutoring and to discuss the implications in order to draw accurate conclusions. Discussion of the findings was related to the problem and questions posed in Chapter One: the need to improve oral language vocabulary in students with disabilities, and how peer tutoring impacts vocabulary gains. The findings were reviewed within the context of extending the existing research from Chapter Two. The results of the impact of peer tutoring on vocabulary were reviewed and conclusions were drawn in order to provide a rationale for the purpose of implementing peer tutoring as a viable tool for developing new vocabulary.

Purpose of Study

The purpose of this study was to investigate the effects that peer tutoring had on vocabulary gains for students with disabilities in inclusive environments. It was predicted that students with language delay would increase new curriculum vocabulary when provided with a trained peer tutor during vocabulary practice time. Furthermore, a prediction was made that students with language delay would maintain the new vocabulary in additional learning centers. The premise of the study was that educators

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should consider typical peers in early childhood inclusive classrooms as an appropriate resource for improving vocabulary with students who have a language delay.

This study involved eight student participants (six from classroom A and two from Classroom B). Four dyads of student participants (one student with a disability who has a language delay and one typical peer with no disability) participated in 24 sessions. All student participants were trained on the peer tutoring steps. The student training was divided into four 15 minute phases and 30 minutes of practice time during the daily learning center activities. The four phases of training included: (a) an introduction and discussion of helping each other in the classroom, (b) a review of the four steps: prompting, testing, charting, and praising, (c) teacher modeling and practice with the equipment, and (d) practice of the peer tutoring steps. A readiness check of participants for accurate implementation of the peer tutoring steps was observed prior to intervention.

Cooke, Heron, and Heward (1983) summarized that training effective tutors required following the steps accurately and allowing an appropriate amount of practice time. Peer tutoring sessions proved to be productive when students were confident with the steps. Data on the assigned typical peer tutors were collected on the correctness of the peer tutoring steps. No other data on tutors were collected during the intervention of this study. Students with disabilities had the opportunity to participate as a tutor in a reciprocal turn taking session after they completed their new vocabulary words. It should be noted that data on the accuracy of the peer tutoring steps, in reciprocal peer tutoring, by students with disabilities were not included in this study.

Recognizing individual variation over time was an important consideration when choosing the multiple baseline design for this study. The dependent variable was the

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number of new vocabulary and the independent variable was the number of peer tutoring sessions. Each dyad following the first Dyad A, (e.g. B, C, and D) remained in baseline until the previous dyad achieved a three word vocabulary gain. Intervention sessions ranged from 17 sessions for Dyad A, 15 sessions for Dyad B, 12 sessions for Dyad C, and 10 sessions for Dyad D.

This study demonstrated that applying typical peers through a peer tutoring approach in order to improve the vocabulary of students with disabilities was effective. Considering strategies, such as peer tutoring to improve academic skill levels in the early childhood classroom, offers educators a viable alternative to additional direct instruction for skill review. Previous studies have recognized the value of typical peers in the social development of preschool students with disabilities (Kohler et. al., 1998; Buysse & Bailey, 1993; Strain, 1990; Guralnick, et. al., 1995). This study extended the research on early childhood inclusive classrooms by recognizing the academic impact that typical peers have on students with disabilities and the benefits gained from specific peer tutoring (Elbaum et al, 1999).

Results of Vocabulary Growth in Students with Disabilities

A frequency count of new vocabulary was used to measure vocabulary growth during peer tutoring intervention for students with disabilities who have a language delay. Vocabulary levels were reviewed during the three phases of a multiple baseline across participants study: (a) baseline, (b) intervention, and (c) independent. Additionally, the *Preschool Language Assessment Instrument* (PLAI-2) was used to measure pretest and posttest scores of receptive and expressive language.

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Question one of this study addressed the gains that students with disabilities would make in new oral language vocabulary when peer tutoring with typical peers was implemented. The multiple baseline graph visually demonstrates vocabulary growth across participants during intervention and a stabilizing number within a two point range at the independent phase. See Appendix M (Figure 1). Baseline data across participants were noted to remain stable after the third session for each participant regardless of the time spent in baseline. Implementing peer tutoring sessions as an intervention motivated the tutee to learn new vocabulary over time. This may be due to the fact that the tutees (students with disabilities) needed a more direct individual approach that a trained tutor could provide, in place of using the vocabulary center independently. Additionally, the Califone Card Reader (audio equipment) supported the accuracy of the tutor's oral response when pronouncing the new word.

The data from the *PLAI-2* pretest and posttest indicated a statistically significant difference in receptive and expressive scores. Descriptive scores (very poor, poor, below average, average, above average) indicated that tutees increased score ranges at least one level from pretest to posttest. The vocabulary words chosen for this study were those listed in the *Trophies* (Harcourt, 2005) curriculum program and also noted in the *PLAI-2*. The positive growth in new vocabulary for students with disabilities across the 24 sessions of the study indicated that the vocabulary words were age appropriate for this study and that oral repetition with a tutor improved recognition of the words during testing. The results supported a key principle of building vocabulary during the first 48 months of life, when the brain is optimal for acquiring new language, as supported by The Kennedy Center for Research and Human Development (Warren & Yoder, 1996).

Although tutees gained specific vocabulary words in this study, the impact of that gain on conversational growth during learning activities in the classroom requires further study.

Application probes, without the audio support of the Califone Card Reader equipment, were videotaped at sessions five and ten during the intervention sessions in order to validate the level of new vocabulary. Question two in this study related to generalizing new words to a classroom center after peer tutoring. An application center was used to confer that the new word was understood by applying the new vocabulary to a matching object. The application center (Phase II) was included in this study for the purpose of collecting data on verbally matching the new words to an object that students would encounter in their daily classroom centers. Students with disabilities were able to verbally match vocabulary to objects correctly across session probes. Data representing application on the graph demonstrated that students completed Phase I and Phase II of the study with significant growth in oral vocabulary and the vocabulary relationship to classroom objects. The results of the data confirmed the Dickinson and Tabors (2001) study supporting a focus on the opportunity to expand vocabulary and a classroom environment that supports the practice of language.

When evaluating the individual intervention sessions of participants A, B, C, and D, a trend of positive growth was noted across participants, despite the amount of time spent in intervention. For example, Student A participated in peer tutoring for 17 sessions and increased vocabulary by 33.4%, as compared to Student D who spent 10 sessions in intervention with a 36.7% increase in vocabulary during that time. This analysis provided supporting evidence to the findings of Elbaum et al. (1999) who reviewed the association of length of time in intervention with effect sizes and determined that the quality of the

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instructional intervention was a stronger factor for positive outcomes than the time spent in intervention. Therefore, consistent gains in new vocabulary could be attributed to peer tutors correctly implementing steps during intervention despite the number of intervention sessions that students received. This supports the importance of properly training peers for effective results over a shorter amount of time.

Question three dealt with the data from the independent phase on the graph indicating that the four students with disabilities maintained a level of new vocabulary within a two word range when choosing an independent center where objects were present for play. Two choice centers were videotaped and transcribed into the *Systematic Analysis of Language Transcription* (SALT). It was predicted that students with disabilities would use the new vocabulary in the centers after learning new words from the peer tutoring sessions. The data from the four participants indicated that a significant difference in the dependent variable was noted between baseline and the end of intervention with stable maintenance at the independent phase. Therefore, it could be concluded that when students have a vocabulary base that relates to objects in a learning center, total vocabulary output may increase and improve conversation.

Students used the oral vocabulary or named the objects while holding them during independent choice centers when speaking to another child or engaging in self-talk. The conversations recorded indicated that social interaction was reciprocal between students with disabilities and typical peers for a minimum of three verbal exchanges. Additional time would be required to measure the impact that the new vocabulary had on social, verbal interactions during independent centers.

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Efficacy of Peer Tutoring Steps

Providing data that supports treatment integrity is critical to the overall internal validity and effectiveness of the research study (Peterson, Homer, & Wonderlich, 1982). The results of this study indicated that the training sessions, materials, and practice times for peer tutoring were sufficient in order to begin intervention. Data were collected and scored by the interobservers on the implementation of the peer tutoring steps during the intervention sessions. The integrity of the tutor implementing the four steps was evaluated using a frequency checklist. Peer tutoring procedures were implemented with 87-100% accuracy. The data collected from the peer tutoring steps indicated that typical peers were effectively implementing the four steps of intervention: (a) prompting, (b) testing, (c) charting, and (d) praising with moderate to high integrity. Typical peers acting as tutors scored highest on remembering to praise the tutee by using the phrase: "good talking" when the word was orally repeated by the tutee. This positive reinforcement encouraged the tutee to continue. Charting progress was the most tedious step for tutors B1, C1, and D1. Minimal facilitation during intervention sessions from the teacher was necessary. However, due to the fact that charting was implemented after prompting and testing, its effect on the instructional impact of acquiring new vocabulary was considered minimal. Therefore, in future studies, eliminating the charting step for tutors may be considered a teacher option. Verbal positive reinforcement from the tutor when testing and checking the new vocabulary word plus a daily sticker home, were considered adequate support for the tutee in this study. Charting the growth of students with disabilities during peer tutoring sessions is important and should be monitored closely by

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the classroom teacher. Strategies for monitoring growth may include weekly assessments of vocabulary gains or teacher observation during center activities.

The study included the opportunity for students with disabilities to play the tutor role in reciprocal peer tutoring during each session. Data were not collected on students with disabilities for effectiveness of implementing the peer tutoring steps during this study. Teacher observation noted that students with disabilities experienced moderate difficulty implementing the four steps during the reciprocal tutoring time. Typical peers continued with their new word vocabulary cards despite the accuracy of steps implemented by students with disabilities. However, it should be noted that students with disabilities modeled the responses of their tutors indicating that attention to task and verbal response was good. Additional training sessions for students with disabilities may be required prior to incorporating a reciprocal form of peer tutoring and collecting data on the steps.

Non participants from the classrooms were allowed to visit the vocabulary center during the school week. Students from classroom A and classroom B were interested in the peer tutoring steps. Teacher observation noted that non participants attempted to follow the steps when visiting the center. This observation supports the need for investigating the effects of classwide peer tutoring in early childhood.

Student Satisfaction of Peer Tutoring

Students with disabilities were assigned as tutees (A, B, C, and D) and typical peers were assigned as tutors (A1, B1, C1, D1) during this study. The study participants were required to visit the vocabulary center as a choice during the 60 minute learning center time. Students with disabilities were given the opportunity to play the tutor role

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(reciprocal peer tutor) with their partner after they participated in their daily intervention session. Students with disabilities followed the identical steps for peer tutoring using a different set of vocabulary cards with their partner. Allowing student participants from the peer tutoring dyad to experience both roles in the tutoring process strengthened the results of the satisfaction survey (see Table 12) and contributed to the social validity of the study.

The data collected from the participant survey indicated that all eight participants enjoyed peer tutoring and considered it helpful in learning new words (100%). Participants agreed that they would consider peer tutoring again as a center choice (100%). Seven out of eight participants placed the level of difficulty when learning the steps as "easy or fast to learn". One student with disabilities scored the level of difficulty as "hard to learn". According to the perceptions of the student participants, the peer tutoring intervention was enjoyable and a natural part of the learning center choices posted each day.

Adult Satisfaction Survey

Two teachers and three teacher assistants were trained by the researcher on the research, rationale, and steps of peer tutoring prior to the intervention implemented in this study. Teachers agreed to post the vocabulary center as a choice for daily learning center activities that were available to all students in the classroom. Adults completed a survey that addressed their satisfaction that included: (a) their learning about peer tutoring for students, (b) the time spent by students in peer tutoring, (c) their confidence to implement peer tutors in the classroom, and (d) their satisfaction with the amount of training they

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received. Results indicated that adults were very satisfied with their own learning and the time that their students spent in peer tutoring (100%). The five adults confirmed that they would most likely implement peer tutors again into their language curriculum. Four out of five adults confirmed that they had ample training to implement, independently. One adult indicated that additional training would be beneficial prior to implementing peer tutors, independently.

The validity of the adult satisfaction could be attributed to the intervention significantly increasing vocabulary through practice and the replication of growth noted across participants. Additionally, teachers encouraged non participants in this study to choose the vocabulary center at least once weekly during center time.

Limitations of the Study

The advantage of implementing the multiple baseline across participants experimental design was that replication demonstrated a relationship between the dependent and independent variable. The design was appropriate for evaluating the peer tutoring intervention over time in this study. The following limitations may have existed:

1. Although students with disabilities learned new vocabulary quickly during intervention, a natural growth maturation over a six week period may have contributed to the accelerated effect on acquiring new vocabulary in intervention.

2. The findings from this study are limited to early childhood students in inclusive classrooms where acceptance and positive sensitivity of students with disabilities and formation of social relationships may have existed prior to the study.

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3. Data from the independent maintenance phase were limited to two transcribed sessions and may have produced more varied results if the maintenance phase were extended. Videotaping and transcribing of additional sessions in maintenance would support the results of this study and provide additional time for maintaining new vocabulary into conversations between students with disabilities and their typical peers.

Conclusion

This study supported the following previous research statements and extended the basis for investigating young students with disabilities who experience language delay:

1. The ability to communicate is a predictor to the positive learning and social interactions that young students with disabilities will experience with typical peers (Goldstein & Strain, 1994; Guralnick, Gottman, & Hammond, 1996).

2. Limited vocabulary impedes social development and vocalizations for identifying objects, wants and needs (McGee, Morrier, & Daley, 1999).

3. Students with disabilities can experience frustration when language delay affects their ability to initiate and sustain social interactions that require verbal turn taking (Hadley& Schuele, 1995).

4. Monitoring the growth of vocabulary and oral communication skills for students with disabilities is protected and required by Part C of the Individual with Disabilities Act (IDEA) of 1997. The Individualized Family Service Plan (IFSP) and the Individual Educational Plan (IEP) contain the specific goals that address language development.

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5. The *No Child Left Behind Act* (2001) emphasizes accountability and the need for developing strong instructional models for early language skills (Dickinson & Tabors, 2002).

Implementing typical peers as support models for students with disabilities is a valuable resource that early childhood educators can access within inclusive classroom settings (Goldstein & Wickstrom, 1986; Kohler & Strain, 1999). Previous studies support the concept of peer models for social skill development and emphasize the need to investigate additional use of typical peers when planning instructional models (Robertson et al., 2003; Buysse & Bailey, 1993).

Peer tutoring can be implemented as one classroom activity where typical peers and students with disabilities spend time together in order to acquire turn taking skills for language development. Arranging the classroom setting to include a vocabulary center, where peers can interact in short intervals in order to practice new words, demonstrates one component of milieu teaching (environmental arrangement) (Kaczmarek, Hepting, & Dzubak, 1996). Additionally, training tutors to provide tutees with corrective response and positive reinforcement further enhances the learning opportunity (Kaiser, 2000).

Five conclusions may be presented from this study and the research that supports its purpose:

1. Students with disabilities in early childhood inclusive classrooms who participate in peer tutoring showed a significant increase in oral language vocabulary across 24 sessions as measured by a frequency count of new vocabulary, interobserver reliability, and the multiple baseline experimental design.

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2. Students without disabilities (typical peers) demonstrated accurate implementation of the peer tutoring steps when provided adequate training and practice prior to intervention, as measured by a frequency count across sessions and interobserver reliability checks.

3. Students with disabilities showed an ability to apply vocabulary to an object and generalize new vocabulary use in a different center in the classroom as measured by videotaping and the *Systematic Analysis of Language Transcription* (SALT).

4. Participants in the study were satisfied with the peer tutoring intervention and would continue working with their partners as measured by the Participant Satisfaction Survey.

5. Two teachers and three teacher assistants perceived a difference when peer tutoring was implemented for vocabulary. Adults were willing to continue implementing peer tutors for vocabulary gains as measured by the Adult Satisfaction Survey provided at the end of the study. Support for social validity of this study was confirmed.

Recommendations for Future Research

Instructional methods in early literacy that build on improving oral vocabulary are effective in establishing a strong base for future reading success (Snow, Burns, and Griffith, 1998). The risk for school failure is great without early, effective intervention services that improve language development (Dale, Jenkins, Mills, & Cole, 2005; Warren & Yoder 1996; Cole, Dale, & Mills, 1991). Increases in vocabulary and communication for students with severe language delays may occur due to typical

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peers constantly supporting language across classroom experiences. Implementing peer tutoring as a strategy for vocabulary instruction can be an effective resource when the proper assessment, training, and practice are delivered to students in a timely and supportive manner. Continued research for implementing peer tutors in early childhood inclusive classrooms is recommended. Specific study on the effects of peer tutors for language support is needed. The following studies are suggested for further investigation.

1. A replication of this study should be implemented across additional participants in a similar setting with an extension of time for the maintenance phase, in order to validate results.

2. A variation of this study should include students with disabilities who are English Language Learners (ELL) and the mutual benefit of peer tutoring with typical ELL peers using English audio support equipment.

3. Future studies examining the effects of reciprocal peer tutoring on students with disabilities who are trained as the tutor in an inclusive environment.

4. A variation of this study to include the effects of peer tutoring on social interaction and friendship building between students with and without disabilities in inclusive classroom environments.

5. An additional study should be conducted on the teacher's feasibility and ease of training peer tutors and implementing peer tutoring in early childhood inclusive classrooms.

Summary

Facilitating the interaction of peers to assist as tutors allows for a level of peer direct instruction that is interactive and skill related. Inclusive classrooms in early childhood provide the setting and opportunity for teachers to implement strategies, such as peer tutoring, across an age appropriate and content related curriculum. Assessing the individual needs of students and planning for peer tutors offers additional support that can enhance previous teacher instruction and provide additional practice for young students with disabilities and their typical peers.

The results of this study, combined with previous research, indicate that young students with disabilities increased their vocabulary with the added support of a peer tutor. Developing an academic center for peer tutors in the classroom and investing the time to train students, may prove to be a solid resource that is appropriate, effective, and rewarding to students and educators.

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APPENDIX A

PARTICIPANT INFORMED CONSENT

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Purpose of the Study
Your child is invited to participate in a research study. The purpose of this study is to investigate the impact of peer tutoring on oral language vocabulary for students with language delay in early childhood settings.

Participants
Your child is being asked to participate in the study because your child has a language delay as outlined in his/her Individualized Education Plan (IEP) **or** your child is being selected as a peer tutor.

Procedures
If you volunteer your child to participate in this study, your child will be asked to do the following:
1. Take a pre-test and posttest from the Preschool Language Assessment Instrument (PLAI-2).
2. Listen to a lesson on peer tutoring and practice the four steps. There will be four 15 minute
    training sessions after school and a total of one hour practice during the daily vocabulary center.
3. Participate in a 10-15 minute vocabulary center in the classroom each day for 24 sessions.
4. Answer five survey questions on how they liked peer tutoring.
5. All sessions will be videotaped and coded for confidentiality by the investigator.

Benefits of Participation
There may be no direct benefit to your child as a participant. However, we hope that your child will learn new vocabulary through peer tutoring sessions and that the research will provide information to educators on tutoring as a way to increase new vocabulary for students with language delay.

Risks of Participation
There are risks involved in all research studies. This study includes only minimal risks. Your child may miss choosing an extra play center during the study due to the time needed in the vocabulary center.

Cost /Compensation
There *will not* be financial cost to you to participate in this study. The study will take six weeks
(24 sessions) and last approximately 15 minutes each day your child is in school. Your child *will not*
 be compensated for his/her time.

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Contact Information

If you have any questions or concerns about the study, you may contact Tom Pierce at **702-895-1104** or Claire Tredwell at **702-799-5660.** For questions regarding the rights of research subjects, any complaints or comments regarding the manner in which the study is being conducted you may contact the **UNLV Office for the Protection of Research Subjects at 702-895-2794.**

Voluntary Participation

Your child's participation in this study is voluntary. You may refuse to have your child participate in this study or in any part of this study. You may withdraw your child at any time without prejudice to your relations with the university. You are encouraged to ask questions about this study at the beginning or any time during the research study.

Confidentiality

All information gathered in this study will be kept completely confidential. No reference will be made in written or oral materials that could link your child to this study. All records will be stored in a locked facility at UNLV for at least 3 years after completion of the study. After the storage time the information gathered will be destroyed.

Parent Consent:

I have read the above information and agree to have my child participate in this study. I am at least 18 years of age. A copy of this form has been given to me.

_____

Name of Child Participant (Please Print)

_____   _____
Signature of Parent   Date

_____
Parent Name (Please Print)

I agree to have my child videotaped during the vocabulary center activities addressed in this research study.

_____   _____
Signature of Parent   Date

Participant Note: Please do not sign this document if the Approval Stamp is missing or is expired.

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APPENDIX B

TROPHIES VOCABULARY LIST

TROPHIES VOCABULARY LIST
(Harcourt, 2005)

1. fork	2. horse	3. plate	4. hat	5. cow
6. girl	7. umbrella	8. key	9. carrot	10. dog
11. knife	12. baby	13. sandwich	14. water	15. boy
16. socks	17. sun	18. telephone	19. puzzle	20. milk
21. pig	22. vegetables	23. zipper	24. doctor	25. car
26. bus	27. crayon	28. pot	29. spoon	30. scissors

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APPENDIX C

FREQUENCY COUNT SHEET

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Frequency Data Sheet - Baseline
Impact of Peer Tutoring Sessions on Oral Vocabulary

Name:_____Observer:_____

Target behavior: _____

Date:_____

1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

Total: _____

Date:_____

1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

Total: _____

Date:_____

1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

Total: _____

Word List:

1.fork	2.horse	3.plate	4. hat	5.cow	6.girl	7.umbrella	8.key	9.carrot	10.dog
11. knife	12. baby	13.sandwich	14.water	15.boy	16.socks	17. sun	18.telephone	19.puzzle	20.milk
21.pig	22. vegetables	23.zipper	24.doctor	25. car	26.bus	27. crayon	28. pot	29.spoon	30.scissors

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APPENDIX D

INFORMED ADULT CONSENT

INFORMED ADULT CONSENT

Purpose of the Study
You are invited to participate in a research study. The purpose of this study is to investigate the impact of peer tutoring on oral language vocabulary for students with language delay in early childhood settings.

Participants
You are being asked to participate in the study because of your direct daily student contact, instruction, environmental arrangement, and planning for curriculum in your classroom.

Procedures
If you volunteer to participate in this study, you will be asked to do the following: attend 2 one hour training session on peer tutoring, assist with monitoring of peer tutor language center, and complete a survey at the end of six weeks.

Benefits of Participation
There *may not* be direct benefits to you as a participant in this study. However, we hope to learn the effects on oral vocabulary when using peer tutors at a young age. Additionally, adults will gain information on the method of implementing peer tutors in the early childhood classroom. Therefore, the benefit to adult participants will be the acquired educational strategy of implementing peer tutors.

Risks of Participation
There are risks involved in all research studies. This study includes only a low level minimal risk. You may become uncomfortable with a video recording device in the language center. However, video-recording data will only include the child participants in the study.

Cost /Compensation
There *will not* be financial cost to you to participate in this study. The study will take no more than 10 minutes of your time daily for monitoring the students during the scheduled learning center activity time. You *will not* be compensated for your time.
The University of Nevada, Las Vegas may not provide compensation or free medical care for an unanticipated injury sustained as a result of participating in this research study.

Contact Information
If you have any questions or concerns about the study, you may contact Claire Tredwell at **702-799-5660** or Tom Pierce at **702- 895-1104**. For questions regarding the rights of research subjects, any complaints or comments regarding the manner in which the study is being conducted you may contact **the UNLV Office for the Protection of Research Subjects at 702-895-2794.**

Voluntary Participation

Your participation in this study is voluntary. You may refuse to participate in this study or in any part of this study. You may withdraw at any time without prejudice to your relations with the university. You are encouraged to ask questions about this study at the beginning or any time during the research study.

Confidentiality

All information gathered in this study will be kept completely confidential. No reference will be made in written or oral materials that could link you to this study. All records will be stored in a locked facility at UNLV for at least 3 years after completion of the study. After the storage time the information gathered will be destroyed.

Participant Consent:

I have read the above information and agree to participate in this study. I am at least 18 years of age. A copy of this form has been given to me.

_____   _____

Signature of Participant   Date

_____

Participant Name (Please Print)

Participant Note: Please do not sign this document if the Approval Stamp is missing or is expired.

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APPENDIX E

PRESCHOOL LANGUAGE ASSESSMENT INSTRUMENT

(PLAI-2) RELIABILITY

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PLAI-2 RELIABILITY

Coefficient Alphas for PLAI-2 Subtests and Composite at Three Age Intervals

(Decimals Omitted) Note: NA= Not appropriate for these ages

PLAI-2	Age 3	Age 4	Age 5	Average
Matching	85	73	79	80
Selective Analysis	71	71	75	72
Reordering and Reasoning	70	NA	NA	70
Reordering	NA	70	74	71
Reasoning	NA	72	71	71
Receptive	73	81	82	80
Expressive	83	83	83	83
Discourse Ability	92	94	95	94

Median Discriminating Powers for the PLAI-2 Scores at Three Age Intervals

(Decimals Omitted)

PLAI-2	Age 3	Age 4	Age 5
Matching	56	30	42
Selective Analysis	33	30	33
Reordering and Reasoning	21	NA	NA
Reordering	NA	29	34
Reasoning	NA	28	29
Receptive	23	28	34
Expressive	29	33	31

Note: From *PLAI-2: Preschool language assessment instrument* (p.41), by M. Blank, S. Rose, and L. Berlin, 2003, Austin, TX: PRO-ED.

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APPENDIX F

PEER TUTORING STEPS

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PEER TUTORING STEPS

1. **Prompting (Helping):** Tutor will show the word, scan the word, repeat the word, if necessary. If necessary, tutor will say: "Try again."

2. **Testing (Checking):** The tutor will show the three cards again, check for response after the audio, put card in checkmark pocket if spoken. Put card in "X" pocket if not spoken.

3. **Charting (Coloring):** Tutor will repeat the same three cards for two sessions. If correct, then the cards go in the STOP pocket. And tutor/ tutee will color three stars on path. (teacher monitor).

4. **Praising (Hooray!):** Tutor will say: "Good Talking" each time the word is repeated by the tutor. Adult reward a sticker to a "take home" vocabulary card for the day.

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APPENDIX G

TUTORING FOLDER CONTENTS

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FOLDER CONTENTS

The tutor pocket folder has two or more pockets and contains the following:

1. a designated name and an attached envelope (or pocket) to hold the vocabulary cards (3 at a time) for the session (marked GO)on the exterior front. An exterior back pocket marked STOP for vocabulary words that are learned and checked two days in a row.

2. A checkmark on the left interior pocket for words pronounced correctly and an X on the right interior pocket for words not attempted or those that need additional practice in the next session.

3. List of the assigned vocabulary words.

4. Frequency count sheet for teacher record keeping.

5. A star path to color for new words that are learned. Two crayons.

6. Stickers for rewards.

7. The child's photograph mounted on the front for easy identification during center time.

APPENDIX H

INDIVIDUAL VOCABULARY LIST

INDIVIDUAL VOCABULARY LIST

The following lists of new vocabulary were assigned to students with disabilities who have language delay. Vocabulary was assigned based on individual results from baseline. All vocabulary words were taken from the Trophies (Harcourt, 2005).

Student A: fork, umbrella, knife, boy, socks, milk, vegetables, zipper, crayon, pot, scissors.

Student B: plate, cow, girl, umbrella, knife, water, sun, milk, pig, vegetables, zipper, pot, crayon

Student C: plate, hat, cow, girl, umbrella, key, carrot, water, puzzle, milk, pig, vegetables, zipper, doctor, crayon, pot,

Student D: cow, girl, umbrella, carrot, knife, baby, sandwich, water, boy, pig, vegetables, zipper, doctor, crayon, scissors.

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APPENDIX I

ADULT TRAINING MANUAL

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TRAINING PROCEDURES FOR RESEARCH PROJECT

UNLV/ Paradise PDS   Fall 2006
Student Researcher: Claire Tredwell, M.S.
Research Approval: August 17, 2006 UNLV IRB and CCSD Research Board

Impact of Peer Tutoring Sessions on Oral Language Vocabulary

in Early Childhood Inclusive Settings

Tredwell 2006

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Purpose

The purpose of this research study is to (a) design quality instructional interventions that provide and promote oral language development for students with disabilities in early childhood inclusive settings, (b) to engage verbal interaction between typical peers and students with disabilities who have a language delay, and (c) to evaluate vocabulary growth during and after peer tutoring sessions.

Research Questions

The following questions will be presented:

1. Do peer tutoring sessions in early childhood inclusive settings increase oral language vocabulary in students with language delay?

2. Do peer tutoring sessions generalize the vocabulary use to other classroom activities?

3. Will a balanced model of peer tutoring maintain child vocabulary and improve interaction between the tutee and typical peer in additional centers following the tutoring sessions?

Literature Review of Research presented in Powerpoint Presentation.

Full text article supplied upon request.

Methods

Study: Effects of peer tutoring on the number of vocabulary responses.

Participants: Ages 48-67 months

4 students with language delay: (IEP & score <25% on PLAI-2)

4 typical peers: (score >50% on PLAI-2)

Adults: 2 Teachers, 3 Assistants

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Setting: Paradise Professional Development School

      2 Pre-K Classrooms

Instrumentation: *Preschool Language Assessment Instrument* (PLAI-2) (Blank, Rose, & Berlin, 2003)

Vocabulary frequency count to analyze vocabulary sessions of peer tutoring.

Systematic Analysis of Language Transcription (SALT) to improve transcription accuracy, cross investigator reliability

Materials : Visual Display Board of Tutoring Steps

Vocabulary folders with cards and charting, Califone Card Reader (2010AV), SONY video recorder, timer bell, frequency recording charts.

Adult Reference Page

The study will progress in the following order:

1. The researcher will collect consent forms from all possible participants in the study.

2. Teacher Training on Peer Tutoring Steps.

3. Pairing of students in vocabulary center to practice 5 cards of classroom vocabulary (no training). Assess compatibility.

4. Researcher will collect baseline data in vocabulary center from four students (A, B, C, D) with language delay.

5. Researcher will administer PLAI-2 language assessment.

6. Researcher and teachers will randomly assign tutors/tutees. Researcher will train all participants in the study.

7. After Student A has 3 point baseline, intervention begins (peer tutoring).

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8. Student B begins intervention after Student A gains three new words over two consecutive sessions, and so forth.

9. Intervention consists of:

    (a) **vocabulary center** (folder, cards, item, and machine) with tutor, tutee,

    (b) **application center** with object to match new word (tutor and tutee)

    (c) **independent center** with objects and classmates.

Adult Reference of Peer Tutoring Steps

1. **Prompting (Helping)**: Tutor will show the word, scan the word, repeat the word, if necessary. If necessary, tutor will say: "Try again."

2. **Testing (Checking)**: The tutor will show the three cards again, check for response after the audio, put card in checkmark pocket if spoken. Put card in "X" pocket if not spoken.

3. **Charting (Coloring)**: Tutor will repeat the same three cards for two sessions. If correct, then the cards go in the STOP pocket. And tutor/ tutee will color three stars on path. (teacher monitor).

4. **Praising (Hooray!)**: Tutor will say: "Good Talking" each time the word is repeated by the tutor. Adult reward a sticker to a "take home" vocabulary card for the day.

Adult Role in Intervention

1. Reward children for their daily effort in the vocabulary center just like you would in any other center. Use sentences like: "I like the way you're doing your center today."

2. Monitor the word cards and clean equipment daily.

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3. Remediate any errors that you see in procedures during intervention as you facilitate all of your center activities.

4. Monitor student folders daily to be sure the cards are ready to go.

APPENDIX J

FREQUENCY COUNT OF SPOKEN WORDS

VOCABULARY SPOKEN IN OBSERVATION

Student A: spoon, baby, eat, no, here, sit, yes, yum, juice, book, mom, me, I, bus, toy,

up, don't, so   T= 18

Student B: down, I, want, please, no, yes, color, blocks, Ms. T., Ms. H., go, come,

play, hi, here, bye   T= 16

Student C: no, bus, car, sit, go, zoom, juice, spoon, me

T= 9

Student D: go, here, toys, doll, up, no, dish, eat, horse, play, car, bus, yes

T=13

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APPENDIX K

STUDENT SATISFACTION SURVEY

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STUDENT SATISFACTION SURVEY

Study: Impact of Peer Tutoring Sessions on Oral Language Vocabulary in Early Childhood Inclusive Settings.

Teacher will ask the child participant the following questions at the completion of the study. The child participant will respond with a "yes", "no", or 'I don't know" response. The teacher will mark the response on the form below and write any additional comment that the child participant states.

1. Did you like peer tutoring during center time?

    Yes.   No.   I don't know.

_____

2. Was it hard to learn all the steps?

    Yes.   No.   I don't know.

_____

3. Do you think you learned any new words with your peer tutor?

    Yes.   No.   I don't know.

_____

4. Did your tutor help you with the new words?

    Yes.   No.   I don't know.

_____

5. Would you like to try peer tutoring again?

    Yes.   No.   I don't know.

_____

APPENDIX L

ADULT SATISFACTION SURVEY

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ADULT SATISFACTION SURVEY

Study: Impact of Peer Tutoring Sessions on Oral Language Vocabulary in Early Childhood Inclusive Settings.

Please respond to the following statements by marking a scale of **0-5** (**0**- not at all satisfied, **1**- very little satisfaction, **2**- below average satisfaction, **3**-average satisfaction, **4**- above average satisfaction, **5**- outstanding satisfaction.

1. I have gained knowledge of the rationale and strategy of implementing peer tutors to increase oral language in the Early Childhood classroom.

   0   **1**   **2**   **3**   **4**   **5**

2. The training I received was sufficient in order to begin and maintain the peer tutoring sessions.

   0   **1**   **2**   **3**   **4**   **5**

3. The time spent by students in the peer tutoring center each day was appropriate for all study participants.

   0   **1**   **2**   **3**   **4**   **5**

4. The students were comfortable with the procedures of the peer tutoring steps.

   0   **1**   **2**   **3**   **4**   **5**

5. I would be inclined to initiate this strategy in the future for students who have oral language delay.

   0   **1**   **2**   **3**   **4**   **5**

Comments: _____

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APPENDIX M

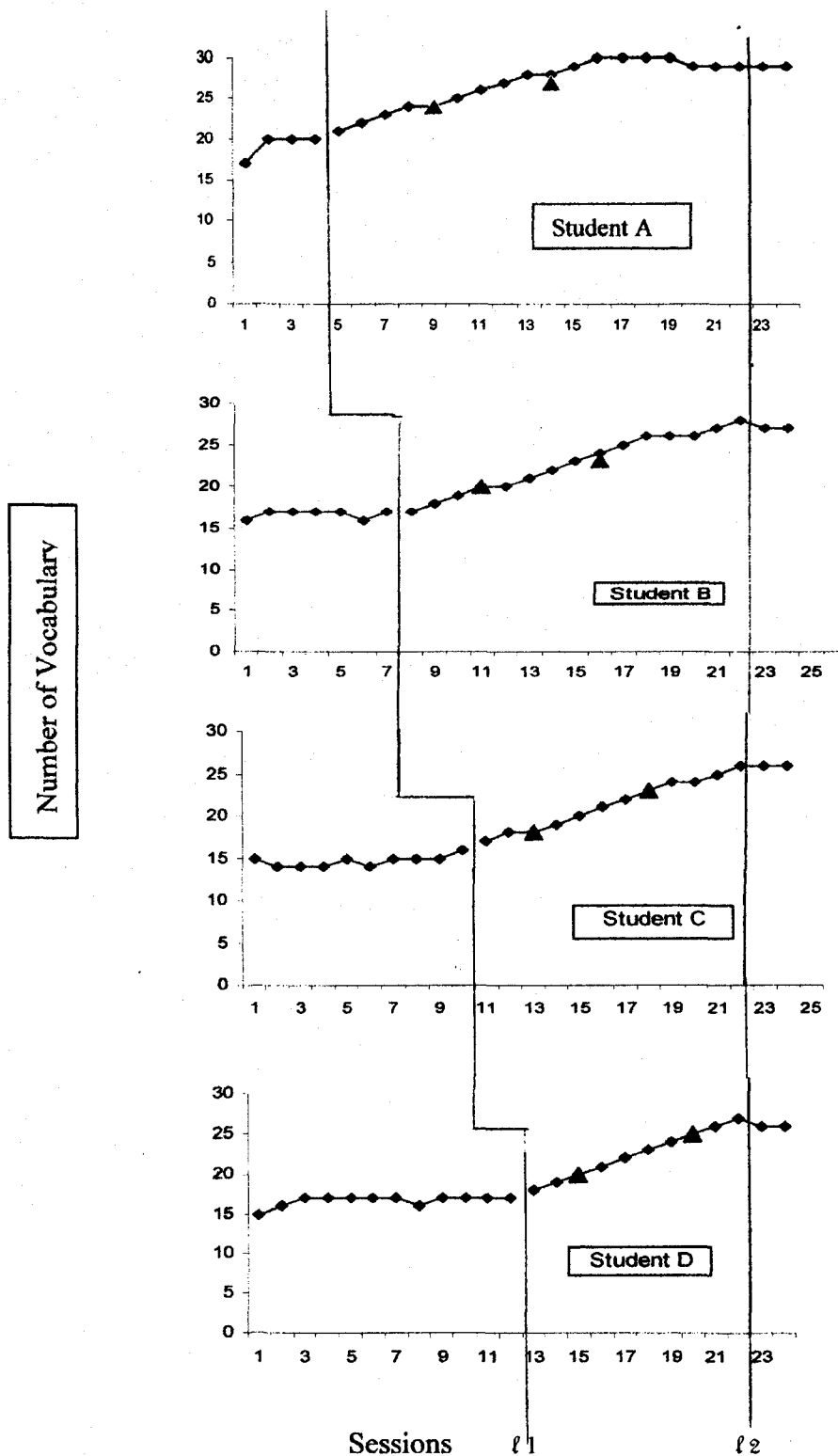## MULTIPLE BASELINE GRAPH

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Figure 1. Multiple Baseline Across Participants
ℓ1 Baseline
ℓ2 Independent Center
▲ Application Center

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REFERENCES

Anastasi, A., & Urbina, S. (1997). *Psychological testing* (7th ed.), Upper Saddle River, NJ: Prentice Hall.

Bailey, D. B., McWilliam, R. A., Buysse, V., & Wesley, P. W. (1998). *Early Childhood Research Quarterly, 13* (1). 27-47.

Bateman, B., & Wetherell, J. (1965). Psycholinguistic aspects of mental retardation. *Mental Retardation 3,* 8-13.

Bates, E., O'Connell, B., & Shore, C. (1987). Language and communication in infancy. In J. D. Osofsky (Ed.), *Handbook of infant development* (2nd ed., pp.149-203). New York: Wiley.

Berk, L. E., & Winsler, A. (1995). *Scaffolding children's learning: Vgotsky and early childhood education.* Washington, D.C.: National Association of Education of Young Children.

Berko-Gleason, J. (1997). *The development of language.* Boston: Allyn & Bacon.

Berliner, D. C. (1984). The half-full glass: A review of research on teaching. In P.L. Hosford (Ed.), *Using what we know about teaching* (pp. 51-77). Alexandria, VA: Association for Supervision and Curriculum Development.

Blank, M., Rose, S., & Berlin, L. (2003). *Preschool language assessment instrument* (2nd ed.). Austin, TX: PRO-ED, Inc.

Bloom, L. (1993). *The transition from infancy to language: Acquiring the power of expression.* England: Cambridge University Press.

Bredekamp, S., & Copple, C. (1997). *Developmentally appropriate practice in early childhood programs* (Rev. ed.). Washington, DC: National Association for the Education of Young Children.

Bricker, D. D. (1978). A rationale for the integration of handicapped and non-handicapped preschoolers. In M. Guralnick (Ed.), *Early intervention and integration of handicapped and nonhandicapped children* (pp.3-26). Baltimore: University Park Press.

Bricker, D. D. (1995). The challenge of inclusion. *Journal of Early Intervention, 19,* 179-194.

Bricker, W. A., & Bricker, D. D. (1976). The infant, toddler, and preschool research and intervention project. In T. Tjossem (Ed.), *Intervention strategies for high risk infants and young children* (pp.545-572).

Bricker, D., Pretti-Frontczak, K., & McComas, N. R. (1998). *An activity- based approach to early intervention* (2nd ed.). Baltimore: Brookes.

Bronfenbenner, U. (1986). Ecology of the family as context for human development: Research perspectives. *Developmental Psychology, 22,* 723-742.

Brown, W. H., Odom, S. L., Li, S., & Zercher, C. (1999). Ecobehavioral assessment in inclusive early childhood programs: A portrait of preschool inclusion. *The Journal of Special Education, 33,* 138-153.

Buysse, V., & Bailey, D. B. (1993). Behavioral and developmental outcomes in young children with disabilities in integrated and specialized settings: A review of comparative studies. *The Journal of Special Education, 26,* 434-461.

Casby, M. W. (1989). National data concerning communication disorders and special education. *Language, Speech, and Hearing Services in Schools, 20,* 22-30.

Cavallaro, C. C., Ballard-Rosa, M. & Lynch, E. W. (1998). A preliminary study of inclusive special education services for infants, toddlers, and preschool-age children in California. *Topics in Early Childhood Special Education, 18* (3), 169-182.

Chandler, L. K., Lubeck, R. C., & Fowler, S. A. (1992). Generalization and maintenance of preschool children's social skills: A critical review and analysis. *Journal of Applied Behavior Analysis, 25,* 415-428.

Christianson, S. L., Ysseldyke, J. E., & Thurlow, M. L. (1989). Critical instructional factors for students with "mild handicaps": An integrative review. *Remedial & Special Education, 10*(5), 21-31.

Cole, K. N., Dale, P. S., & Mills, P.E. (1991). Individual differences in language delayed children's responses to direct and interactive preschool instruction. *Topics in Early Childhood Special Education, 11,* 99-124.

Cole, K. N., Matson, J., Craigie, D., & Grossen, B. (1991). Effects of preschool integration for children with disabilities. *Exceptional Children, 58* (1), 36-45.

Cole, K. N., Dale, P. S. Mills, P. E., & Jenkins, J. R. (1993). Interaction between early intervention curricula and student characteristics. *Exceptional Children, 60,* 17-28.

Cooke, N. L., Heron, T. E., & Heward, W. L. (1983). *Peer tutoring: Implementing classwide programs in the primary grades.* Columbus, OH: Special Press.

Cooke, R. E., Tessier, A. M., & Klein, M. D. (2000*). Adapting early childhood curricula for children in inclusive settings.* Upper Saddle River, NJ: Prentice-Hall.

141

Craig-Unkefer, L.A., Kaiser, A. P. (2003). Increasing peer directed social communication skills of children enrolled in Head-Start. *Journal of Early Intervention, 25* (4), 229-247.

Dale, P. S., Jenkins, J. R., Mills, P. E., & Cole, K. N. (2005). Follow-up children from academic and cognitive curricula at 12 and 16. *Exceptional Children, 71*(3), 301-313.

Davis, M. D., Kilgo, J. L., & Gamel- McCormick, M. (1998). *Young children with special needs: A developmentally appropriate approach.* Boston: Allyn & Bacon.

DEC (Division for Early Childhood). (2000). *DEC recommended practices in early childhood special education.* Reston, VA: Council for Exceptional Children.,

Demchak, M. A. & Drinkwater, S. (1992). Preschoolers with severe disabilities: The case against segregation. *Topics in Early Childhood Special Education, 11,* 70-83.

Diamond, K. E., & Carpenter, E. S. (2000). Participation in inclusive preschool programs and sensitivity to the needs of others. *Journal of Early Intervention, 23* (2), 81-91.

Dickinson, D. K., & P.O. Tabors, eds. 2001. *Beginning literacy with language: Young children learning at home and school.* Baltimore: Brookes.

Dickinson, D. K., & Tabors, P. O. (2002). Fostering language and literacy in classrooms and homes. *Young Children*, March, 10-18.

Dufrene, B., Noell, G., Gilbertson, D., & Duhon, G. (2005). Monitoring implementation of reciprocal peer tutoring: Identifying and intervening with students who do not maintain accurate implementation. *School Psychology Review, 34* (1), 74-85.

Elbaum, B., Vaughn,S., Hughes, M., & Moody, S. W. (1999). Grouping practices and reading outcomes for students with disabilities. *Exceptional Children, 65* (3), 399-419.

Evans, I. M., Palombaro, M. M. & Goldberg, P. (1994). Children's perception of fairness in classroom and interpersonal situations involving peers with severe disabilities. *Journal of the Association for Persons with Severe Handicaps, 19* (2), 326-332.

Filler, J., & Xu, Y. (2006/07). Including children with disabilities in early childhood education program: Individualizing developmentally appropriate practices. *Childhood Education,* 83 (2). 92-98.

Fey, M. E. (1986). *Language intervention with young children.* San Diego: College Hill.

Foorman, B. F., & Moats, L.C. (2004). Conditions for sustaining research-based practices in early reading instruction. *Remedial and Special Education, 25*(1), 51-65.

Fuchs, D., Fuchs, L. S., Mathes, P. G., & Simmons, D. C. (1997). Peer- assisted learning strategies: Making classrooms more responsive to academic diversity. *American Educational Research Journal, 34* (1), 174-206.

Fulk, B. M., & King, K. (2001). Classwide peer tutoring at work. *Teaching Exceptional Children, 34*(2), 49-53.

Goldstein, H., & Strain, P. S. (1994). Peers as communication agents: Some new strategies and research findings. In K.G. Butler (Ed.), *Early intervention: Working with parents and families.*(pp.110-122.). Gaithersburg, MD: Aspen.

Goldstein, H., & Wickstrom, S. (1986). Peer intervention effects on communicative interaction among handicapped and non-handicapped preschoolers. *Journal of Applied Behavior Analysis, 19,* 209-214.

Good, R. H., & Kaminski, R. A. (1996). Assessment for instructional decisions: Toward a proactive/prevention model for decision making for early literacy skills. *School Psychology Quarterly, 11,* 1-11.

Greenwood, C. R., Delquadri, J. C., & Hall, R. V. (1989). Longitudinal effects of

classwide peer tutoring. *Journal of Educational Psychology, 81,* 371-383.

Greenwood, C. R., Tapia, Y., Abbott, M., & Walton, C. (2003). A building-based

case study of evidence-based practices: Implementation, reading behavior, and

growth in reading fluency, K-4. *Journal of Special Education, 37* (2), 95-114.

Guralnick, M. J. (1976). The value of integrating handicapped and nonhandicapped

preschool children. *American Journal of Orthopysciatry, 46,* 236-245.

Guralnick, M. J., Conner, R. T., Hammond, M., Gottman, J. M., & Kinnish, K. (1995).

Immediate effects of mainstreamed settings on the social interactions of preschool

children. *American Journal on Mental Retardation, 100* (4), 359-377.

Guralnick, M. J., & Groom, J. M. (1988). Friendships of preschool children in

mainstreamed playgroups. *Developmental Psychology, 24* (4), 595-604.

Hadley, P., & Schuele, M. (1995). " Come buddy, help, help me!" Verbal interactions

with peers in a preschool language intervention classroom. In M. Rice & K. Wilcox

(Eds.), *Building a language –focused curriculum for the preschool classroom: Vol 1.*

A foundation for lifelong communication (pp.105-126). Baltimore: Brookes.

Hancock, T. B., & Kaiser, A. P. (1996). Siblings' use of milieu teaching at home.

Topics in Early Childhood Special Education, 16 (2), 168-190.

Harbin, G. L., Danaker, J., Bailer, D., & Eller, S. (1991). *Status of states' eligibility*

policy for preschool children with disabilities. Chapel Hill, NC: Carolinas Policy

Studies Programs.

144

Harris, S. L., Handleman, J.S. Kristoff, B., Bass, L., & Gordon, R. (1990). Changes in language development among autistic and peer children in segregated and integrated preschool settings. *Journal of Autism and Developmental Disabilities, 20,* 23-31.

Harper, L. V., & McCluskey, K. S. (2002). Caregiver and peer responses to children with language and motor disabilities in inclusive preschool programs. *Early Childhood Research Quarterly, 17,* 148-166.

Hart, B. (1983). Assessing spontaneous speech. *Behavioral Assessment, 5,* 71-82.

Hart, B., & Risley, T. R. (1995). *Meaningful differences in the everyday experience of young American Children.* Baltimore: Brookes.

Hart, B., & Risley, T. R. (1980). In vivo language intervention: Unanticipated general effects. *Journal of Applied Behavior Analysis, 13* (3), 407-432.

Hart, N. W. M, Walker, R. F., & Gray, B. (1977). *The language of children.* (pp. 13-24). Philippines: Addison-Wesley.

Hemmeter, M. L., Ault, M. J., Collins, B. C., & Meyers, S. (1996). The effects of teacher-implemented feedback within free time activities. *Education and Training in Mental Retardation and Developmental Disabilities, 31,* 203-212.

Heron, T. E., & Harris, K. C. (2001). *The educational consultant: Helping professionals parents, and students in inclusive settings* (4th ed.). Austin, TX: PRO-ED.

Heron, T. E., Welsch, R. G., & Goddard, Y. L. (2003). Applications of tutoring systems in specialized subject areas: an analysis of skills, methodologies, and results. *Remedial and Special Education, 24* (5), 288-306.

Hoge, D. R., & Parette, H. P. (1995). Facilitating communicative development in young

children with disabilities. *Infant-Toddler Intervention, 5,* 113-130.

Holahan, A., & Costenbader, V. (2000). A comparison of developmental gains for

preschool children with disabilities in inclusive and self-contained classrooms. *Topics*

in Early Childhood Special Education, 20 (4), 224-236.

Hresko, W. P., Reid, D. K., & Hammill, D. D. (1999). *Test of Early Language*

Development- Third Edition. Austin, TX: PRO-ED.

Hundert, J., Mahoney, B., Mundy, F., & Vernon, M. L. (1998). A comparison of

developmental gains for preschool children with disabilities in inclusive and self-

contained classrooms. *Topics in Early Childhood Special Education, 20,* 224-235.

Hymes, D. (1972). On communicative competence. In J. B. Pride & J. Holmes (Eds.),

Sociolinguistics (pp.269-285). Harmondsworth, Middlesex, England: Penguin.

IDEA Amendments of 1997, P. L. 105-17, 20 U. S. C. §§ 1400 *et seq.*

Iannotti, R. J. (1985). Naturalistic and structured assessments of prosocial behavior in

preschool children: The influence of empathy and perspective taking. *Developmental*

Psychology, 21, 46-55.

Ivory, J. J., & McCollum, J. A. (1999). Effects of social and isolate toys on social play in

an inclusive setting. *Journal of Special Education, 32* (4), 238-243.

Jenkins, J. R., Speltz, M. L., & Odom, S. L. (1985). Integrating normal and handicapped

preschoolers: Effects on child development and social interaction. *Exceptional*

Children, 52 (1), 7-17.

146

Kaczmarek, L.A., Hepting, N. H., Dzubak, M. (1996). Examining the generalization of milieu language objectives in situations requiring listener preparatory behaviors. *Topics in Early Childhood Special Education, 16*(2), 130-167.

Kaiser, A. (1993). Enhancing children's social communication. In A. P. Kaiser & D. B. Gray (Eds.), *Enhancing children's communication: Research foundations for intervention* (pp.3-9). Baltimore: Paul H. Brookes.

Kaiser, A. (2000). Teaching functional communication skills. In M.E. Snell & F. Brown (Eds.), *Instruction of students with severe disabilities,* (p. 456), Upper Saddle River, New Jersey: Prentice- Hall.

Kaiser, A. P., & Hester, P. P. (1997). Prevention of conduct disorders through early intervention: A social-communicative perspective. *Behavior Disorders 22,* 117-130.

Kaiser, A. P., Yoder, P. J., & Keetz, A. (1992). Evaluating milieu teaching. In S. F. Warren & J. Reichle (Eds.), *Causes and effects in communication and language intervention.* (pp. 9-47). Baltimore: Brookes.

Kazdin, A. E. (1984). Statistical analysis for single-case experimental designs. In D. H. Barlow & Hersen (Eds.), *Single case experimental designs: strategies for studying behavior change* (2nd ed., pp. 285-324). New York: Pergamon Press.

Kazdin, A. E. (1982). *Single-case research design: Methods for clinical and applied settings.* New York: Oxford University Press.

Kemple, K. M., Duncan, T. K., & Strangis, D. (2002). Supporting Young Children's peer competence in an era of inclusion. *Childhood Education, 79* (1), 40-51.

Kohler, F. W., Anthony, L. J., Steighner, S. A., & Hoyson, M. (2001).Teaching social

interaction skills in integrated preschool: An examination of naturalistic tactics.

Topics in Early Childhood Special Education, 21,(2), 93-105.

Kohler, F. W., & Strain, P. S. (1990). Peer-assisted interventions: Early promise, notable

achievements, and future aspirations. *Clinical Psychology Review, 22,* 441-454.

Kohler, F. W., & Strain, P. S. (1999). Maximizing peer mediated resources in integrated

preschool classrooms. *Topics in Early Childhood Special Education, 19,* 92-102.

Kohler, F. W., Strain, P. S., & Shearer, D. D. (1996). Examining levels of social

inclusion in an integrated preschool for children with autism. In L. K. Koegel, R. K.

Koegel, & G. Dunlap (Eds.), *Positive behavioral support: Including people with*

difficult behavior in the community (pp.305-332). Baltimore: Brookes.

Kontos, K., Moore, D., & Giaorgetti, K. (1998). The ecology of inclusion. *Topics in*

Early Childhood Special Education, 18 (1), 38-48.

Lancioni, G. E. (1982). Normal children as tutors to teach social responses to withdrawn

mentally retarded schoolmates: Training, maintenance, and generalization. *Journal of*

Applied Behavior Analysis, 15, 17-40.

Lerner, J. W. (2000). Learning disabilities: Theories, diagnosis, and teaching strategies.

Boston: Houghton Mifflin.

Lerner, J. W., Lowenthal, B., & Egan, R. W. (2003). *Preschool children with special*

needs: Children at risk and children with disabilities. Boston: Pearson.

148

Luze, G. J., Linebarger, D. L., Greenwood, C. R., Carta, J. J., Walker, D., Leitschuh, C., & Atwater, J. B. (2001). Developing a general outcome measure of growth in expressive communication of infants and toddlers. *School Psychology Review, 30* (3), 383-404.

McCathren, R., Yoder, P. & Warren, S. (2000). Testing predictive validity of the communication composite of the communication and symbolic behavior scales. *Journal of Early Intervention, 23* (1), 36-46.

McGee, G., Morrier, M., & Daley, T. (1999). An incidental teaching approach to early intervention for toddlers with autism. *Journal for the Association for Persons with Severe Handicaps, 24* (30), 133-146.

McLean, J. E., & Snyder-McLean, L. K. (1978). A transactional approach to early language training. Columbus, OH: Charles Merrill.

Miller, A. D., Barbetta, P., & Heron, T. E. (1994). START tutoring: Designing, training, Implementing, and adapting tutoring programs for school and home settings. In R. Gardner, J. O. Cooper, T. E. Heron, W. L. Heward, J. Eshelman, & D. Sainto (Eds.), *Behavioral analysis in education: Focus on measurably superior instruction* (pp. 265-282). Monterey, CA: Brooks-Cole.

Miller, J. F., & Chapman, R. S. (2000). *Systematic analysis of language transcription: Student version.* Language Analysis Lab, Waisman Research Center, University of Wisconsin, Madison

Mills, P. E., Cole, K. N., Jenkins, J., & Dale, P. S. (1998). Effects of differing levels of inclusion on preschoolers with disabilities. *Exceptional Children, 65,* 79-90.

Mills, P. E., Dale, P. S., Cole, K. N., & Jenkins, J. R. (1995). Follow-up of children from academic and cognitive preschool curricula at age 9. *Exceptional Children, 61,* 378-393.

Moffitt Audio Visual (Califone card reader). Retrieved February 20, 2007, from http:// www.moffittco.com/comersus/store/comersus.html.

National Reading Panel. (2000). *Teaching children to read: An evidence- based assessment of the scie ntific research literature on reading and its implications for reading instruction.* National Institute of Child Health and Human Development, Washington, D.C.

Ninio, A., & Snow, C. E. (1996). *Pragmatic development.* Boulder, CO: Westview Press.

No Child Left Behind Act of 2001. 20 U.S.C., §6301 et seq. (2001).

Odom, S. L. (2000). Preschool inclusion: What we know and where we go from here. *Topics in Early Childhood Special Education, 20* (1), 20-27.

Odom, S. L., Horn, E., Marquart, J. M., Hanson, M., Wolfberg, P., Beckman, P., Lieber, J., Li, S., Schwartz, I., Janko, S., & Sandall, S. (1999). On the forms of inclusion: Organizational context and individualized service models. *Journal of Early Intervention, 22,* 185-199.

Odom, S. L., & Mc Evoy (1988). Integration of children with handicaps and normally developing children. In S. Odom & M. Karnes (Eds.), *Early intervention for infants and young children with handicaps* (pp.241-267). Baltimore: Brookes.

Osguthorpe, R. T., & Scruggs, T. E. (1986). Special education students as tutors: a review and analysis. *Remedial and Special Education, 7* (4), 15-26.

Owens, R. E., Jr. (1996). *Language Development: An introduction.* Boston: Allyn & Bacon.

Parsonson, B. S., & Baer, D. M. (1992). The visual analysis of data, and current research into the stimuli controlling it. In T. R. Katochwill & J. R. Levin (Eds.), *Single-case research design and analysis: New directions for psychology and education* (pp 15-40). Hillside, NJ: Lawrence Erlbaum.

Peck, C. A., Carlson, P., & Helmsetter, E. (1992). Parent and teacher perceptions of outcomes for typically developing children enrolled in early childhood programs: A statewide survey. *Journal of Early Intervention, 16,* 53-63.

Peck, C. A., Killen, C. C., & Baumgart, D. (1989). Increasing implementation of special education instruction in mainstream preschools: Direct and generalized effects of nondirective consultation. *Journal of Applied Behavior Analysis, 22,* 197-210.

Peterson, L., Homer, A., & Wonderlich, S. (1982). The integrity of independent variables in behavior analysis. *Journal of Applied Behavior Analysis, 15,* 477-492.

Piaget, J. (1962). *The language and thought of the child.* New York: World Publishing.

Power, B. M., & Hubbard, R. S. (2002). *Language development: A reader for teachers.* Upper Saddle River, NJ: Merrill Prentice Hall.

Rafferty,Y., Picitelli, V., & Boettcher, C. (2003). The impact of inclusion on language development and social competence among preschoolers with disabilities. *Exceptional Children, 69* (4), 467- 479.

Rice, M. L. (1987). *Preschool children's fast mapping of words: Robust for most, fragile for some.* Paper presented at the International Congress for the Study of Child Language, Lund, Sweden.

Rice, M. L. (2002) Children's language acquisition. In B. M. Power & R. S. Hubbard

(Eds.), *Language development: A reader for teachers* (2nd Ed.), (pp.19-27). Upper

Saddle River, New Jersey: Pearson Education.

Risley, T. R. (1977). The ecology of applied behavior analysis. In A. Rogers-Warren &

S. Warren (Eds.), *Ecological perspectives in behavior analysis* (pp.149-163).

Baltimore: University Park Press.

Roberts, K. (1983). Comprehension and production of word order in Stage 1. *Child*

Development, 54, 443-449.

Robertson, J., Green, K., Alper, S., Schloss, P. J., & Kohler, F. (2003). Using peer-

mediated intervention to facilitate participation in inclusive childcare activities.

Education & Treatment of Children, 26 (2), 182-191.

Slobin, D. I. (1985). *The cross linguistic study of language acquisition* (Vols. 1 & 2).

Hilldale, NJ: Erlbaum.

Snow, R. E. (1991). Aptitude treatment interaction as a framework for research on

individual differences in psychotherapy. *Journal of Consulting and Clinical*

Psychology, 59 (2), 205-216.

Snow, R. E. (1984). Parent-child interaction and the development of communicative

ability. In R. L. Schiefelbusch & J. Pickar (Eds.), *Communicative competence:*

Acquisition and intervention (pp.69-108). Baltimore: University Park Press.

Snow, C., Burns, M., & Griffin, P. (1998). *Preventing reading difficulties in young*

children. Washington, DC: National Academy of Sciences, Department of Education.

(ERIC Document Reproduction Service No. ED416465)

Sokolov, J. L. (1993). A local contingency analysis of the fine-tuning hypothesis. *Developmental Psychology, 29,* 1008-1023.

Sontag, J. C. (1997). Contextual factors affecting the sociability of preschool children with disabilities in integrated and segregated classrooms. *Exceptional Children, 63,* 389-404.

Stanhope, L., Bell, R. Q., & Parker-Cohen, N. Y. (1987). Temperament and helping behavior in preschool children. *Developmental Psychology, 23,* 347-353.

Stockdale, D. F., Hegland, S. M., & Chiaramonte, T. (1989). Helping behaviors: An observational study of preschool children. *Early Childhood Research Quarterly, 4,* 533-545.

Strain, P. S. (1990). LRE for preschool children with handicaps: what we know, what we should be doing. *Journal of Early Intervention, 14,* 291-296.

Strain, P. S. (1981). Peer-mediated treatment of exceptional children's social withdrawal. *Exceptional Education Quarterly: Peer Relations of Exceptional Children and Youth, 1* (4), 93-105.

Strain, P. S. & Cordisco, L. (1993). The LEAP preschool model: description and outcomes. In S. Harris and J. Handleman (Eds.), *Preschool education programs for children with autism* (pp.225-250), Austin, TX: PRO-ED.

Strain, P.S. & Odom, S. L. (1986). Peer social initiations: Effective intervention for social skills development of exceptional children. *Exceptional Children, 52* (6), 543-551.

Thiemann, K. & Warren, S. F. (2004). Programs supporting young children's language development. *[Electronic version].* In Tremblay R. E., Barr, R. G., & Peters, R. D. (Eds). *Encyclopedia on Early Childhood Development,* 1-11.

United States Bureau of the Census. (1999). *Statistical abstract of the United States*.

Washington, D. C. Author.

Villa, R., Thousand, J., Meyers, R., Nevins, R. (1996). Preparing teachers to support

inclusion: Preservice and inservice Programs. *Theory into Practice, 35* (1), 42-50.

Volz, D. L., Brazil, N., & Ford, A. (2001). What matters most in inclusive education:

A practical guide for moving forward. *Intervention in School and Clinic, 37,* 23-30.

Vygotsky, L. S. (1962). *Thought and Language* (E. Hanfman and G. Vakar, Trans.),

Cambridge: MA: MIT Press.

Warren, S. F. (2000). The future of early communication and language intervention.

Topics in Early Childhood Special Education, 20 (1), 33-40.

Warren, S. F., & Yoder, P. J. (1996). Enhancing communication and language

development in young children with developmental delays and disorders. *Peabody*

Journal of Education, 71 (4). 118- 132.

Weinbaum, M. L. (1996). *The effect of peer tutoring on inappropriate behavior of a child*

with multiple disabilities while playing games. Unpublished master's thesis, The Ohio

State University, Columbus.

Wetherby, A. M., & Prizant, B. M. (1993). Profiling communication and symbolic

abilities in young children. *Journal of Childhood Communication Disorders, 15*(1),

23-32.

Wolery, M., & Wilbers, J. (1994). *Including children with special needs in early childhood*

programs. Washington, DC: NAEYC.

Wolfensberger, W. (1972). *The principle of normalization in human services.* Toronto:

National Institute on Mental Retardation.

Zimmerman, I. & Steiner, V. (1970). *Validity and evaluation of the Preschool Language Scale*. Paper presented at the Western Psychological Association Convention, Los Angeles, CA.

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